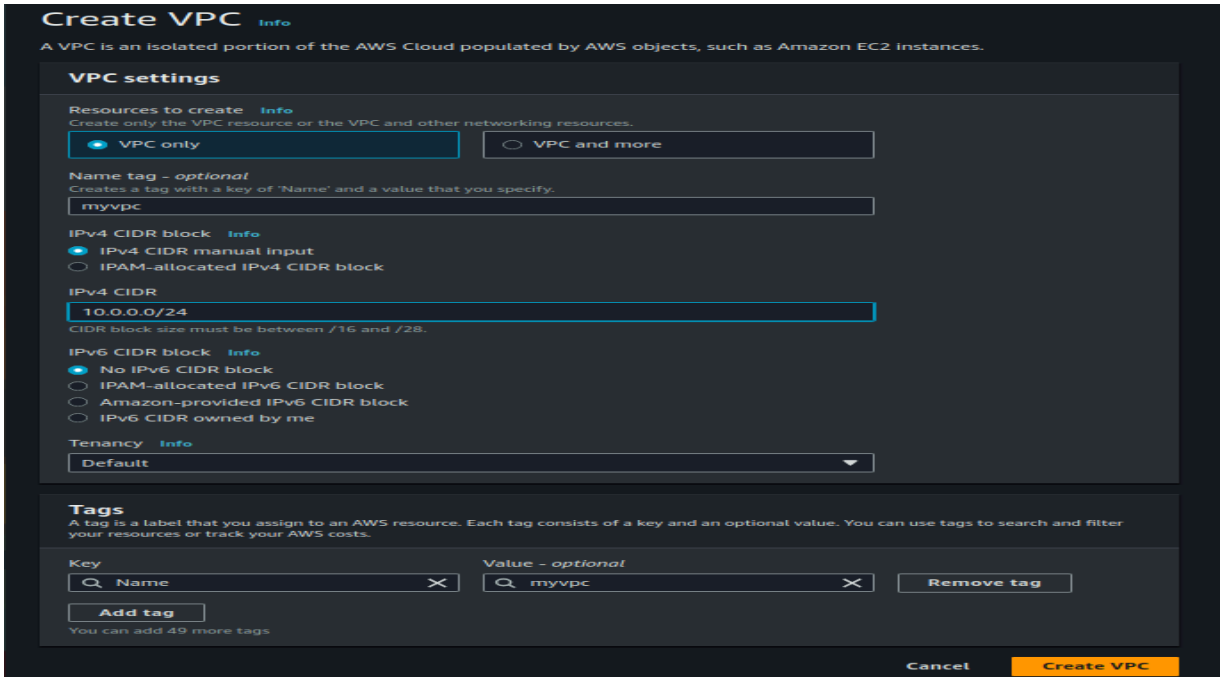
<u>Task</u> : Create a VPC and Launch an EC2 Instance Within It.

Diagrammatic Representation:

Step 1: Create vpc .

What is vpc ?

