



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

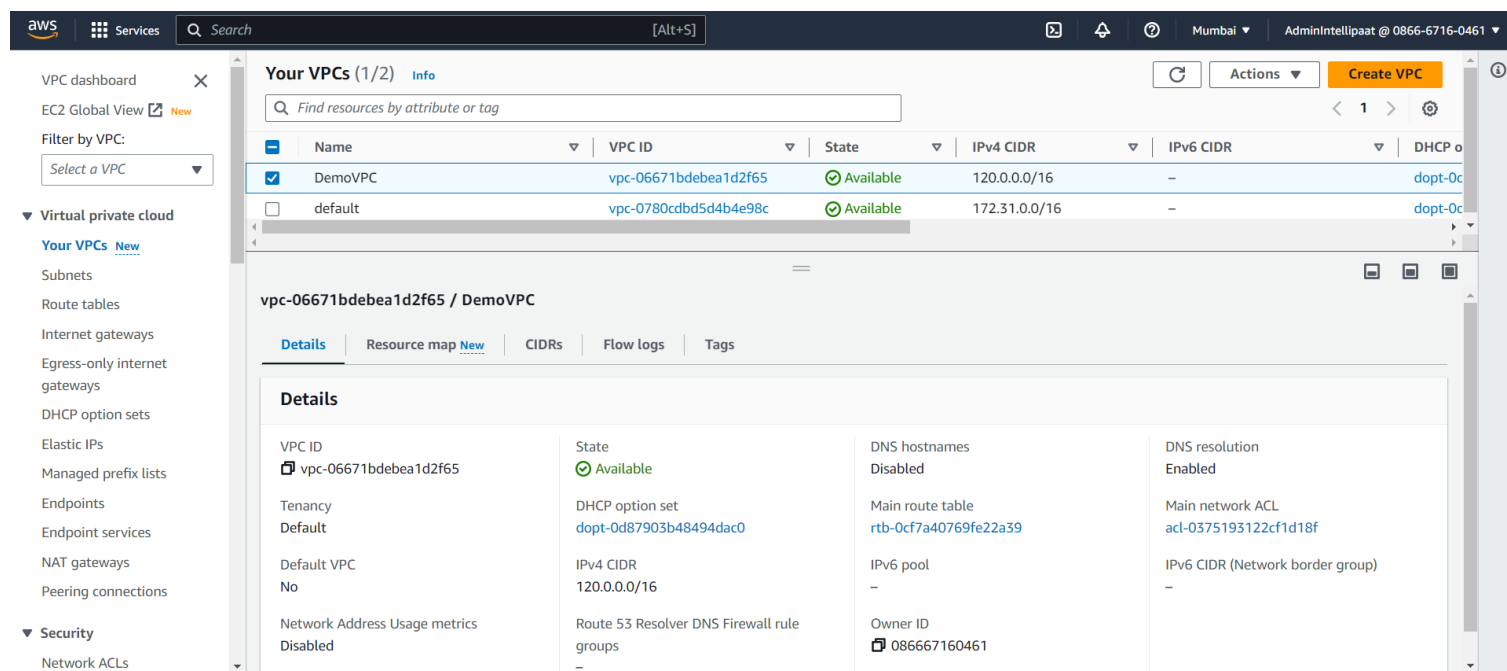
Now we have to attach it to the Subnet for that we need to create a route table

Go to RT → Create RT → Name → VPC → Create RT

Edit Routes → Add route → Destination (0.0.0.0/0) & Target (Nat Gateway) → Save Changes

