Assignment-07 (VPC).

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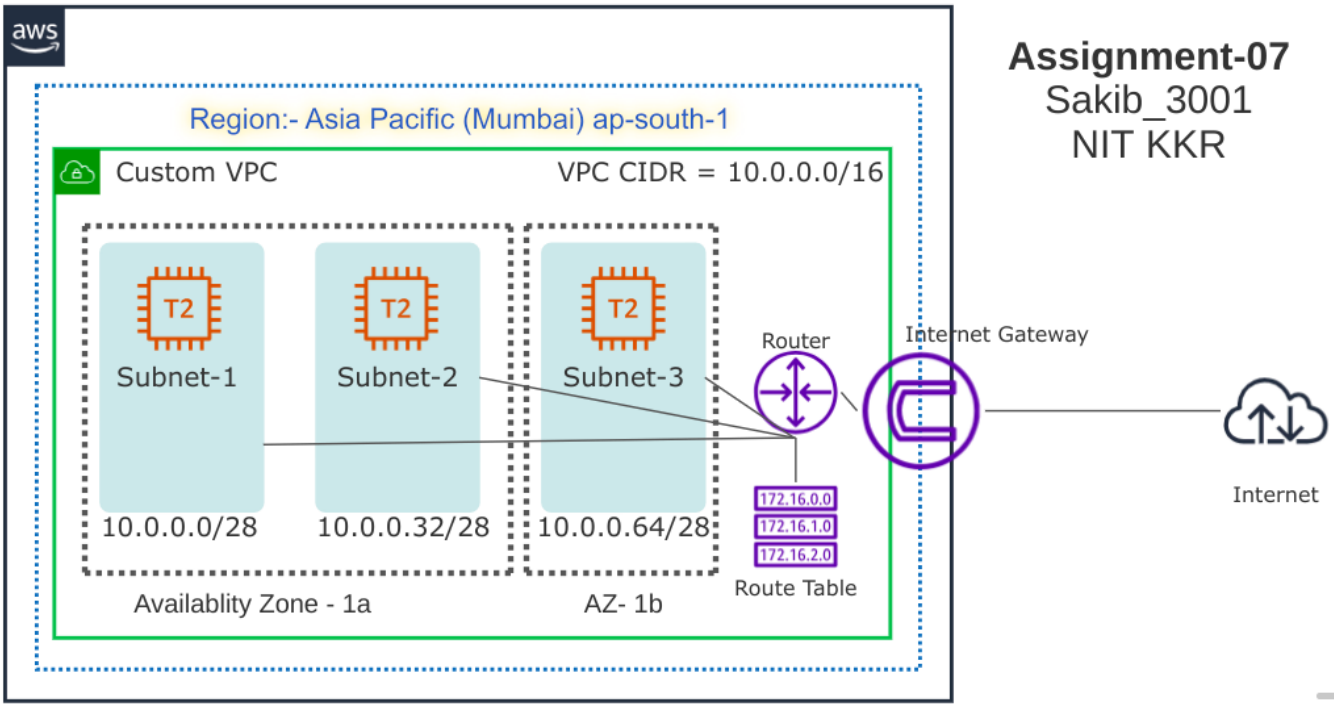
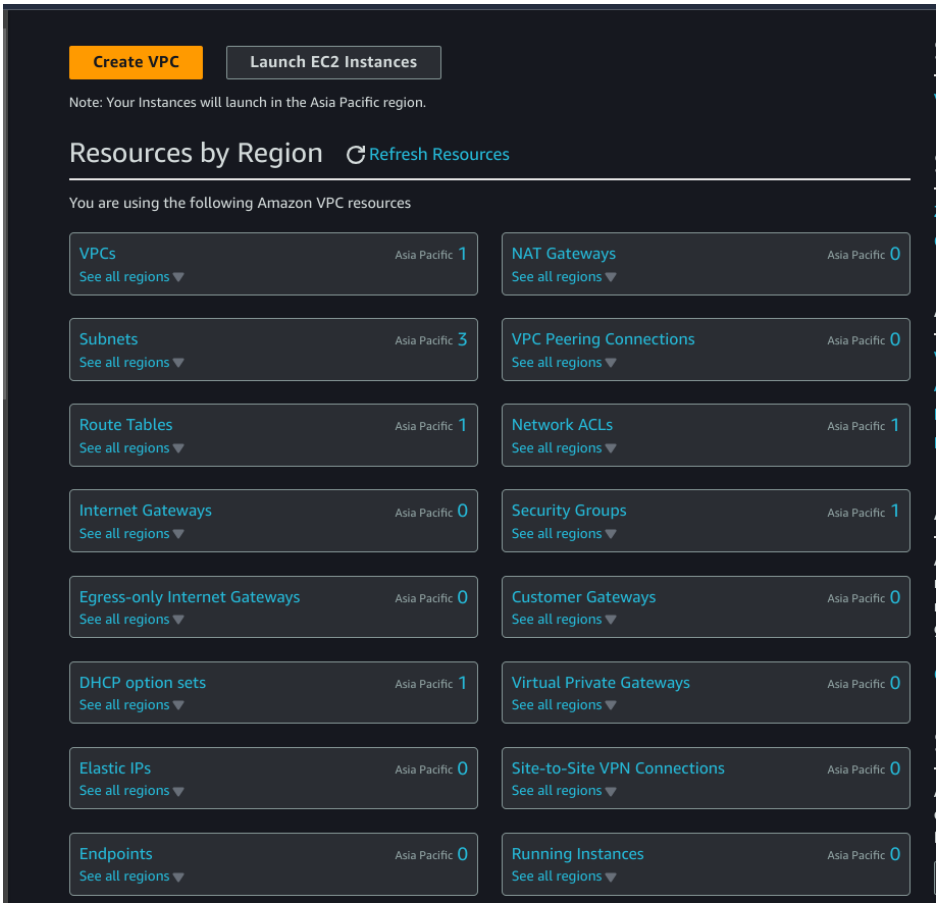
A high-level design for the assignment-07
- And configure your EC2 linux instance inside your custom VPC
- and then create 3 subnets of that VPC
- Attach an internet gateway to your custom VPC