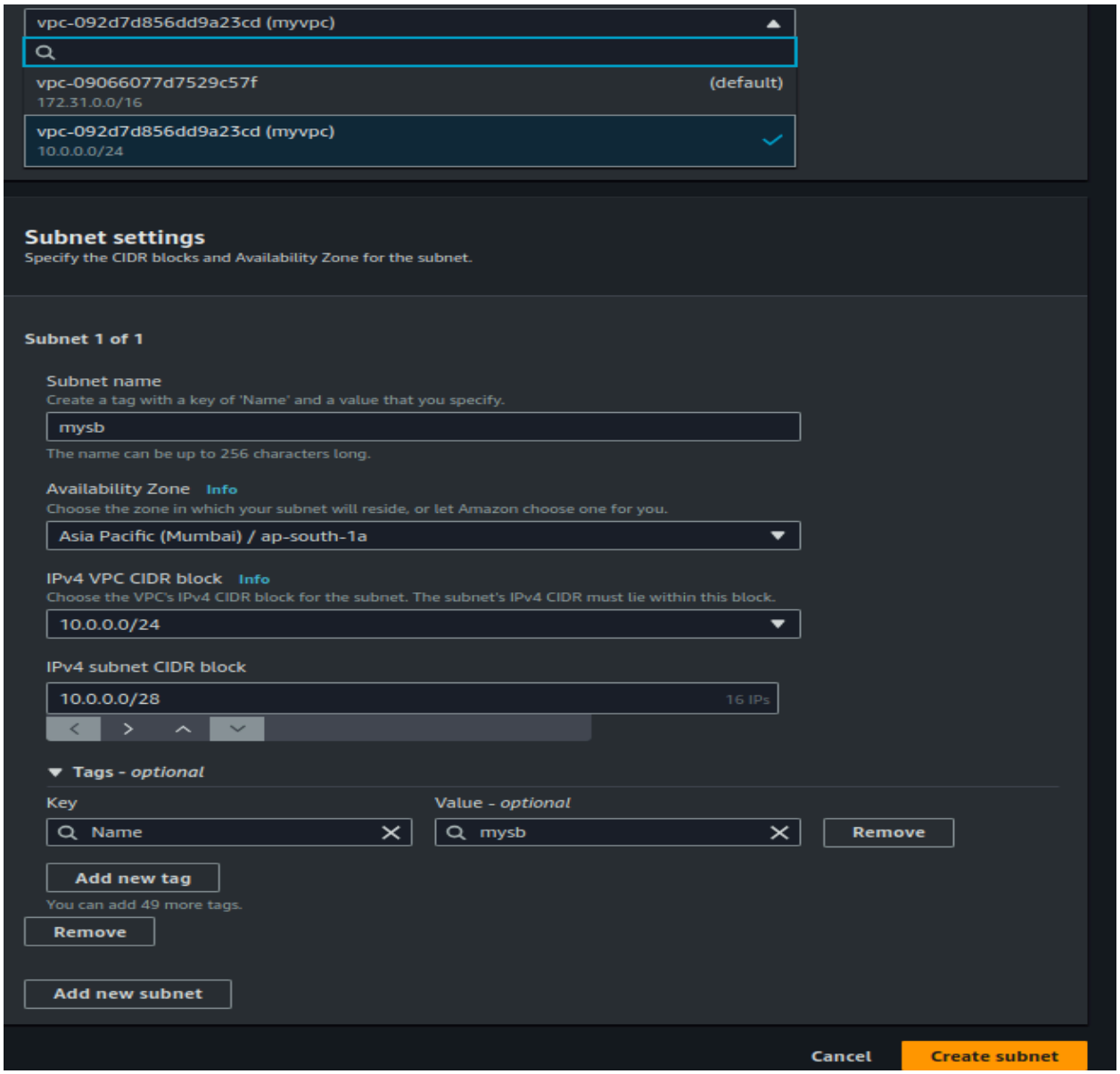
→A Virtual Private Cloud (VPC) is a virtual network dedicated to your cloud resources, providing isolation and security within a public cloud environment. It allows you to control your network configuration, such as IP address ranges and subnets, for better resource management and protection.



Step 2: Now Create Subnet in vpc .

What is Subnet ?

