12.0.1.144

6. Security Groups:

    -> It is a virtual firewall for the instance & controls the inbound & the outbound traffic for the EC2 instance.

    eg: Allow inbound traffic on port 80 (HTTP).

7. Network ACLs:

    -> A firewall at a subnet level that controls the traffic for all the resources in the subnet.

8. Elastic IPs:

    > A static Public IP address that does not even change if you stop & restart the isnatnce,

9. Endpoints/VPC endpoints:
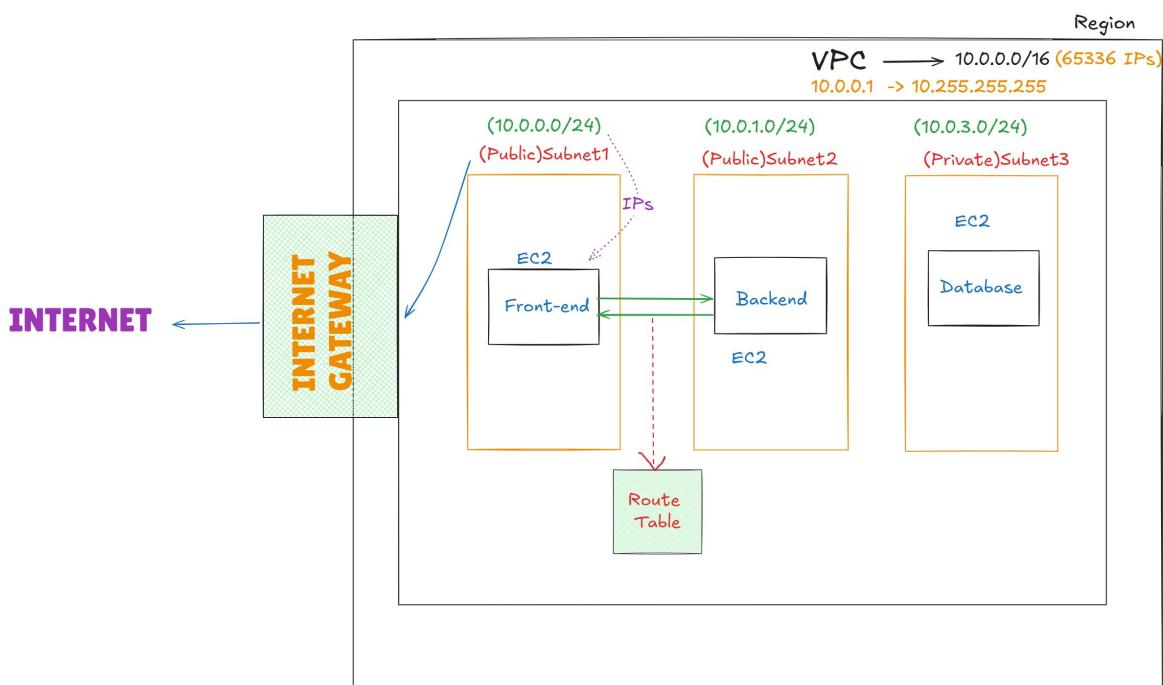
    > It allows us to connect to different AWS service, but privately .