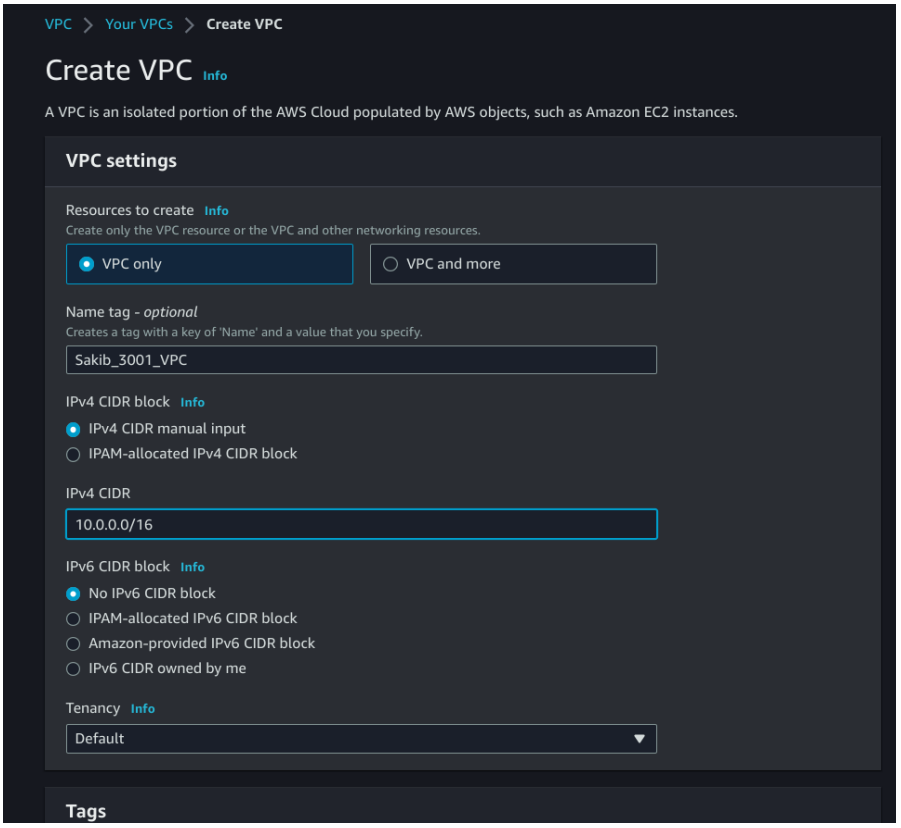


Setup Procedure

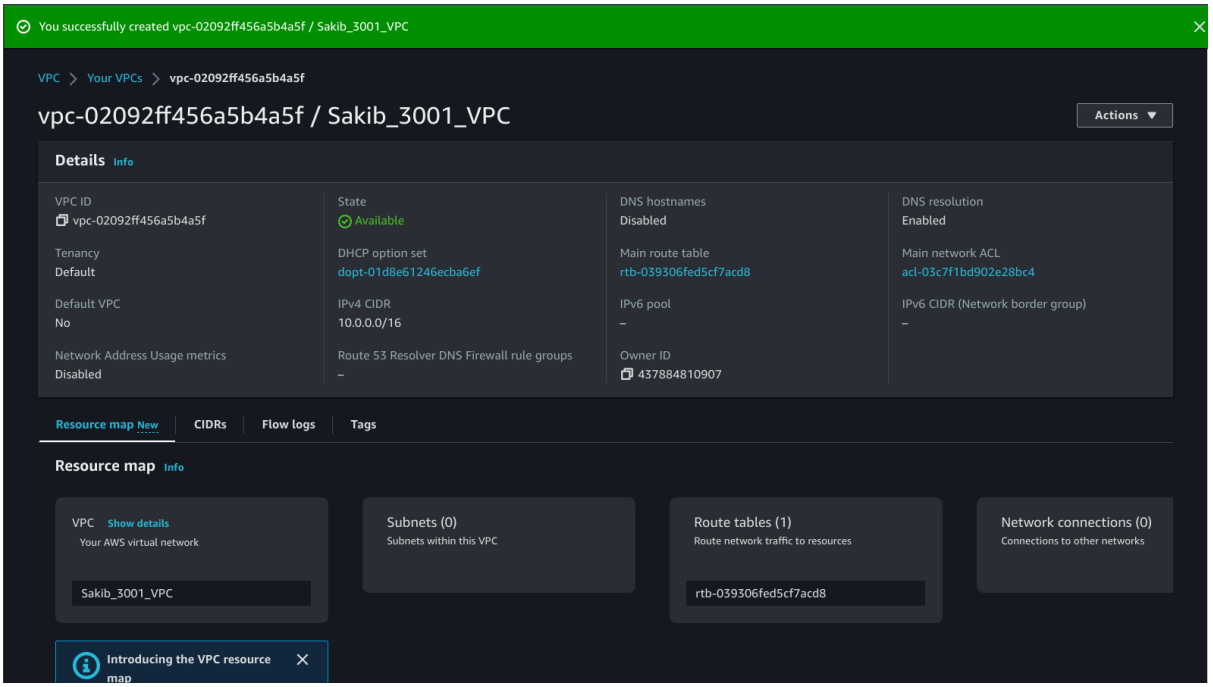
Step 1: Create a Custom VPC
1. Log in to the AWS Management Console.
2. Open the Amazon VPC service.
3. Click on "Your VPCs" in the left navigation pane