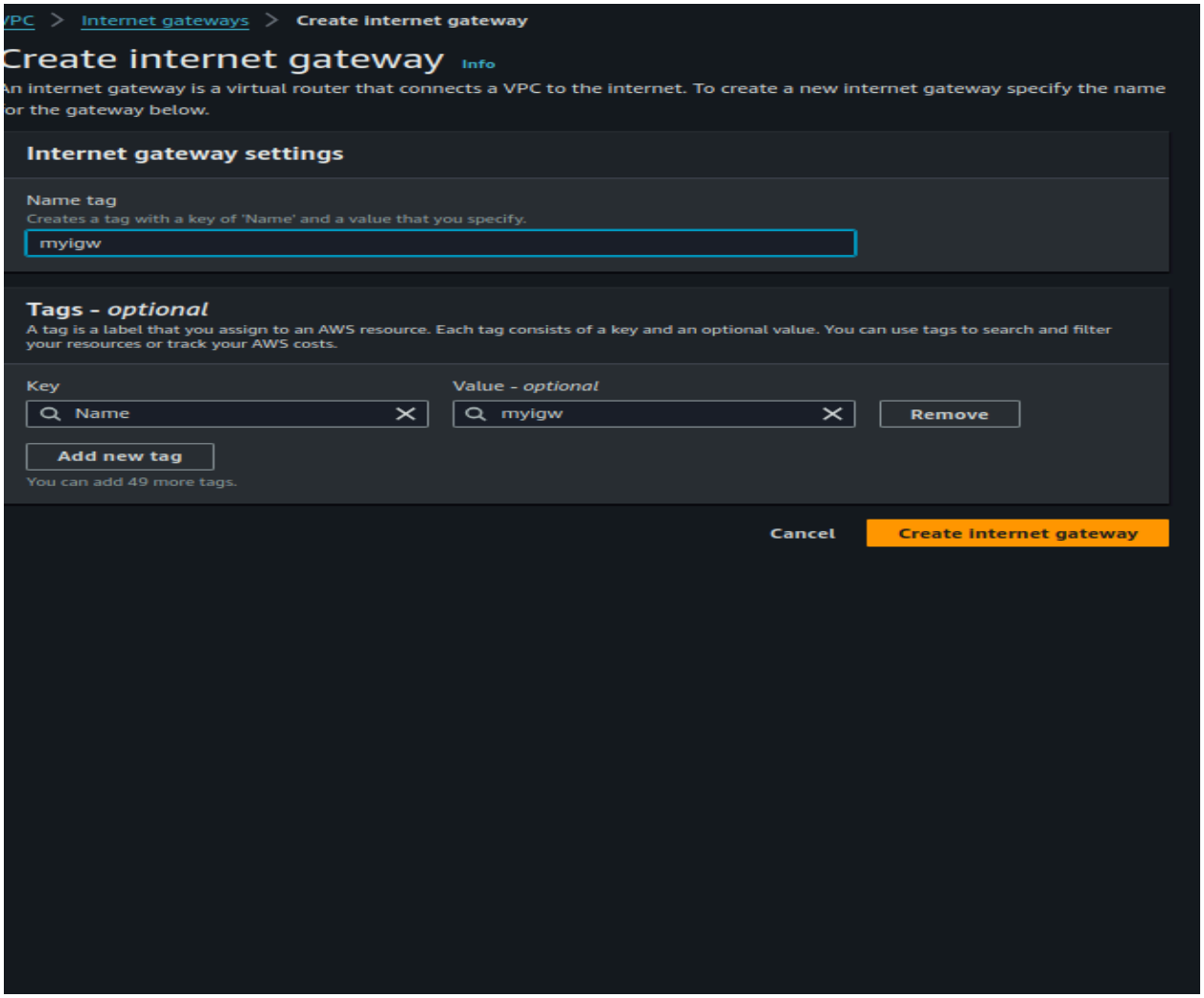
→A subnet, or subnetwork, is a segmented piece of a larger network that allows for more efficient management and organization of IP addresses. It helps in isolating traffic and enhancing security within a Virtual Private Cloud (VPC) by dividing a network into smaller, manageable sections.

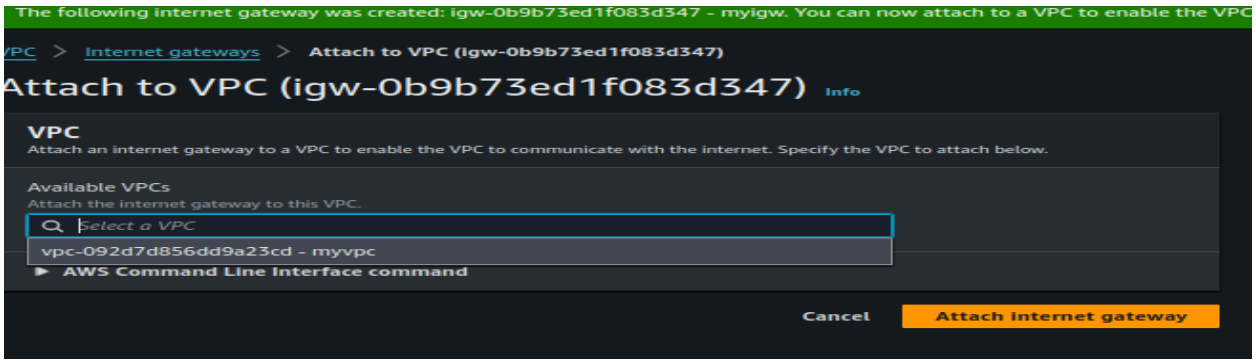


Step 3: Now Create Internet Gateway and Attach it to our vpc.

