Module 5: VPC Creation Assignment

Problem Statement:

Working for an organization, you are required to provide them a safe and secure environment for the deployment of their resources. They might require different types of connectivity. Implement the following to fulfill the requirements of the company.

Tasks To Be Performed:

1. Create a VPC with 120.0.0.0/16 CIDR block.
2. Create 1 public subnet and 2 private subnets and make sure you connect a NAT gateway for internet connectivity to a private subnet.

Solution

Steps for the creation of VPC

Go to management console→ search VPC→Create VPC→VPC Name→ CIDR→Create VPC

Steps for the creation of Subnets

Go to Subnet (SN) → Create SN → Select VPC → SN Name → Select Availability Zone → IPv4 CIDR block→Create SN

By default, the Subnets are private subnets, we have to make it public using an Internet gateway.

Steps for making the SN Public

Go to Subnets→ Select the subnet that you want to make public→Action→Edit SN settings→Enable auto-assign public IPv4 address → Save (So any of the instances launched in this SN have a public IP address)

Now, still, this SN is not Public, To make the SN public we need an Internet Gateway and then attach that Internet Gateway to that VPC. So, we will go to the route table which gives us a route to a place.

Steps for creation of Internet Gateway

Go to Internet Gateway→ Create Internet Gateway→ Name it→ Create Internet Gateway
Select the Internet Gateway→ Action→ Attach to VPC→ Select the VPC→ Save.

Go to Route table→Create RT→ RT Name→ Select the VPC→ Create Route Table.

Go to RT→Edit route→Add route (Destination- 0.0.0.0/0, Target- Internet Gateway)→ Save Changes.

Here we only know where to go (i.e.Internet), but we don't know the starting point, so we need to associate the SN (public) from where we want to go to the Internet.

Go to RT→ Action → Edit SN association→ Select the Subnet (Public) → Save association.

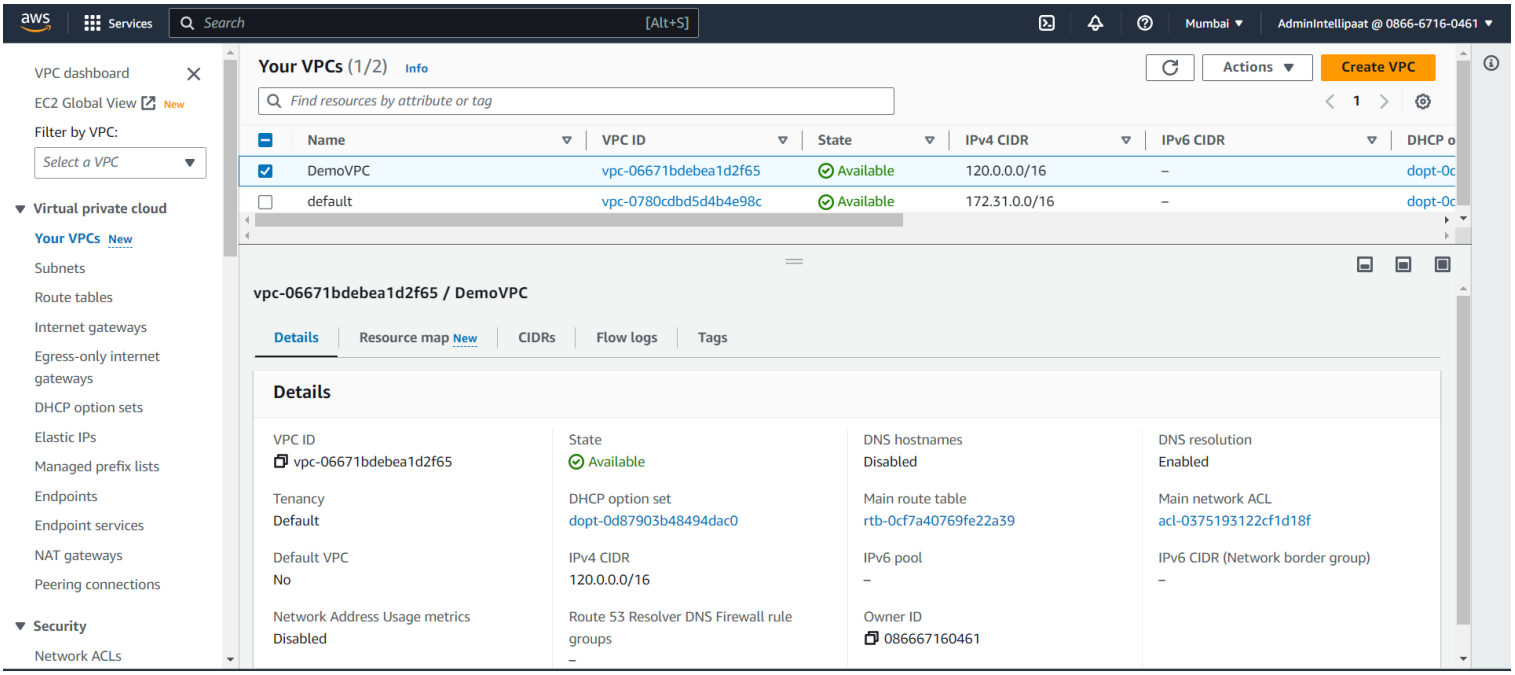
Steps for the creation of NAT Gateway and attach it to the Subnet