4. Click on "Create VPC" button.
5. Provide a name for your VPC, e.g., "Sakib_3001_VPC".
6. Specify the IPv4 CIDR block "10.0.0.0/16" and 7. Click on "Create"

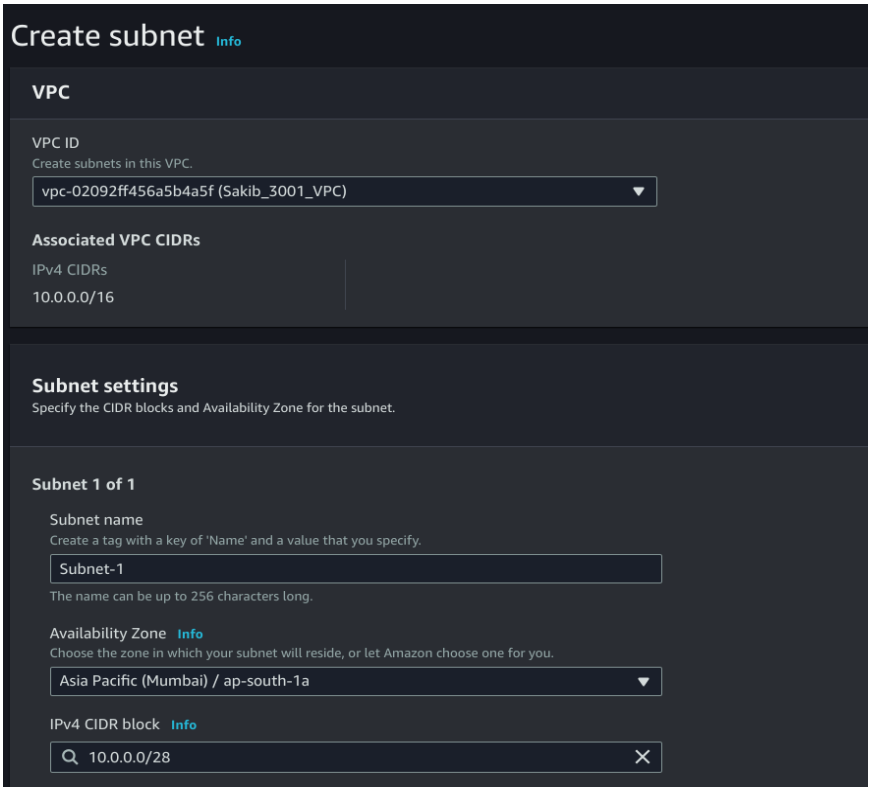


VPC has been created successfully.