What is Internet Gateway ?

→An Internet Gateway (IGW) is a component in a Virtual Private Cloud (VPC) that enables communication between instances in the VPC and the internet.

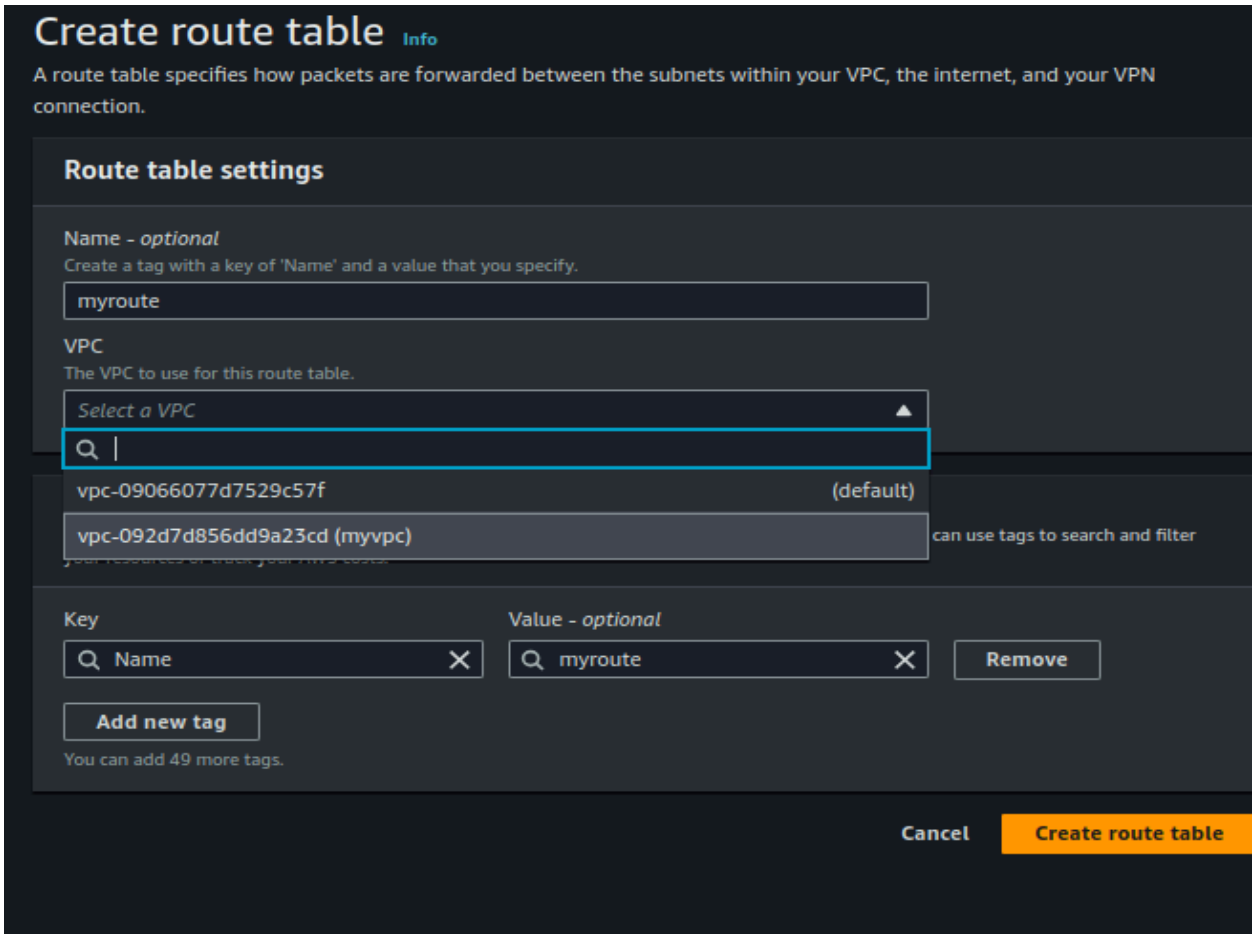




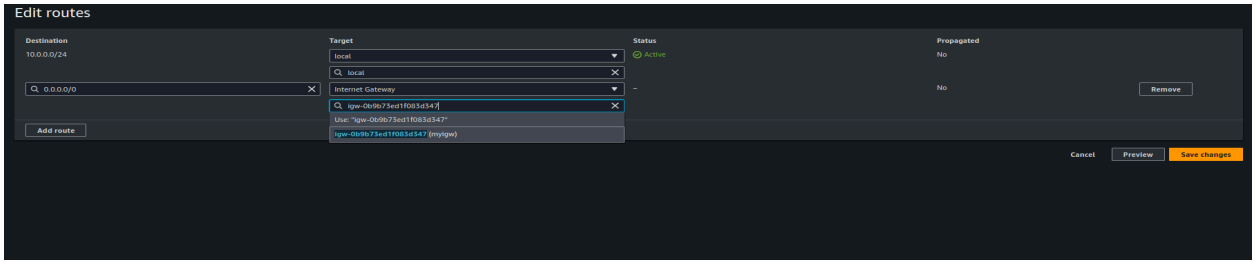
Step 4: Create Route table and Associate with subnet.

What is Route Table ?