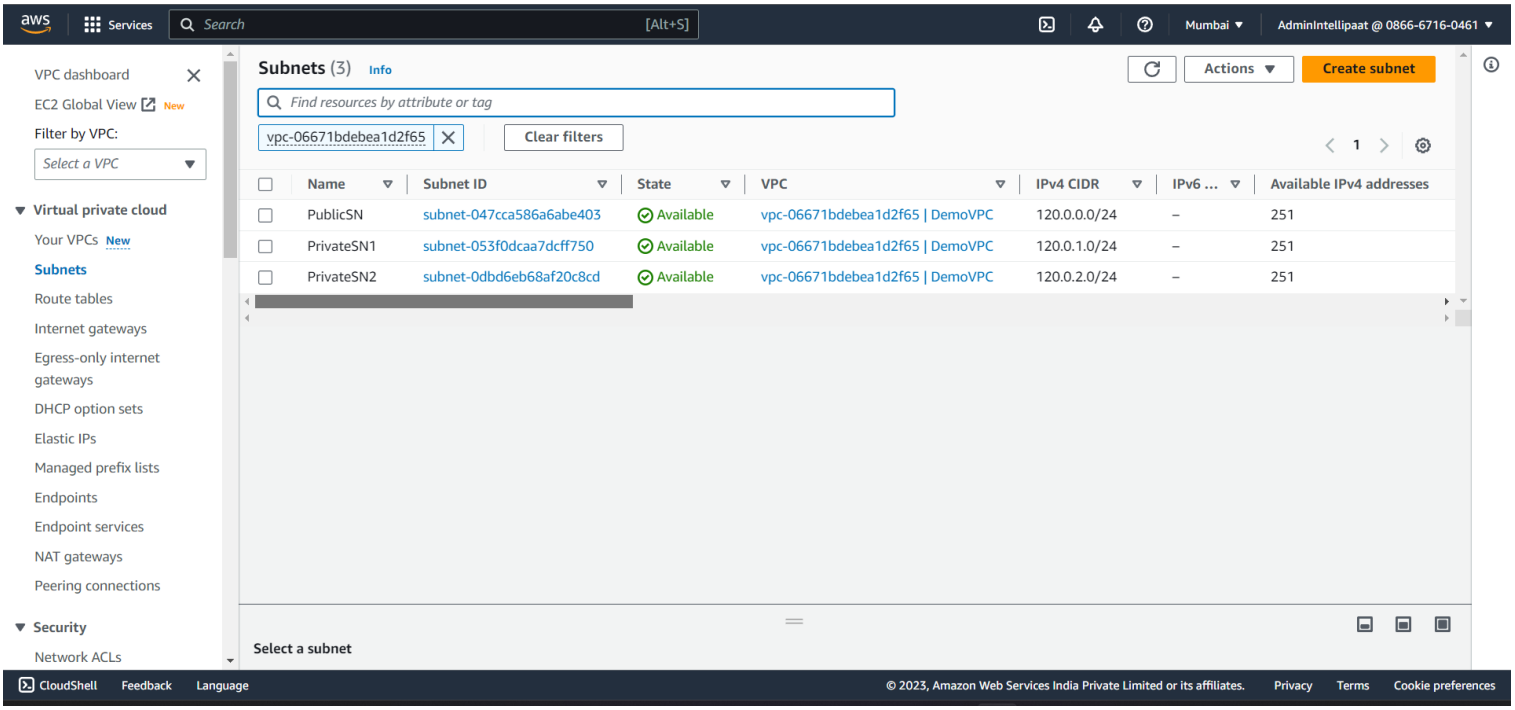
Go to Nat Gateway → Create Nat Gateway→ Name it→ Subnet (select the public subnet)→Connectivity type (Public)→Now we have to allocate an Elastic IP in order to mask our IP address→ Click on allocate elastic IP→ Create NAT Gateway