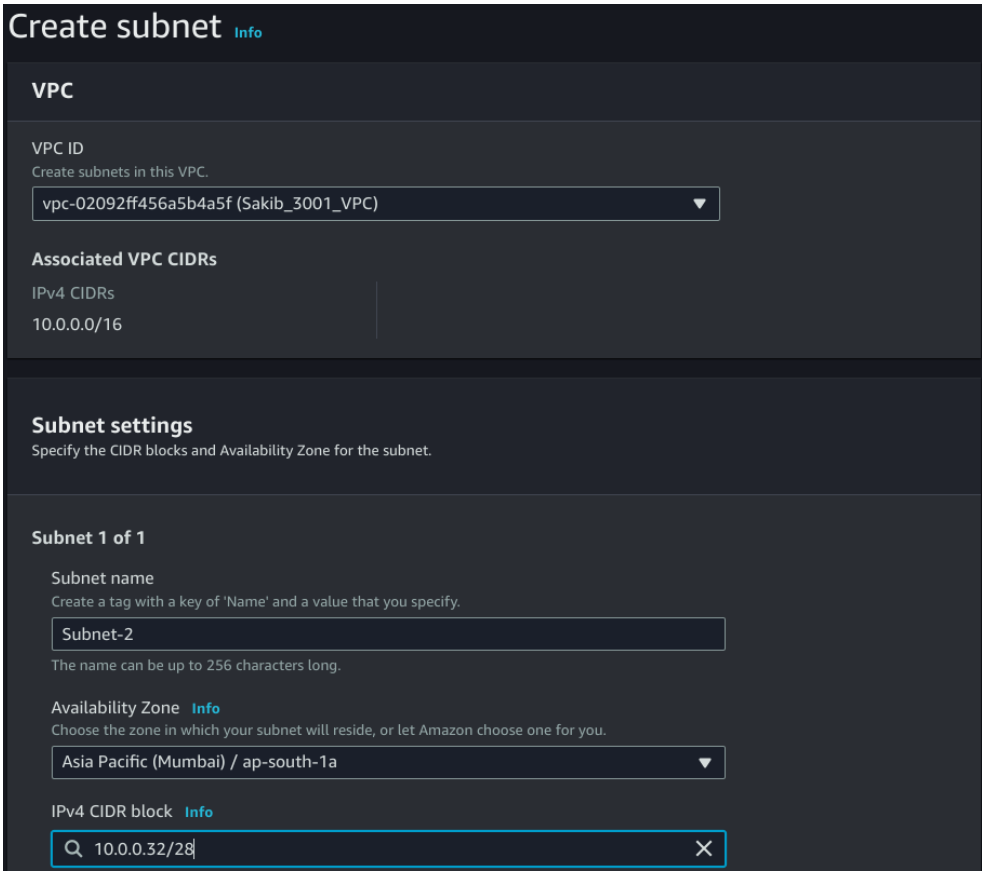


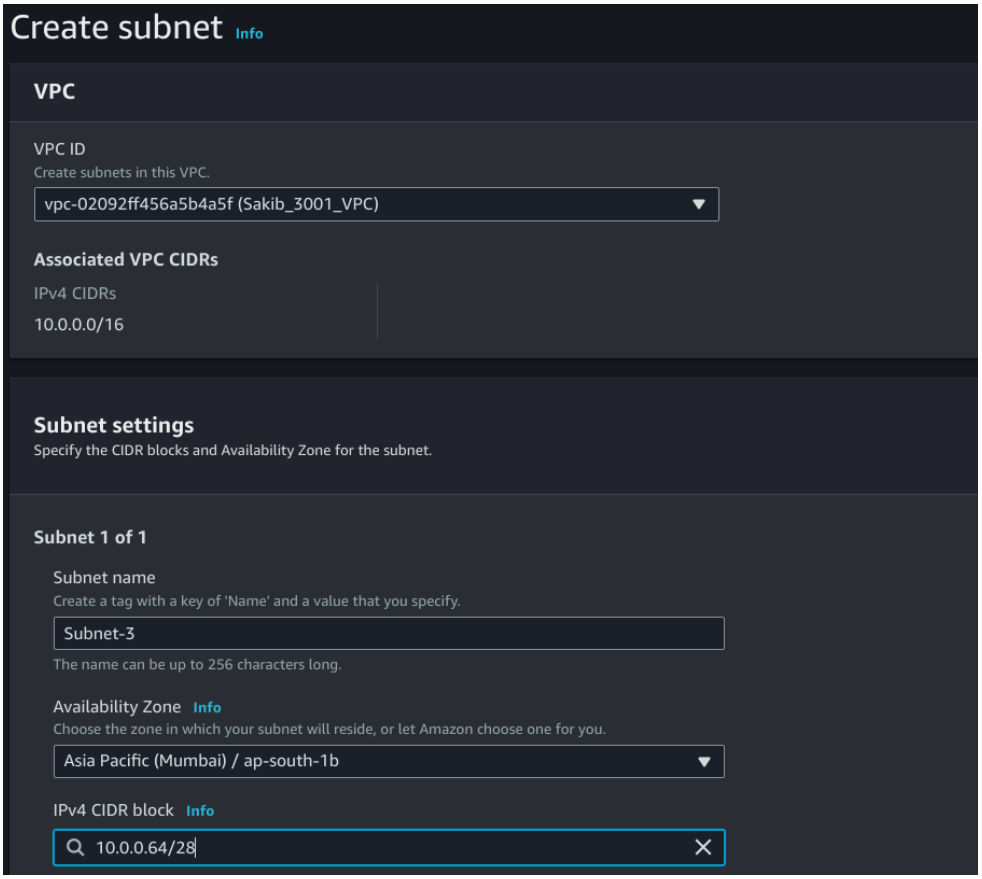
Step 2: Create 3 Subnets in the Custom VPC

1. In the Amazon VPC service, click on "Subnets" in the left navigation pane.
2. Click on "Create subnet".
3. Provide a name for the subnet,"Subnet-1,SUbnet-2,Subnet-3".
4. Select the VPC you created in Step 1.
5. Choose an availability zone for the subnet.
6. Specify the IPv4 CIDR block for the subnet, e.g., "10.0.0.0/28,10.0.0.32/28,10.0.0.64/28" and Click on "Create".

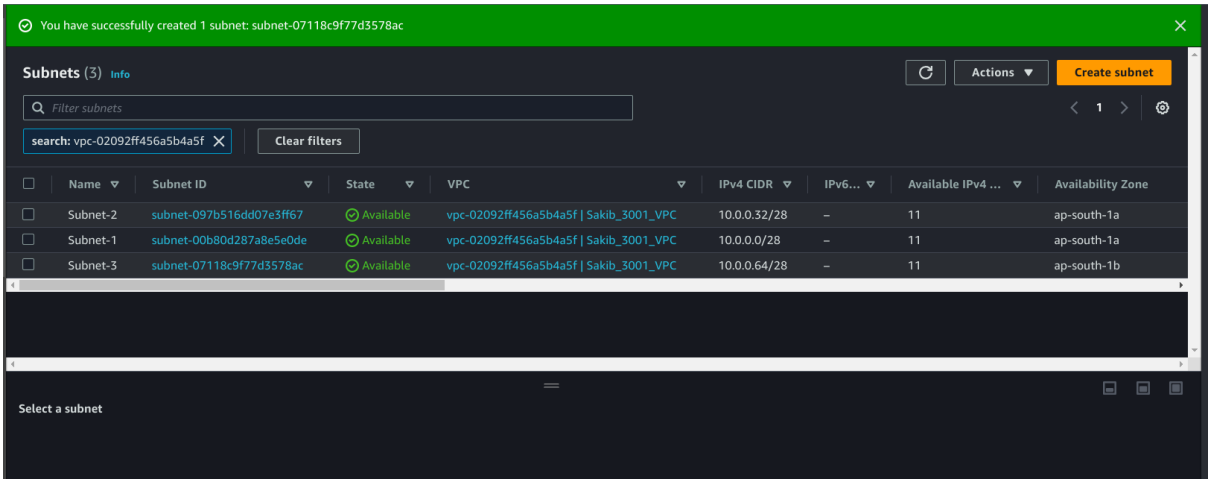


Repeat Steps 3.2 to 3.7 twice more to create two additional subnets with different names and CIDR blocks for your VPC.