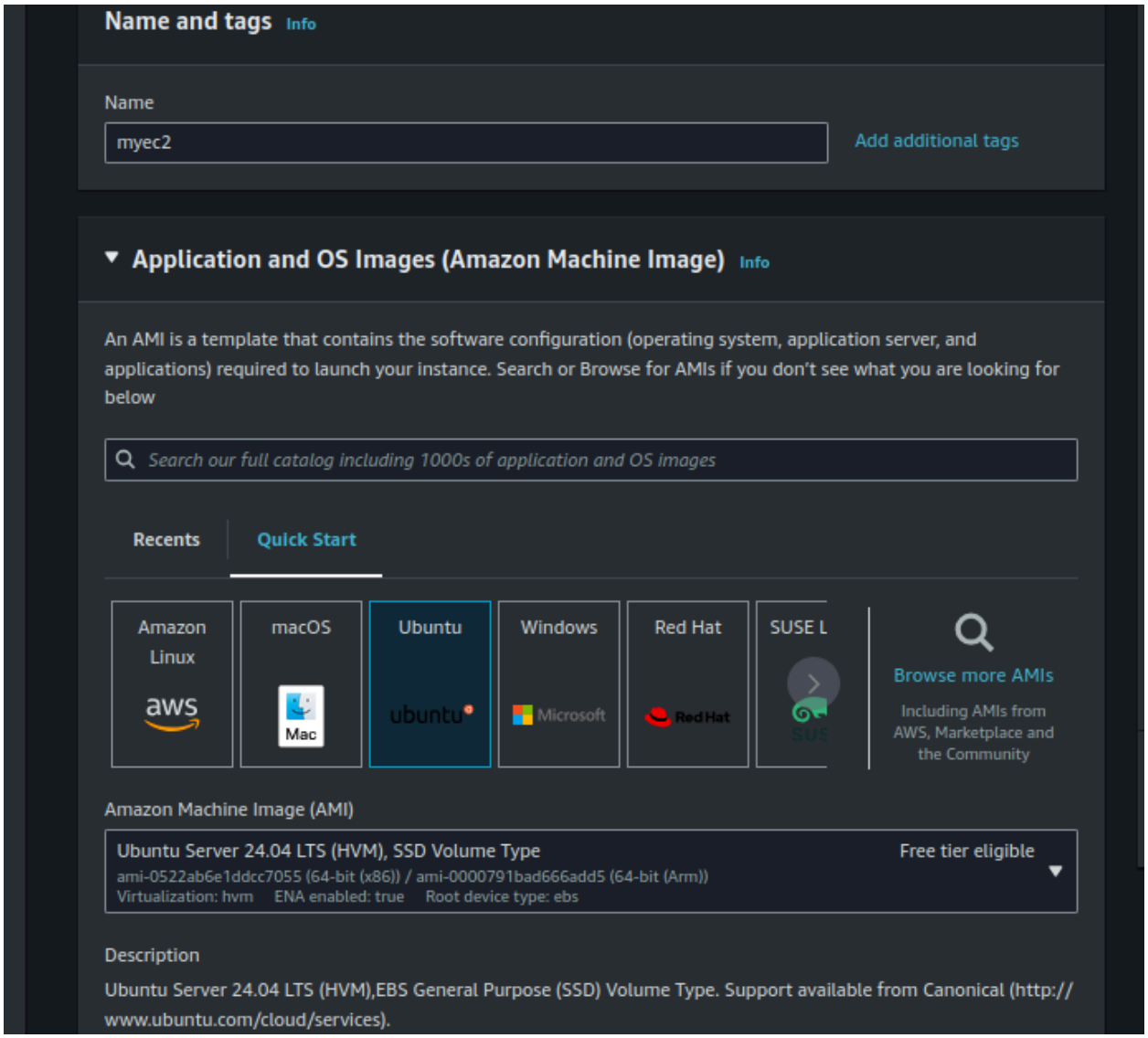
→A route table is a set of rules in a network that directs how traffic should be routed between subnets and external destinations. In a Virtual Private Cloud (VPC), route tables specify the paths for network traffic, including directing traffic to an Internet Gateway, Virtual Private Gateway, or other network resources.