Now we have to attach it to the Subnet for that we need to create a route table

Go to RT→ Create RT→ Name→ VPC→ Create RT
Edit Routes→Add route→ Destination (0.0.0.0/0) & Target (Nat Gateway)→ Save Changes
Action→ Edit SN association→ Select the Pvt SN→ Save

RESULTS




Services
Search
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Mumbai
AdminIntellipaat @ 0866-6716-0461
VPC dashboard
EC2 Global View New
Filter by VPC:
Select a VPC
Virtual private cloud
Your VPCs New
Subnets
Route tables
Internet gateways
Egress-only internet gateways
DHCP option sets
Elastic IPs
Managed prefix lists
Endpoints
Endpoint services
NAT gateways
Peering connections
Security
Network ACLs
Subnets (3) Info
Actions
Create subnet
Find resources by attribute or tag
vpc-06671bdebea1d2f65
Clear filters
Name
Subnet ID
State
VPC
IPv4 CIDR
IPv6 ...
Available IPv4 addresses
PublicSN
subnet-047cca586a6abe403
Available
vpc-06671bdebea1d2f65 | DemoVPC
120.0.0.0/24
251
PrivateSN1
subnet-053f0dcaa7dcff750
120.0.1.0/24
PrivateSN2
subnet-0dbd6eb68af20c8cd
120.0.2.0/24
Select a subnet
CloudShell
Feedback
Language
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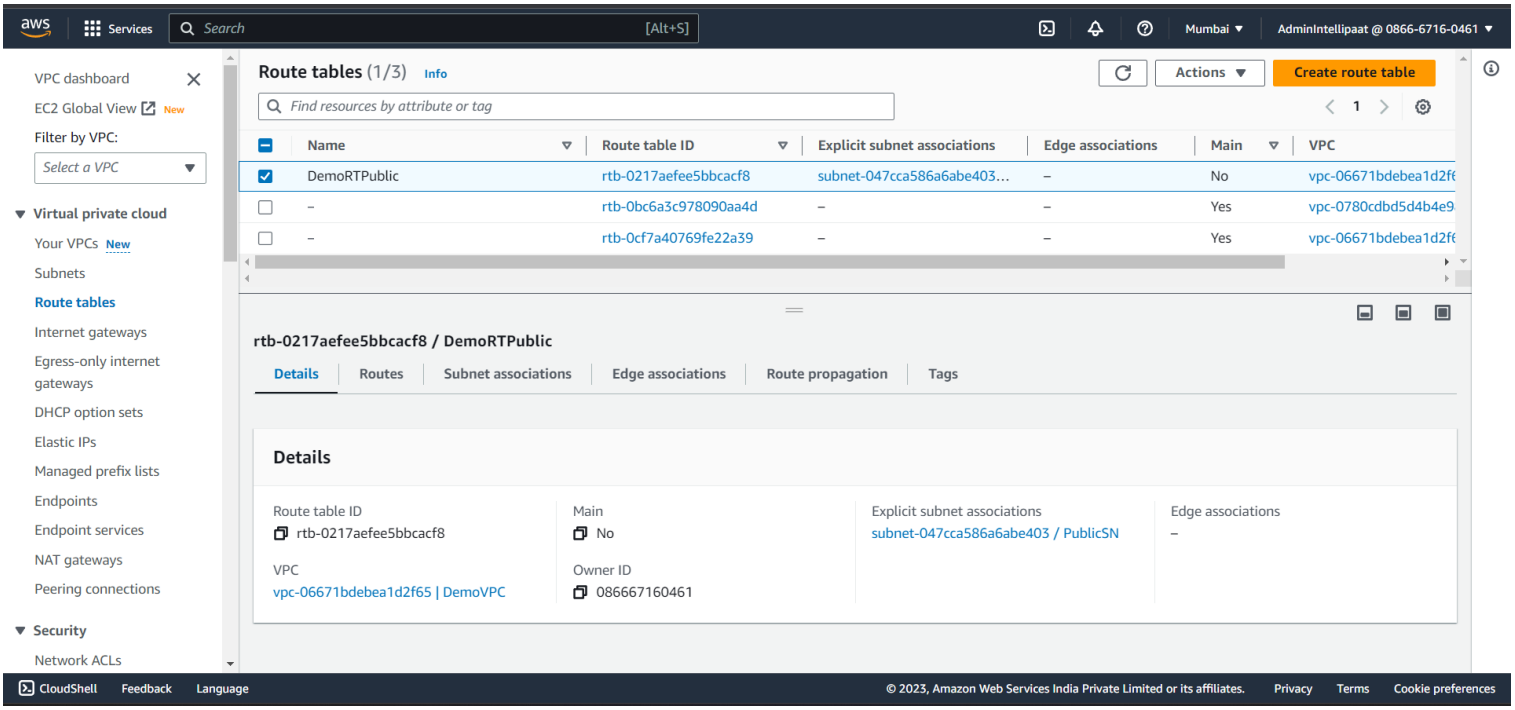
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Route tables (1/3) Info
Actions
Create route table
Find resources by attribute or tag
Name
Route table ID
Explicit subnet associations
Edge associations
Main
VPC
DemoRTPublic
rtb-0217aefee5bbcacf8
subnet-047cca586a6abe403...
No
rtb-0bc6a3c978090aa4d
Yes
rtb-0cf7a40769fe22a39
rtb-0217aefee5bbcacf8 / DemoRTPublic
Details
Routes
Subnet associations
Edge associations
Route propagation
Tags
Details
Route table ID
rtb-0217aefee5bbcacf8
Main
No
Explicit subnet associations
subnet-047cca586a6abe403 / PublicSN
Edge associations
VPC
vpc-06671bdebea1d2f65 | DemoVPC
Owner ID
086667160461
CloudShell
Feedback
Language
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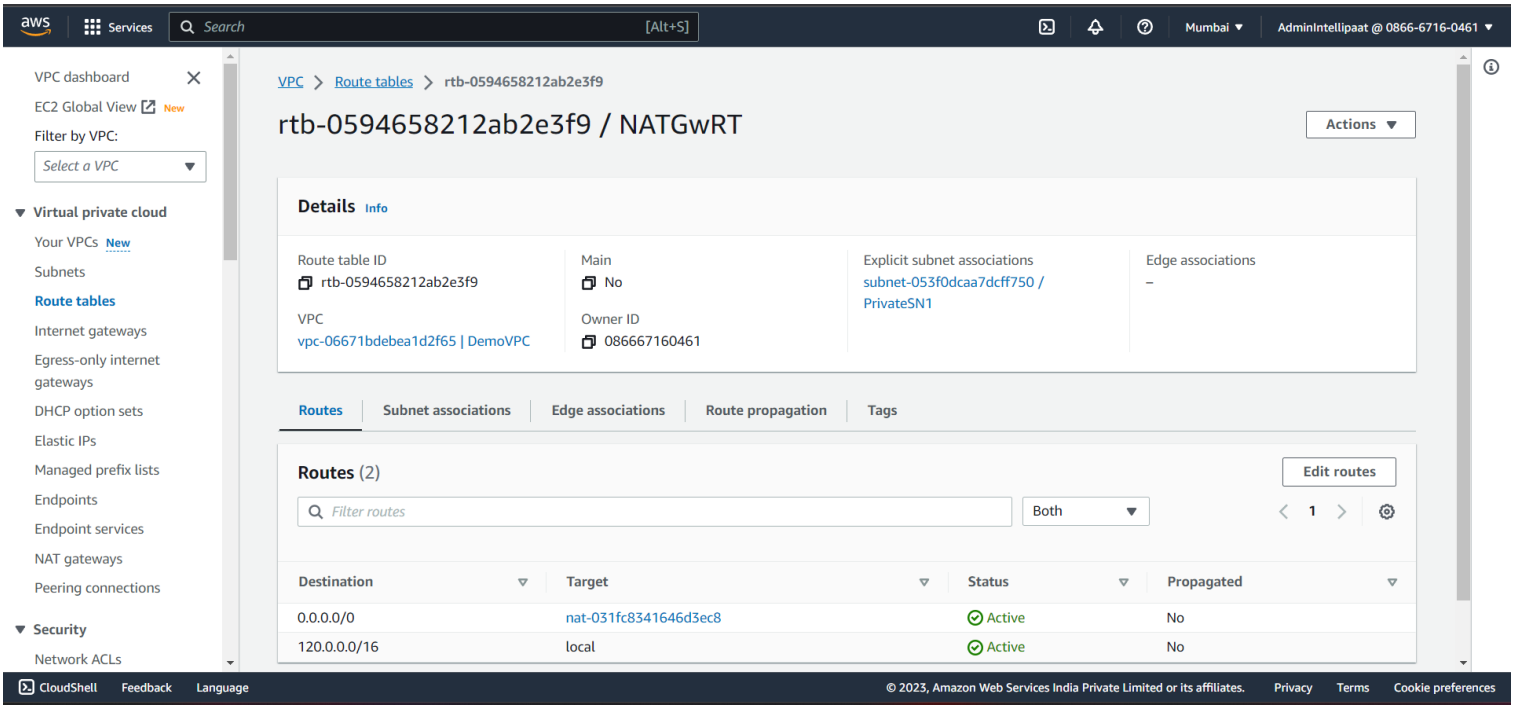
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Managed prefix lists
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Endpoint services
NAT gateways
Peering connections
Security
Network ACLs
VPC > Route tables > rtb-0594658212ab2e3f9
rtb-0594658212ab2e3f9 / NATGwRT
Actions
Details Info
Route table ID
rtb-0594658212ab2e3f9
Main
No
Explicit subnet associations
subnet-053f0dcaa7dcff750 / PrivateSN1
Edge associations
–
VPC
vpc-06671bdebea1d2f65 | DemoVPC
Owner ID
086667160461
Routes
Subnet associations
Edge associations
Route propagation
Tags
Routes (2)
Edit routes
Filter routes
Both
1
Destination
Target
Status
Propagated
0.0.0.0/0
nat-031fc8341646d3ec8
Active
No
120.0.0.0/16
local
Active
No
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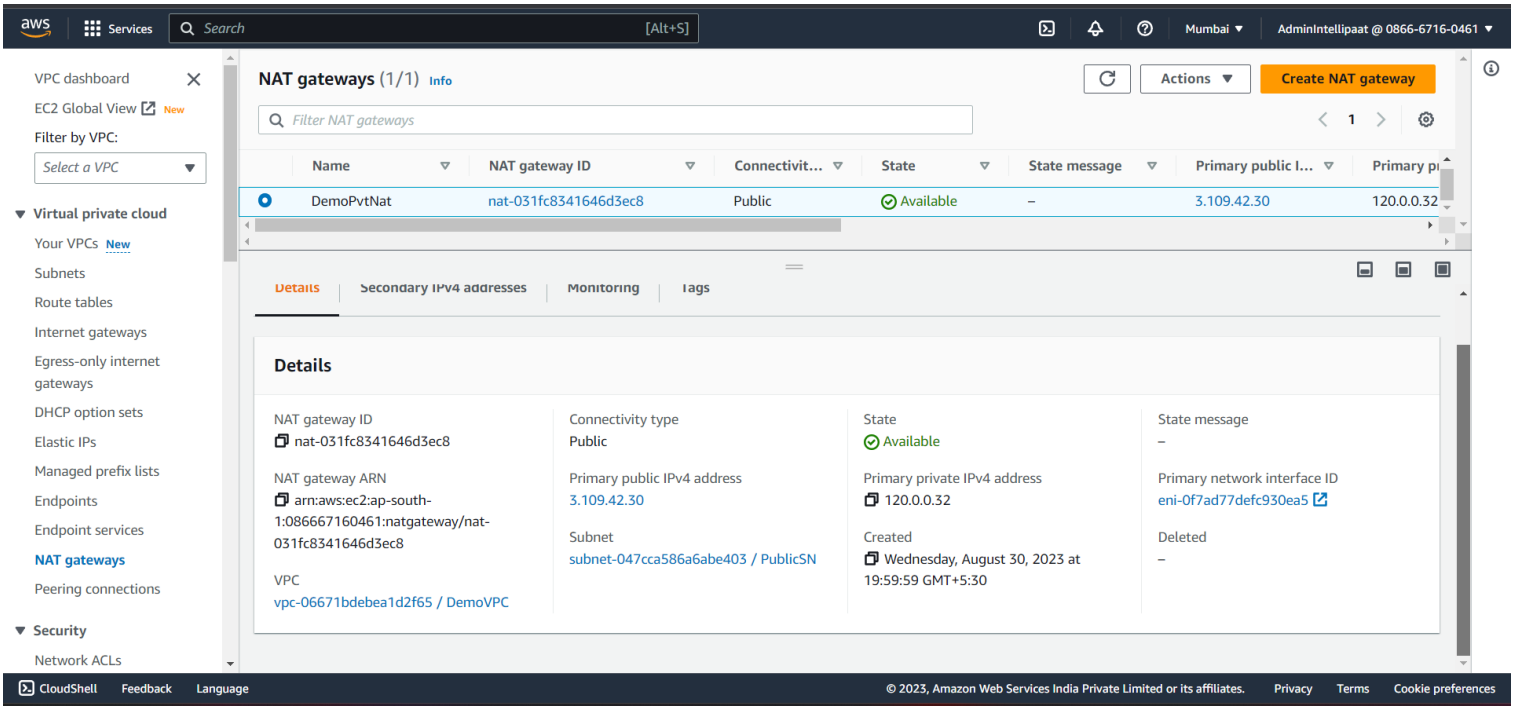
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Endpoint services
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Peering connections
Security
Network ACLs
NAT gateways (1/1) Info
Actions
Create NAT gateway
Filter NAT gateways
1
Name
NAT gateway ID
Connectivit...
State
State message
Primary public I...
Primary pr
DemoPvtNat
nat-031fc8341646d3ec8
Public
Available
–
3.109.42.30
120.0.0.32
Details
Secondary IPv4 addresses
Monitoring
Tags
Details
NAT gateway ID
nat-031fc8341646d3ec8
Connectivity type
Public
State
Available
State message
–
NAT gateway ARN
arn:aws:ec2:ap-south-1:086667160461:natgateway/nat-031fc8341646d3ec8
Primary public IPv4 address
3.109.42.30
Primary private IPv4 address
120.0.0.32
Primary network interface ID
eni-0f7ad77defc930ea5
Subnet
subnet-047cca586a6abe403 / PublicSN
Created
Wednesday, August 30, 2023 at 19:59:59 GMT+5:30
Deleted
–
VPC
vpc-06671bdebea1d2f65 / DemoVPC
CloudShell
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Language
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