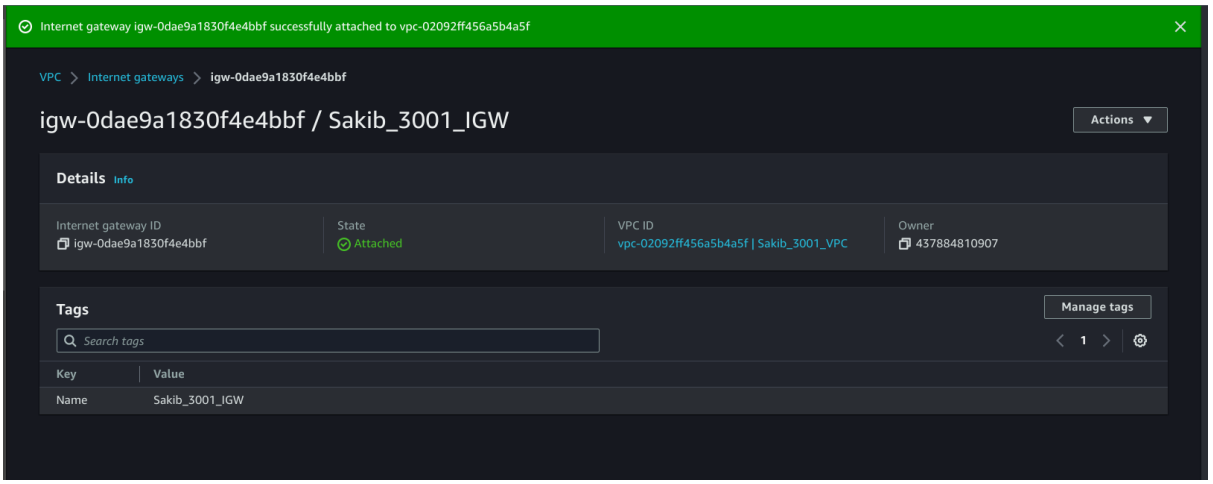
3 subnets have been created successfully.



Step 3: Attach an Internet Gateway to the Custom VPC

1.Click on "Internet Gateways" in the left navigation pane.
2. Click on "Create internet gateway".
3. Provide a name for the internet gateway, e.g., "Sakib_3001_IGW".
4. Click on "Create".
5. Select the internet gateway you created and click on "Actions".
6. Choose "Attach to VPC" from the dropdown menu.
7. Select the VPC created in Step 1 and click on "Attach".

Internet Gateway has been created successfully.

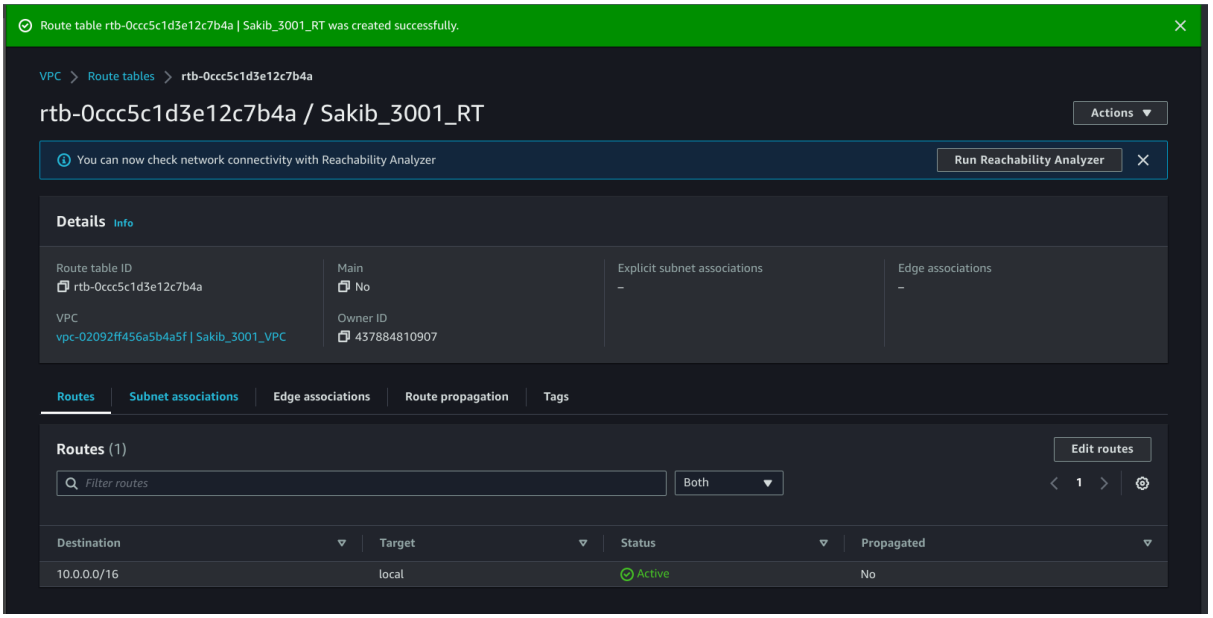


Step 4: Create and Update the route table for accessing internet.

Step 1: Create a Route Table

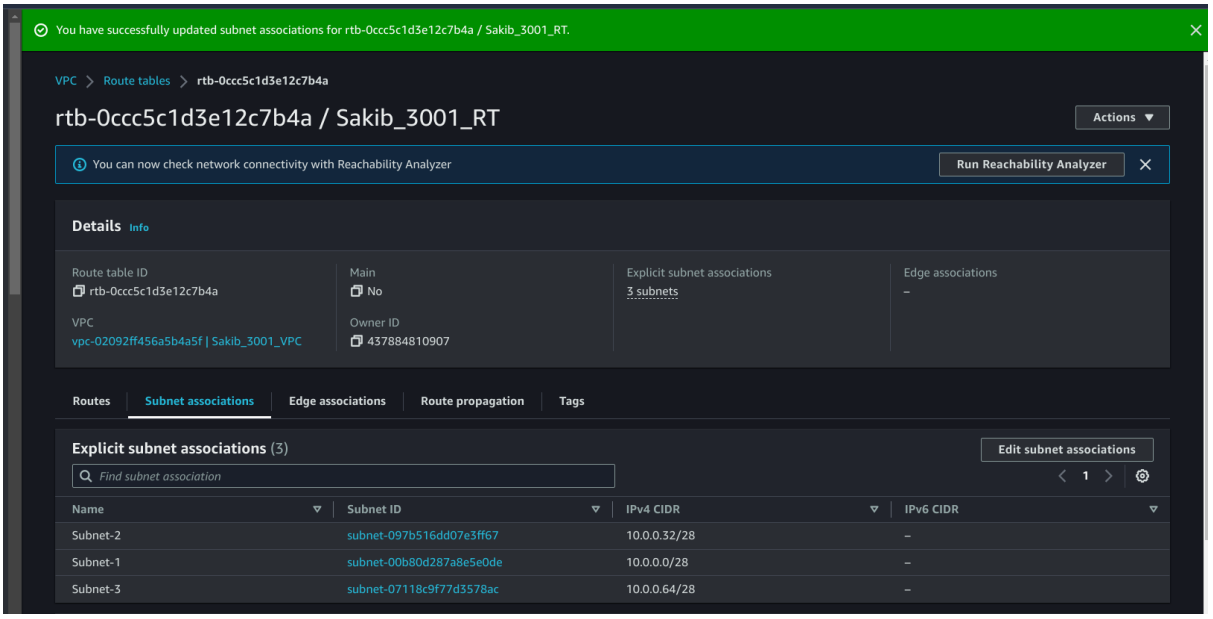
1. In the Amazon VPC service, click on "Route Tables" in the left navigation pane.
2. Click on "Create route table".