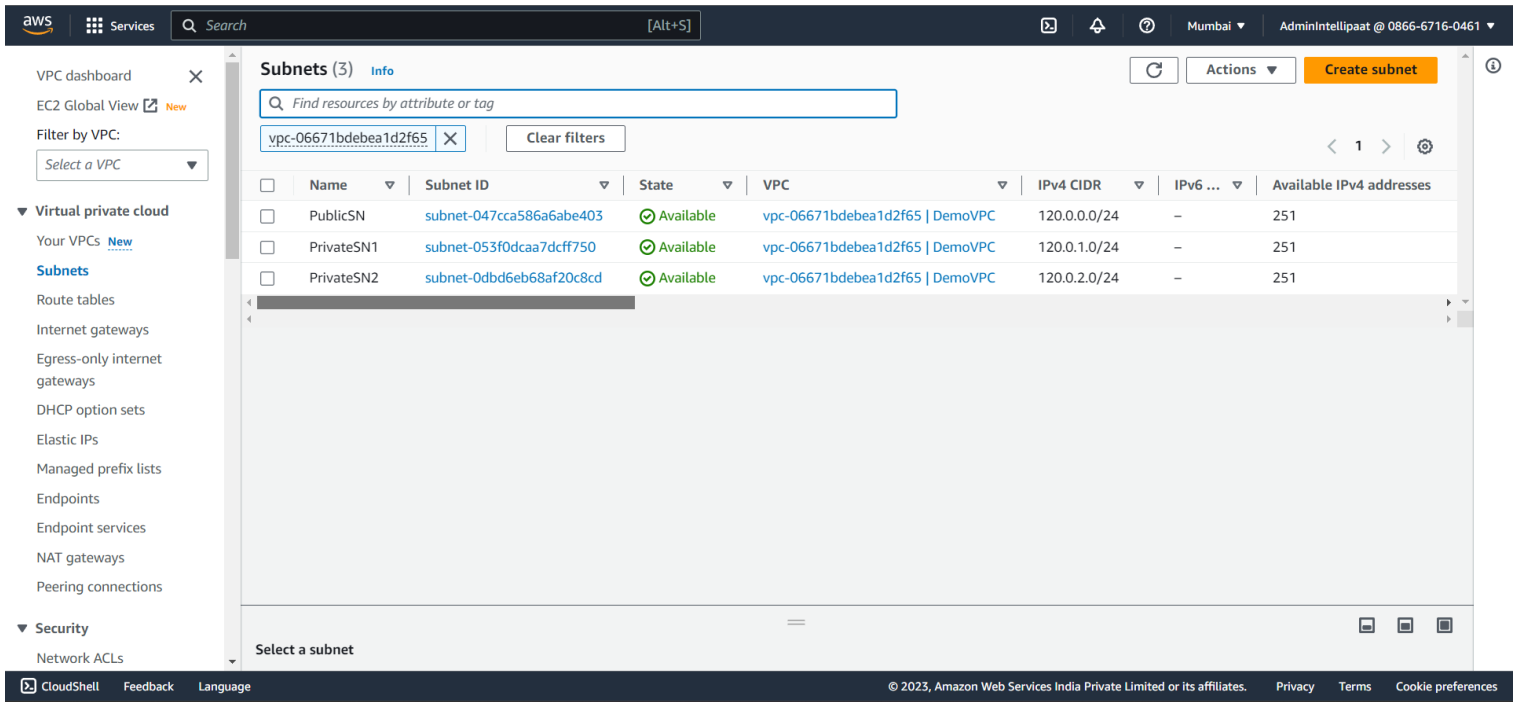
Action → Edit SN association → Select the Pvt SN → Save

RESULTS



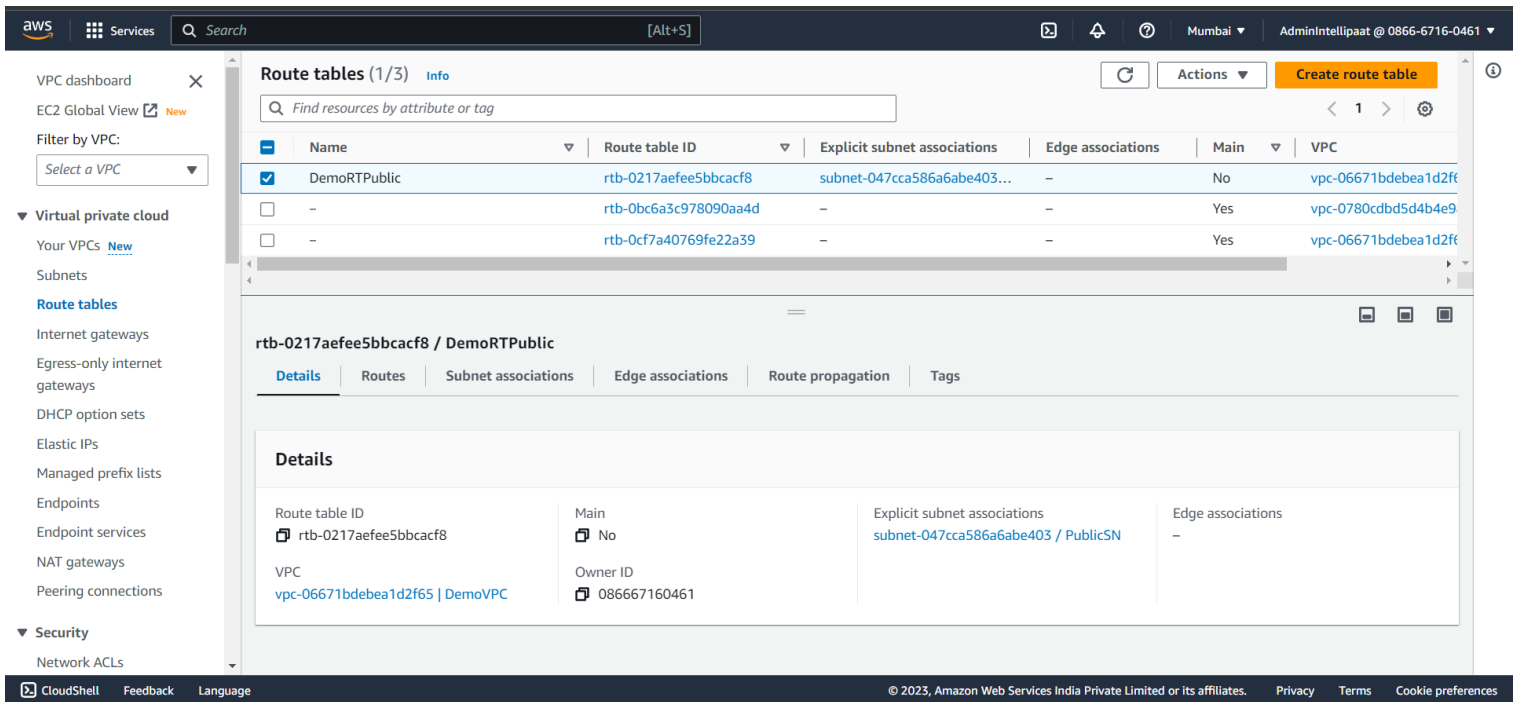
The screenshot displays the AWS Management Console interface. On the left, the navigation pane shows 'Virtual private cloud' expanded, with 'Your VPCs' selected. The main content area shows 'Your VPCs (1/2)' with a table listing two VPCs: 'DemoVPC' (vpc-06671bdebea1d2f65) and 'default' (vpc-0780cbbd5d4b4e98c). Both are in an 'Available' state. Below the table, the details for 'vpc-06671bdebea1d2f65 / DemoVPC' are shown. The 'Details' tab is active, displaying various configuration parameters in a grid.