10. VPC peeirng
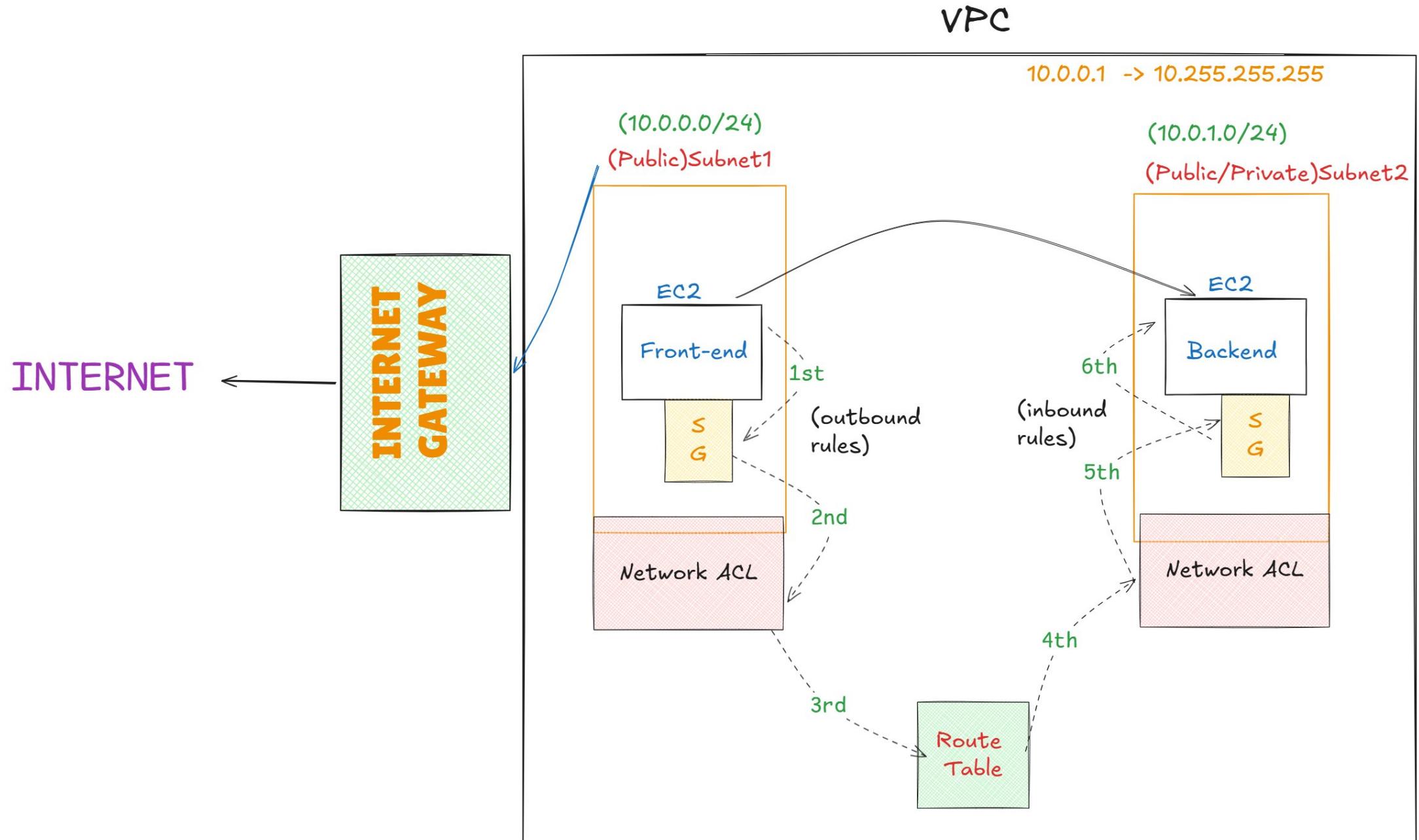
    >> A connection b/w 2 different AWS services

Amazon

- 10 server for  Front-end
- 20 server for Backend
- 25 serves  of Database.
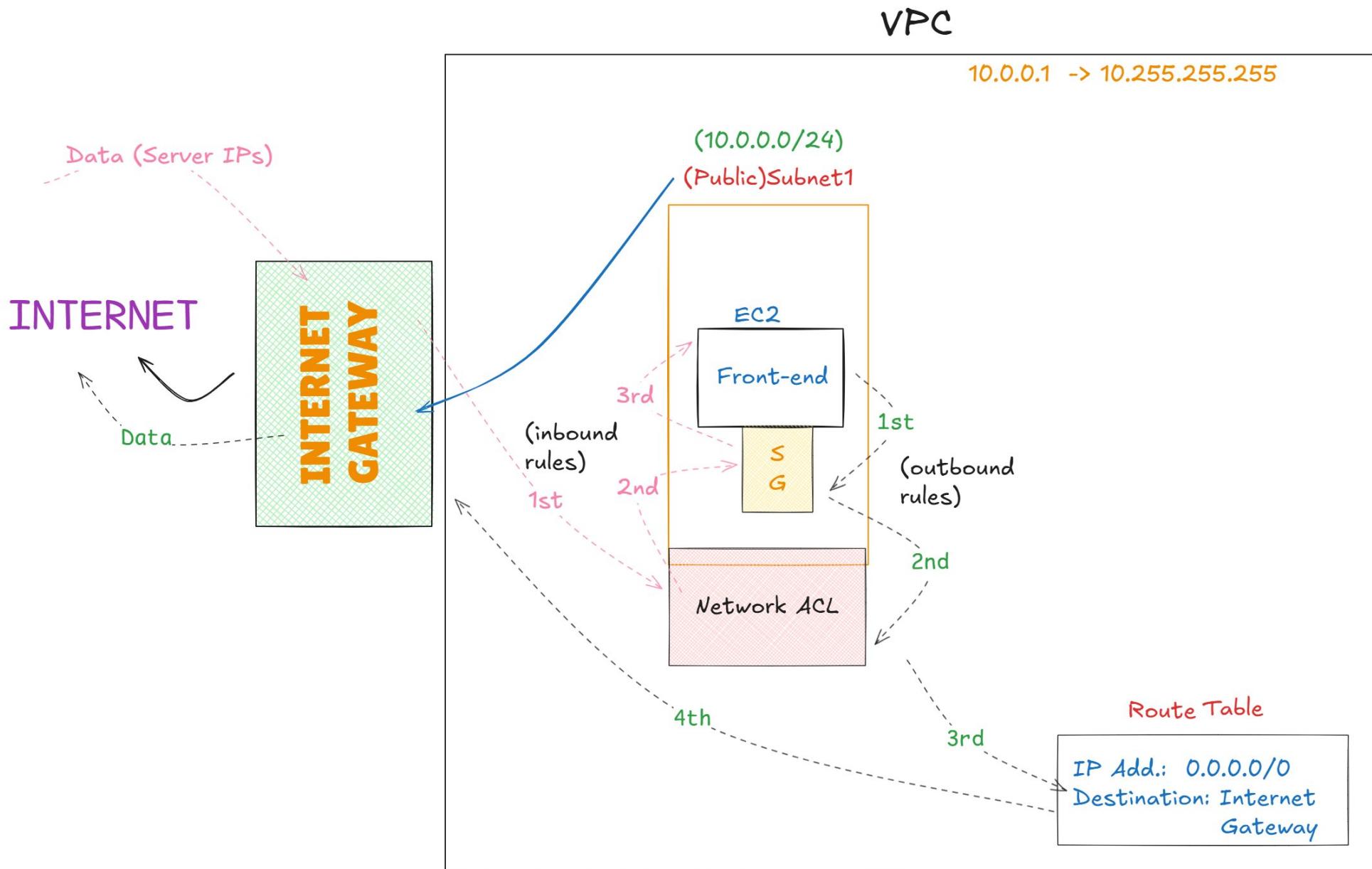
COMMUNICATION b/w 2 SUBNETS INSIDE THE SAME VPC

VPC

10.0.0.1 -> 10.255.255.255

(10.0.0.0/24)
(Public)Subnet1

(10.0.1.0/24)
(Public/Private)Subnet2

INTERNET

INTERNET GATEWAY

EC2
Front-end
S G

EC2
Backend
S G

1st

(outbound rules)

(inbound rules)

6th

5th

2nd

Network ACL

Network ACL

3rd

4th

Route Table

# PUBLIC SUBNET ACCESSING THE INTERNET

------> Outgoing data/request

------> Incoming data/request

## VPC

10.0.0.1 -> 10.255.255.255

Data (Server IPs)

INTERNET

INTERNET GATEWAY

Data

(10.0.0.0/24)

(Public)Subnet1

EC2

Front-end

3rd

1st

(inbound rules)

2nd

1st

S G

(outbound rules)

2nd

Network ACL

4th

3rd

Route Table

IP Add.: 0.0.0.0/0
Destination: Internet
Gateway

# PRIVATE SUBNET ACCESSING THE INTERNET

------> Outgoing data/request

------> Incoming data/request

## VPC

10.0.0.1 -> 10.255.255.255

Data

5th

(10.0.0.0/24)
(Private)Subnet1

(Public)Subnet1

INTERNET

INTERNET GATEWAY

EC2 - Ubuntu OS

Front-end
MySQL

S
G

1st

Network ACL

2nd

Data packets
to the NAT Gateway

3rd

- has it's
own public IP.

- it replaces
private source
IP with it's
own Public IP.

EC2

Front-end

NAT
GATE-
WAY

4th

Route Table

IP Add.: 0.0.0.0/0
Destination: NAT
          Gateway