3. Select the VPC you created in the previous steps.
4. Provide a name for the route table, e.g., "Sakib_3001_RT".
5. Click on "Create".



Step 2: Associate Subnets with the Route Table

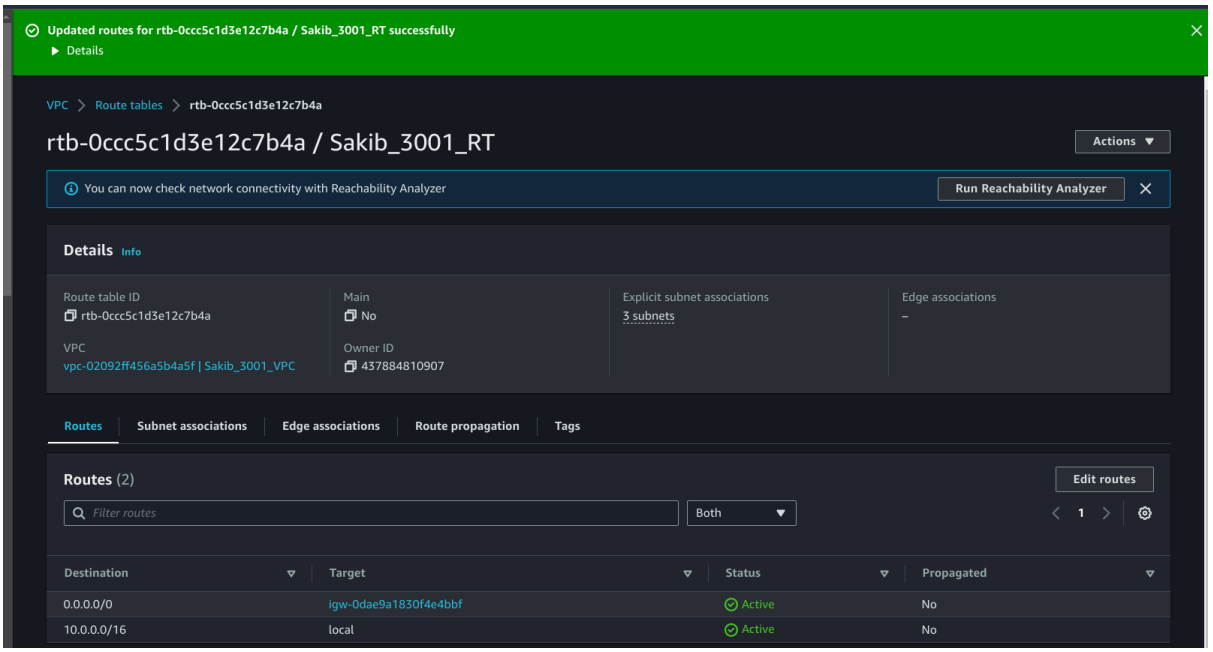
1. "Subnet Associations" tab of the route table, click on "Edit subnet associations".
2. Select the subnet(s) you want to associate with the route table. These subnets should be the ones where you want to enable internet access.
3. Click on "Save".



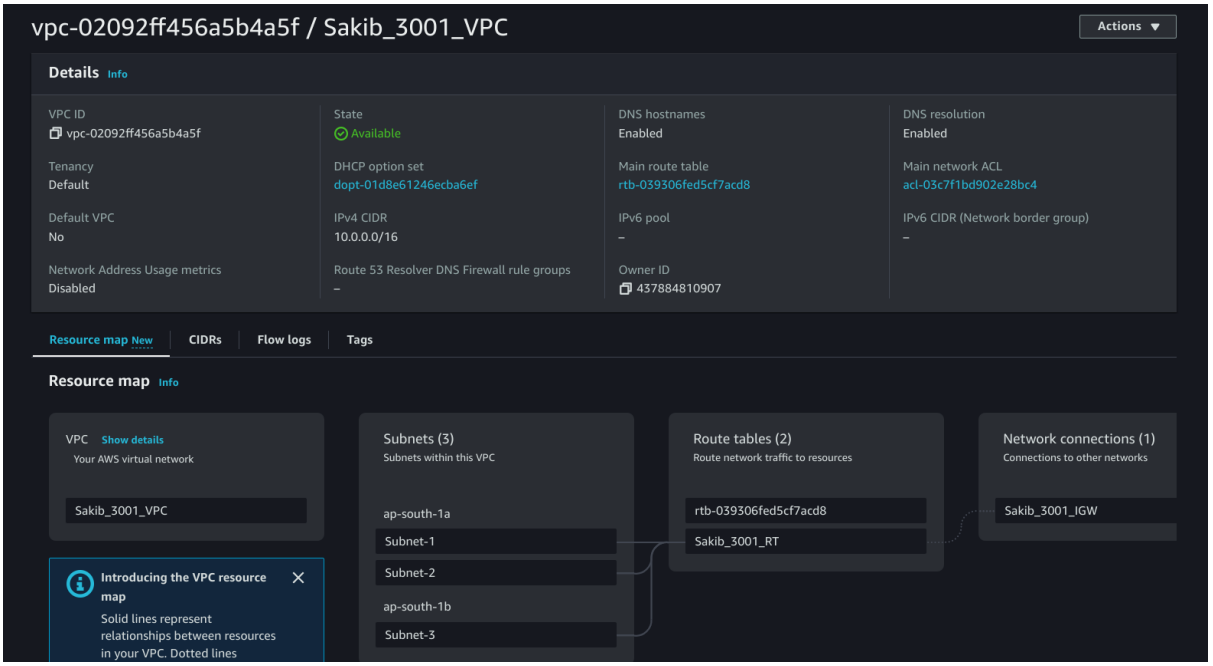
Step 3: Edit the Route Table

1. Select the route table you just created from the list.
2. In the "Routes" tab, click on "Edit routes".

3. Click on "Add route".
4. In the "Destination" field, enter "0.0.0.0/0" to represent the default route for all internet traffic.
5. In the "Target" field, select the internet gateway you attached to the VPC in the previous steps.
6. Click on "Save routes".

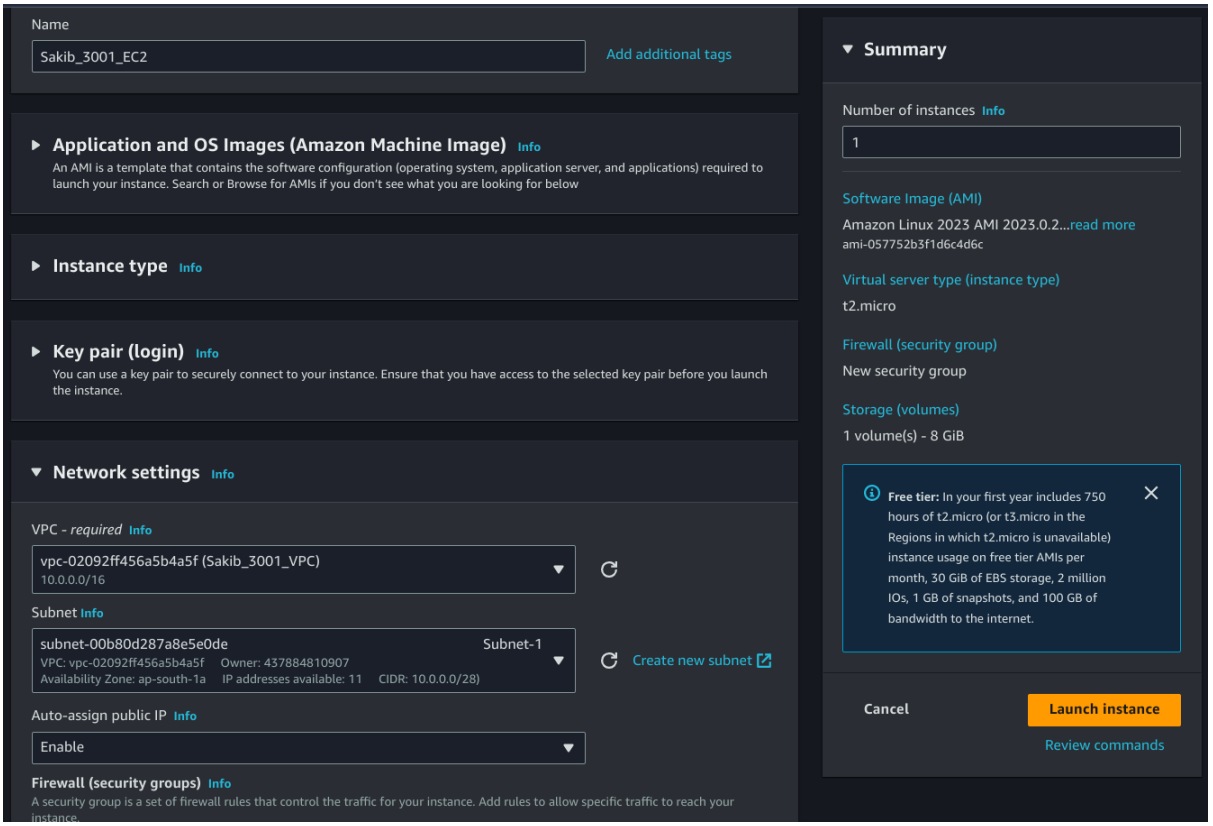


This is the final outcome for the custom VPC

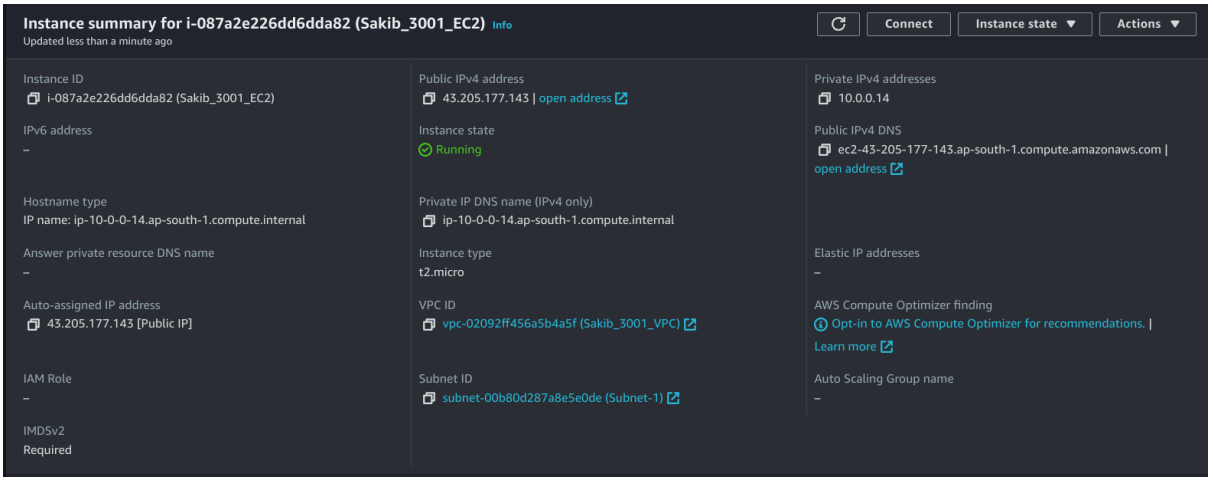


Step 5 : Configure EC2 Linux Instance

1. Open the Amazon EC2 service in the AWS Management Console.
2. Click on "Launch Instances".
3. Select an Amazon Machine Image (AMI) for your EC2 instance.
4. Choose an instance type and configure other details as needed.
5. In the "Configure Instance" section, select the VPC you created in Step 1 for the "Network" setting.
6. Configure other settings, such as storage, tags, security groups, and key pairs.
7. Review the configuration and launch the instance.

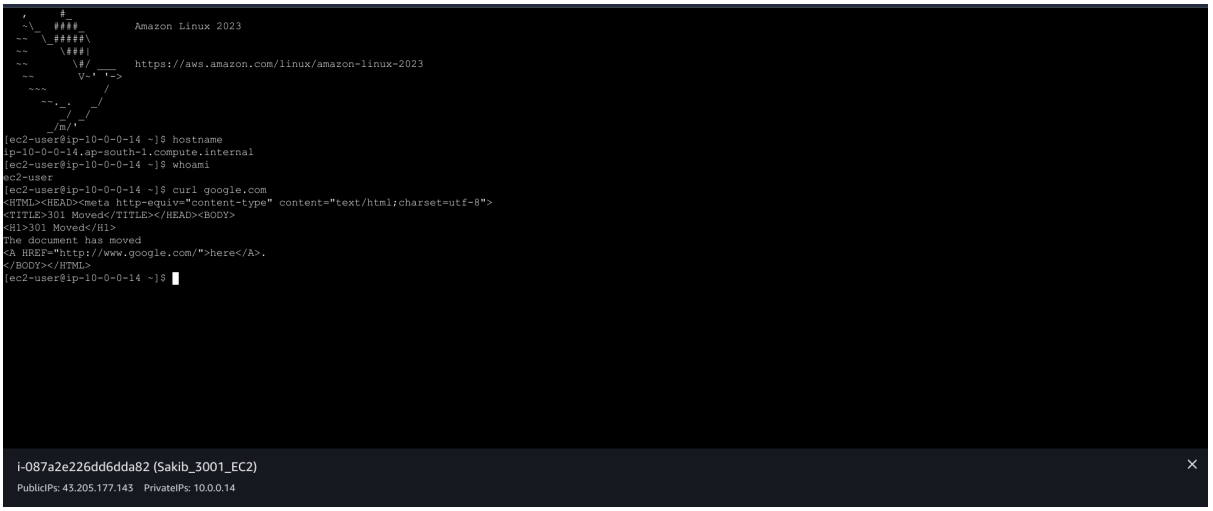


An EC2 instance created in the Custom VPC and within the subnet-1

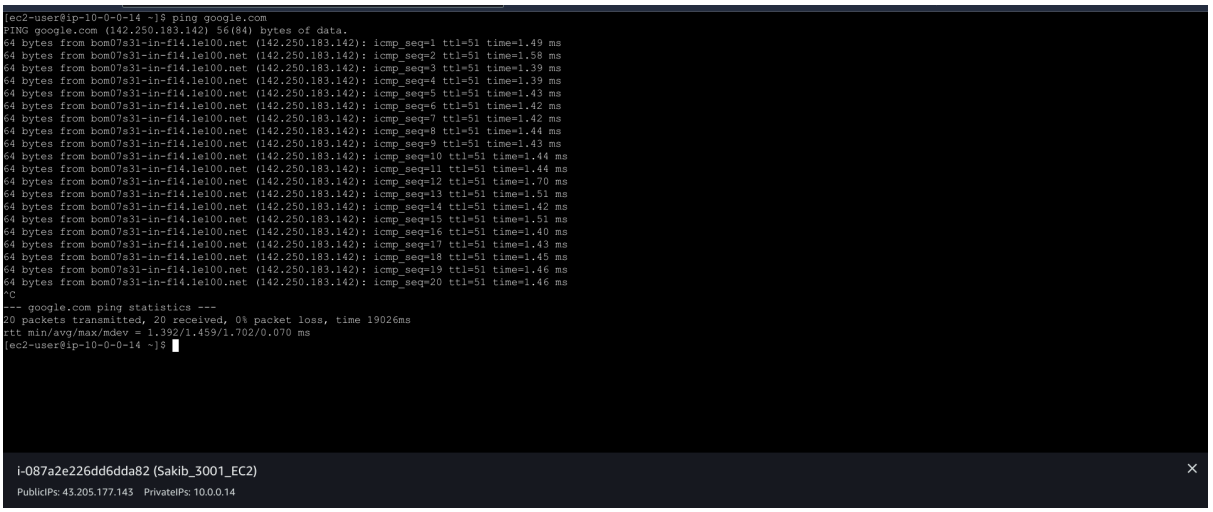


From the instance Internet is accessible via Internet Gateway:

Curl is working from terminal:



Ping is also working from terminal:



Hence the whole system is working and an instance can access internet from the newly created VPC under any subnet of three.

Thanks
End of the Assignment.