Details			
VPC ID vpc-06671bdebea1d2f65	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-0d87903b48494dac0	Main route table rtb-0cf7a40769fe22a39	Main network ACL acl-0375193122cf1d18f
Default VPC No	IPv4 CIDR 120.0.0.0/16	IPv6 pool -	IPv6 CIDR (Network border group) -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 086667160461	



The screenshot shows the AWS Management Console interface for the 'Subnets' page. The left sidebar contains navigation links for VPC dashboard, EC2 Global View, and various VPC resources. The main content area displays a table of subnets for the VPC 'vpc-06671bdebea1d2f65'. The table lists three subnets: PublicSN, PrivateSN1, and PrivateSN2, all in an 'Available' state. The bottom of the console shows the footer with copyright information and links to CloudShell, Feedback, and Language.

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	Available	vpc-06671bdebea1d2f65 DemoVPC	120.0.1.0/24	-	251
PrivateSN2	subnet-0dbd6eb68af20c8cd	Available	vpc-06671bdebea1d2f65 DemoVPC	120.0.2.0/24	-	251



The screenshot shows the AWS Management Console interface for the 'Route tables' page. The left sidebar contains navigation links for VPC dashboard, EC2 Global View, and various VPC resources. The main content area displays a table of route tables for the VPC 'vpc-06671bdebea1d2f65'. The table lists three route tables: DemoRTPublic, and two unnamed route tables. The 'DemoRTPublic' route table is selected, and its details are shown in the 'Details' tab. The details include the route table ID, VPC, owner ID, and explicit subnet associations.

Name	Route table ID	Explicit subnet associations	Edge associations	Main	VPC
✓ DemoRTPublic	rtb-0217aeef5bbcacf8	subnet-047cca586a6abe403...	-	No	vpc-06671bdebea1d2f65 DemoVPC
-	rtb-0bc6a3c978090aa4d	-	-	Yes	vpc-0780cddb5d4b4e9
-	rtb-0cf7a40769fe22a39	-	-	Yes	vpc-06671bdebea1d2f65 DemoVPC

rtb-0217aeef5bbcacf8 / DemoRTPublic

Details

Route table ID	Main	Explicit subnet associations	Edge associations
rtb-0217aeef5bbcacf8	No	subnet-047cca586a6abe403 / PublicSN	-
VPC	Owner ID		
vpc-06671bdebea1d2f65 DemoVPC	086667160461		

aws Services Search [Alt+S] 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

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

Destination	Target	Status	Propagated
0.0.0.0/0	nat-031fc8341646d3ec8	Active	No
120.0.0.0/16	local	Active	No

CloudShell Feedback Language © 2023, Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences

aws Services Search [Alt+S] 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

NAT gateways (1/1) Info

Filter NAT gateways

Name	NAT gateway ID	Connectivity type	State	State message	Primary public IPv4 address	Primary private IPv4 address
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
VPC vpc-06671bdebea1d2f65 DemoVPC	Subnet subnet-047cca586a6abe403 / PublicSN	Created Wednesday, August 30, 2023 at 19:59:59 GMT+5:30	Deleted -

CloudShell Feedback Language © 2023, Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences