Basic Labs

VPC Configuration Lab

Objective:

To understand the fundamentals of AWS networking through the configuration of a Virtual Private Cloud (VPC).

Approach:

Students will create a new VPC, add subnets, set up an Internet Gateway, and configure route tables. The lab might also include setting up a simple EC2 instance within this VPC to demonstrate how resources are deployed in a custom network environment.

Goal:

By the end of this lab, students should be able to create and configure a VPC, understand subnetting, and the role of route tables and internet gateways in AWS.

1. Creating a VPC

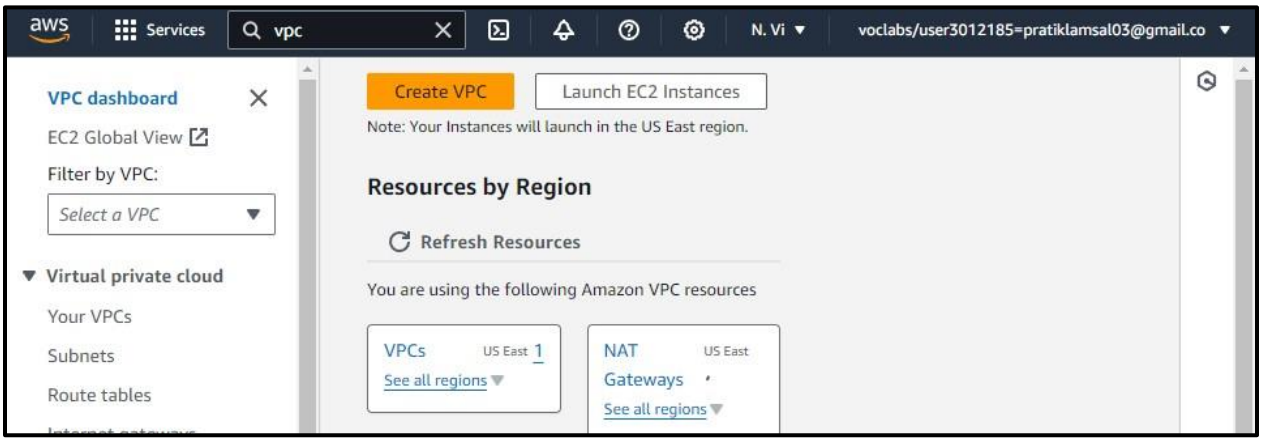

Figure 1 VPC Creation

2. Configuring the VPC

Name is given along with an IPv4 CIDR block.

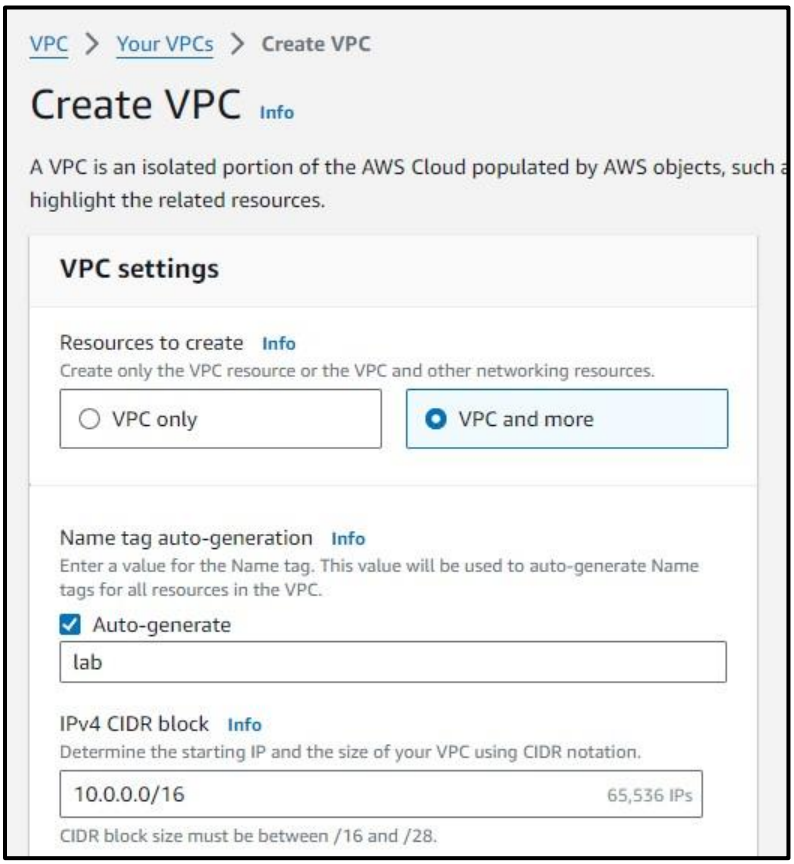

Figure 2 VPC Configuration

3. VPC Configuration2

Number of Availability Zones, Public and Private Subnets selected.

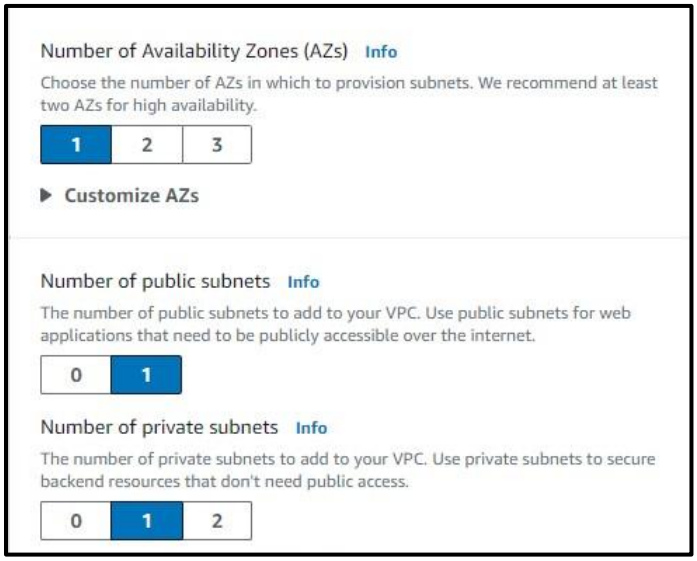

Figure 3 VPC Configuration2

4. VPC Configuration3

CIDR blocks, NAT Gateways and VPC Endpoints Configured and VPC is created.

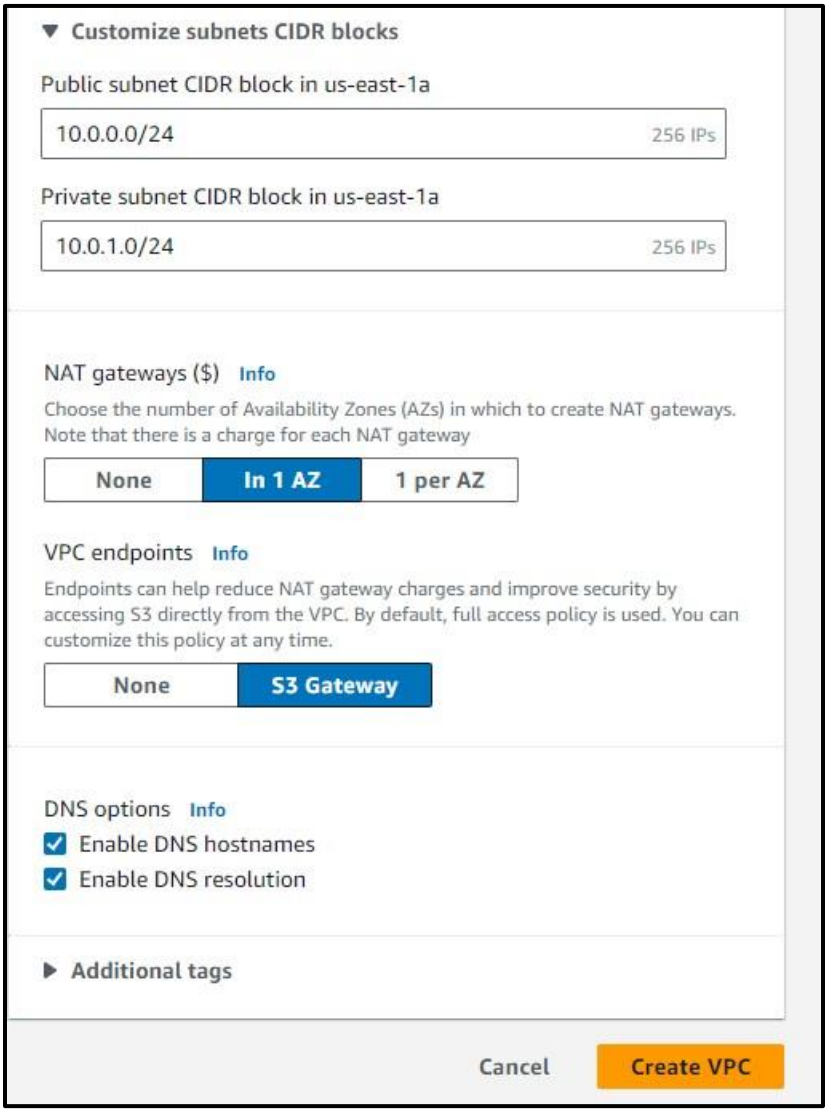

Figure 4 VPC Configuration3

5. VPC Created Successfully

VPC is created Successfully. It will take some time to complete. Now subnets are to be added.

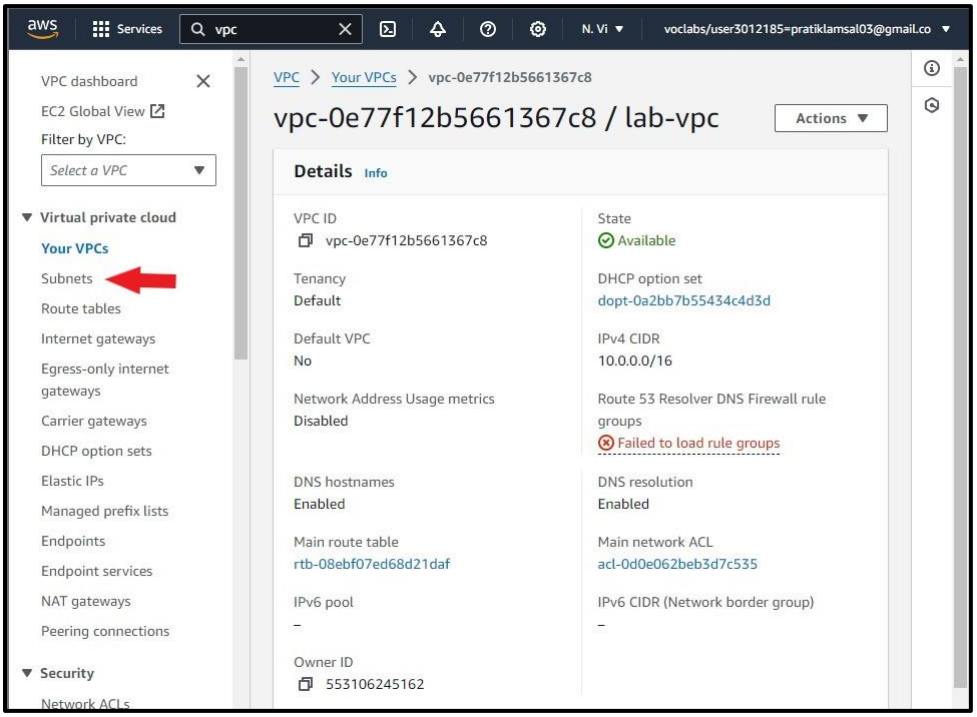

Figure 5 VPC Creation

6. Creating a Subnet

VPC ID is selected.

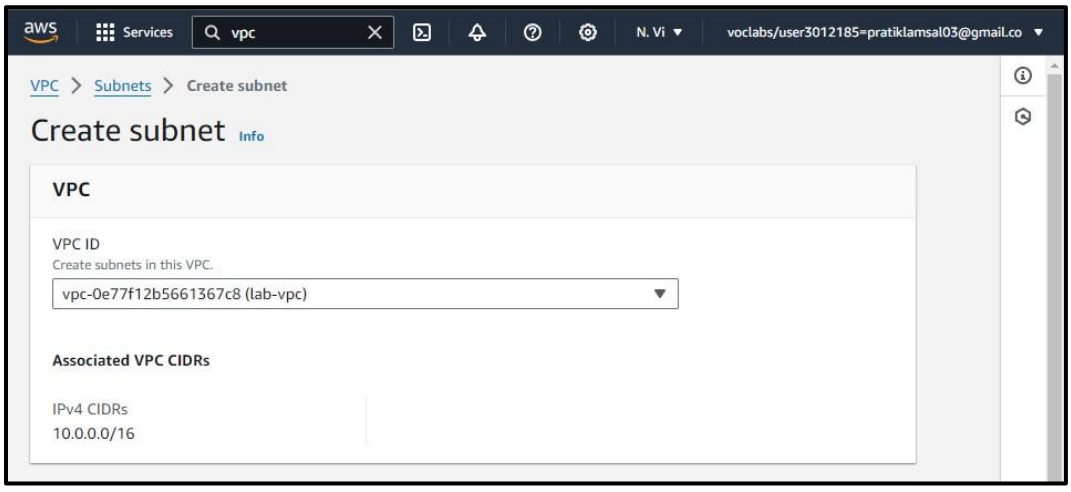

Figure 6 VPC ID selection

7. Creating Subnets

Two Subnets are created.

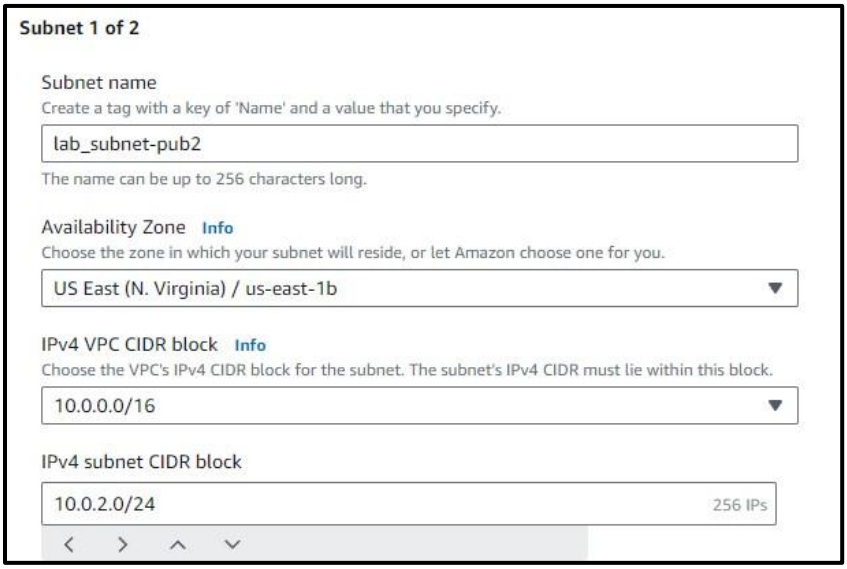

Figure 7 Subnet 1

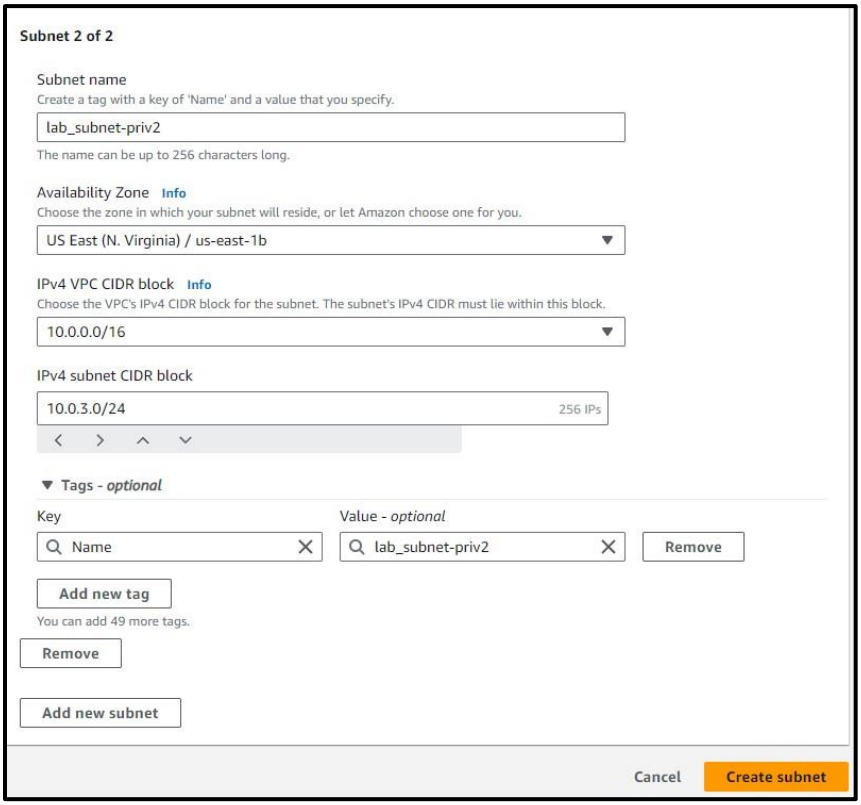

Figure 8 Subnet 2

8. Subnets Successfully Created

Subnets are created successfully. Now, to configure Internet Gateways.

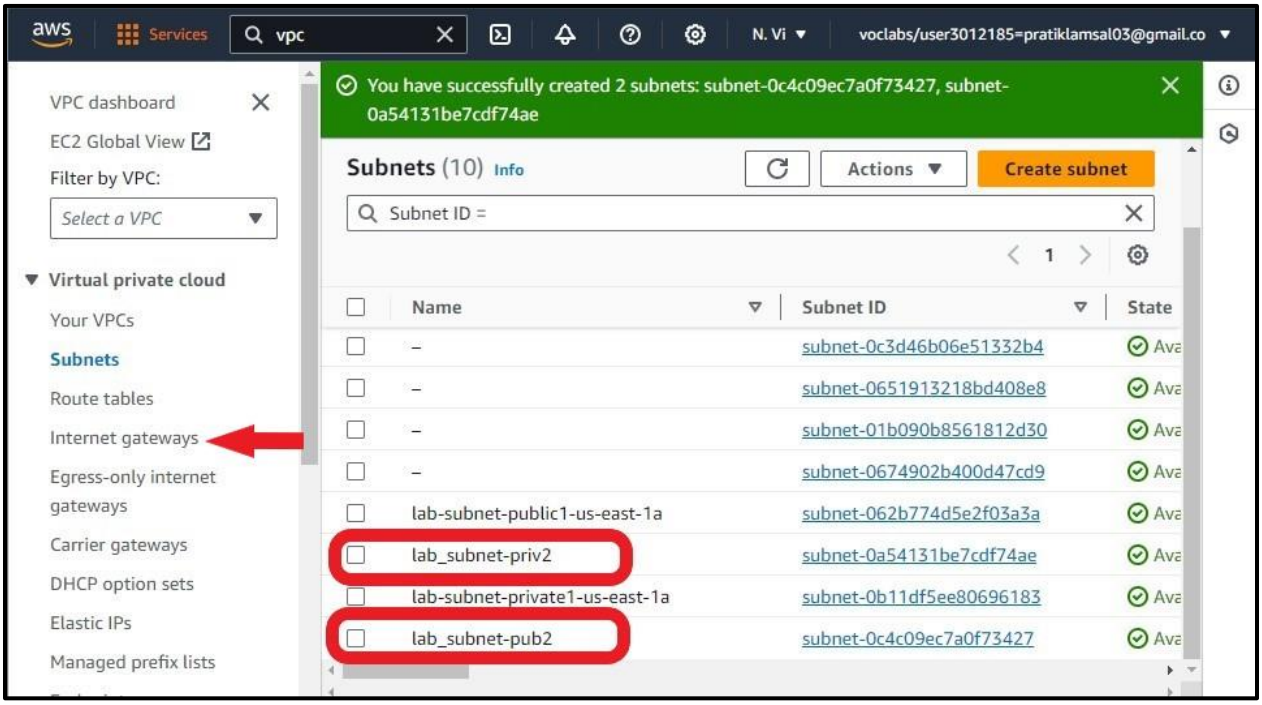

Figure 9 Subnets Created Successfully

9. Internet Gateway Created

An internet Gateways for the VPC is created. Now, configuring Route Tables.

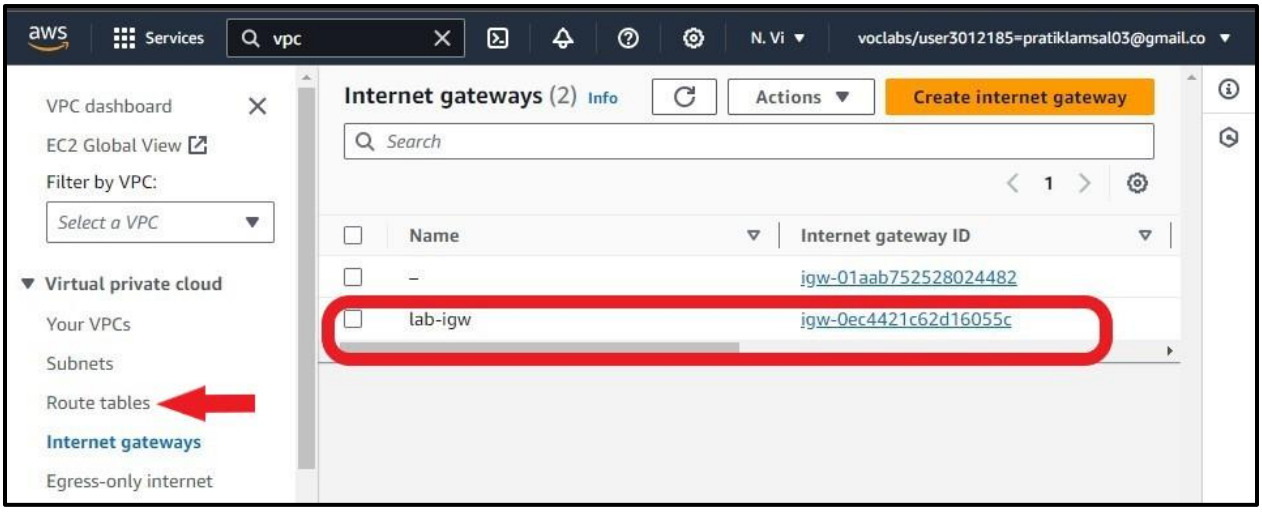

Figure 10 Internet Gateway

10. Configuring Route Tables

Lab-rtb-private1-us-east-1a is selected. Then, in the lower panel, Subnet Association is selected, and Edit Subnet Association is pressed for Explicit Subnet Association.

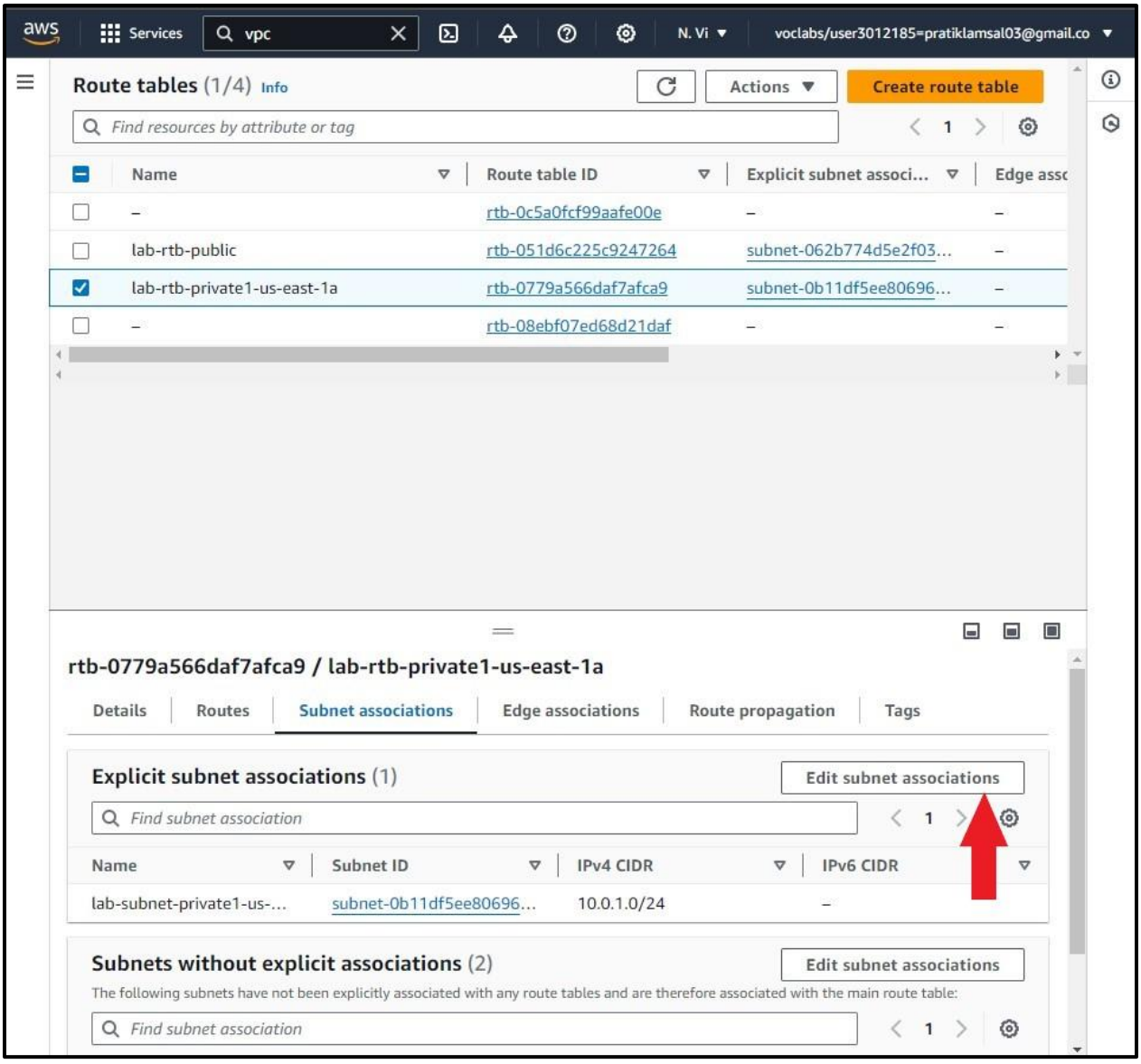

Figure 11 Route Table Configuration

11. Subnet Associations

Lab_subnet-priv2 and lab-subnet-private1-us-east-1a are selected and saved.

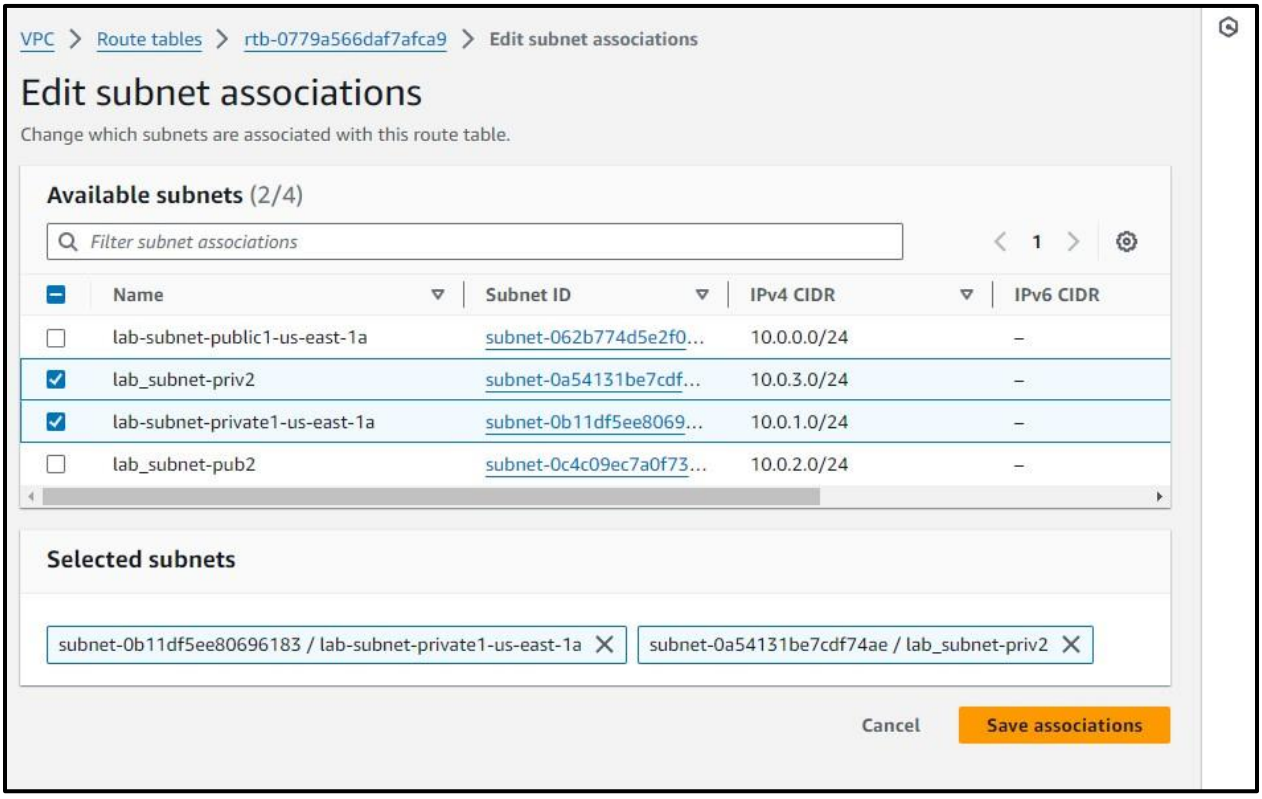

Figure 12 Editing Subnet Associations

12. Security Group Creation

A security Group with necessary rules for the VPC is created.

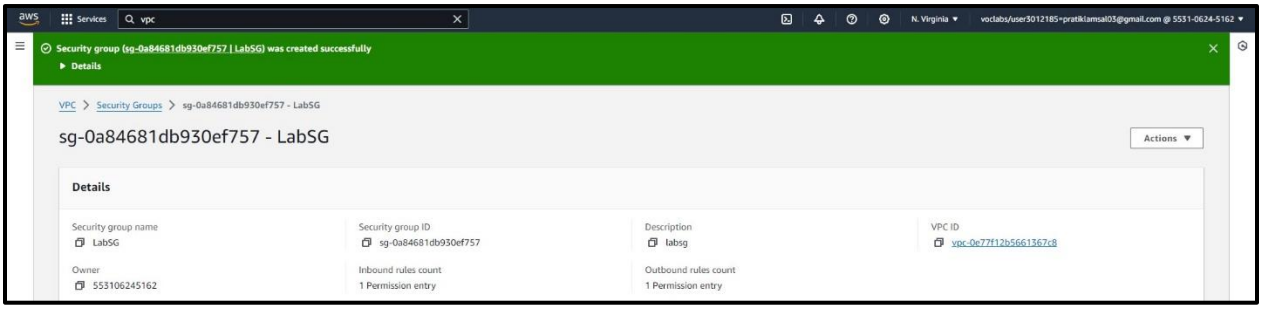

Figure 13 Security Group Creation

13. Launching an EC2 Instance

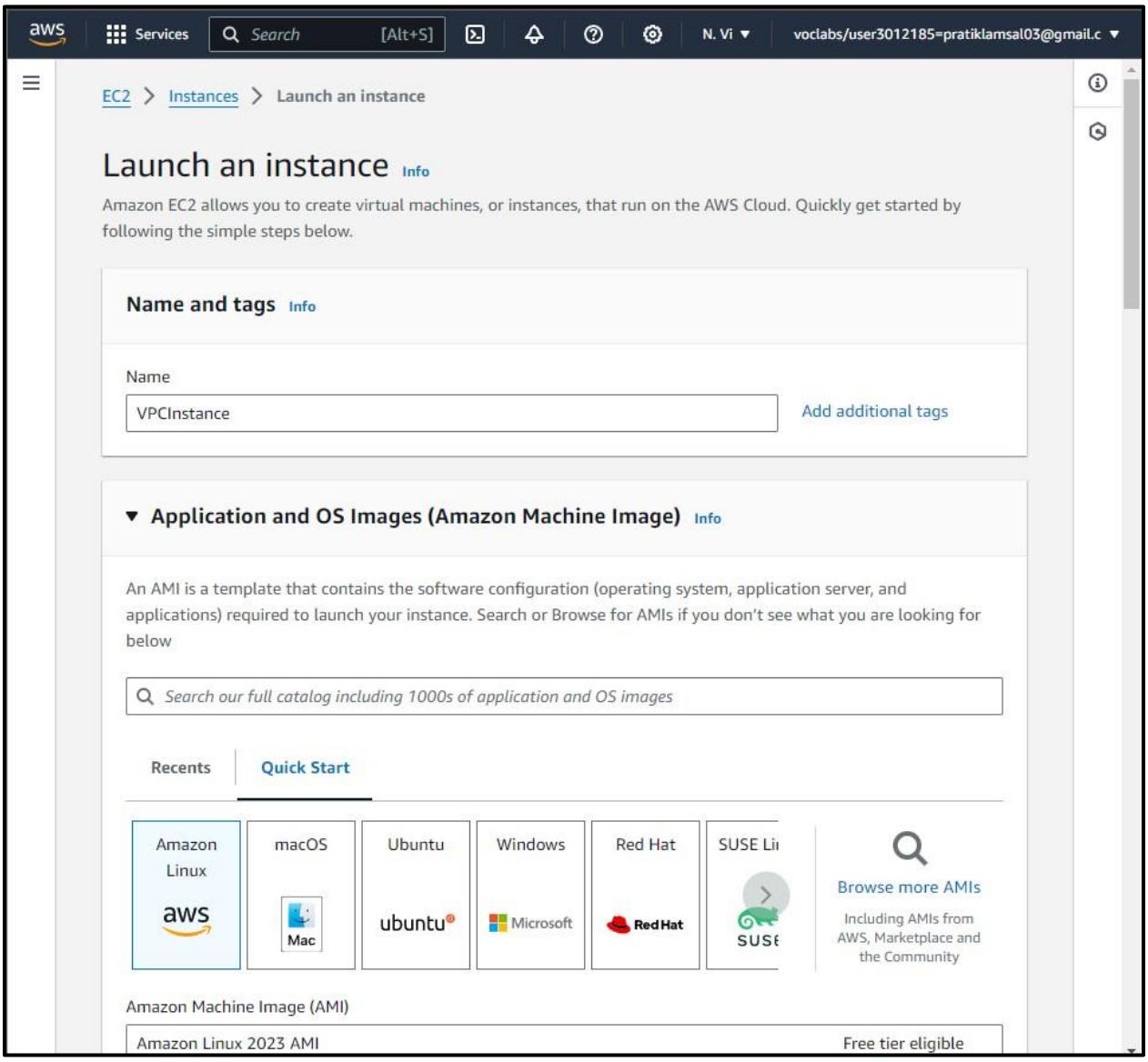

Figure 14 Launching an EC2 Instance

14. Network Setting of EC2 Instance

Key Pair is selected, and Network Settings are changed as per the VPC Created earlier.

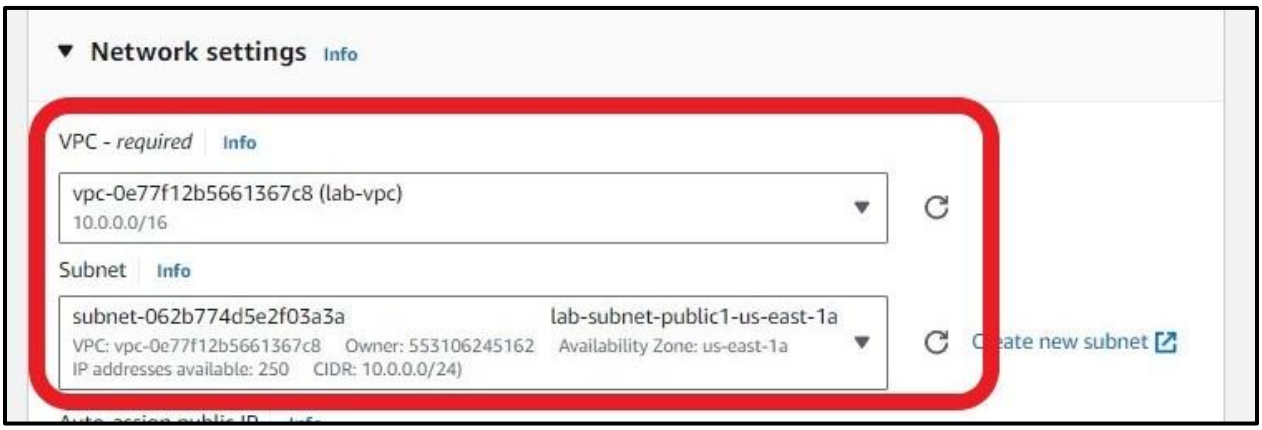

Figure 15 Instance Network Settings

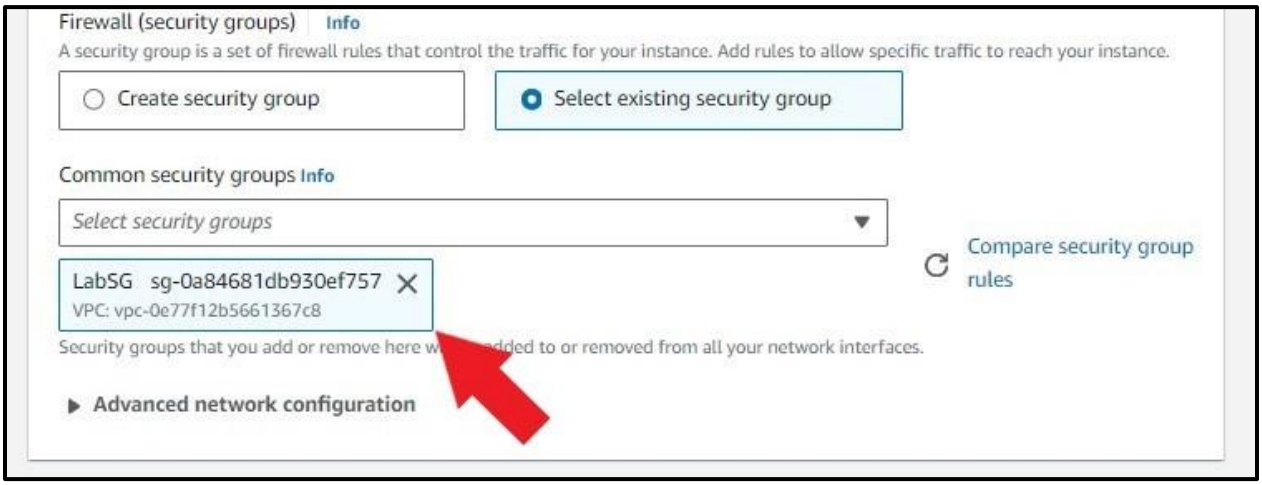

Figure 16 Instance Security Group

15. Launching the EC2 Instance

Some code was entered in user data box and Instance is Launched.

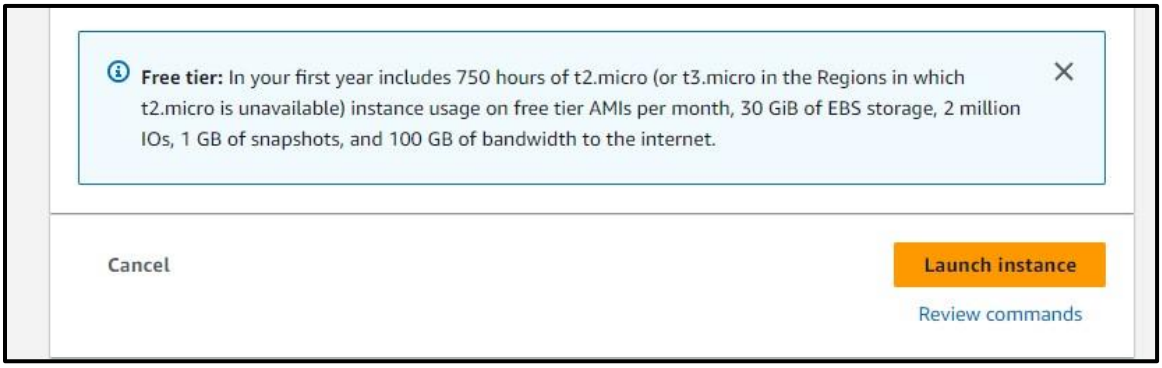

Figure 17 Launching the EC2 Instance

16. EC2 Instance Launched Successfully

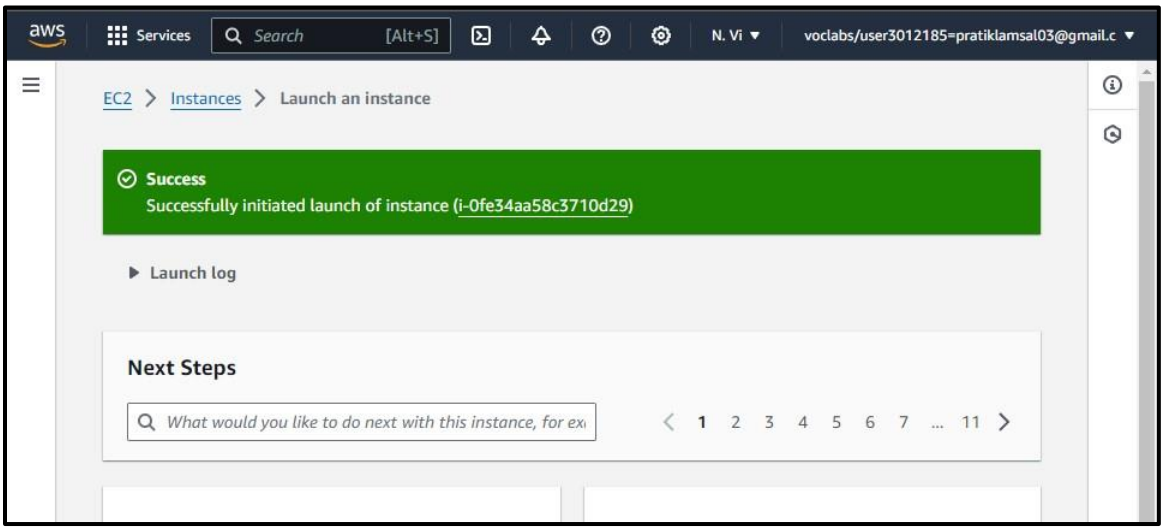

Figure 18 Launching the EC2 Instance

17. Instance Running Successfully

2 checks passed and the instance is getting the public IP.