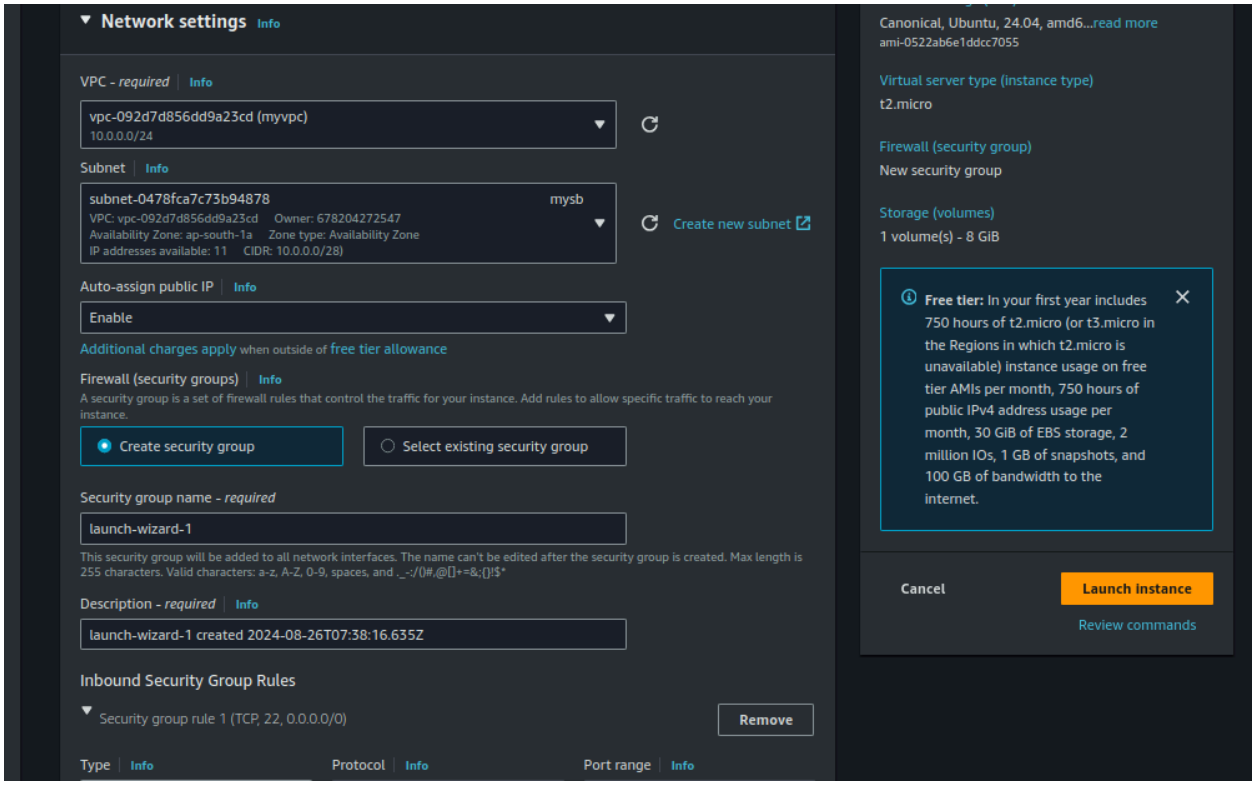
Edit Routes and allow all ip and add our IGW.



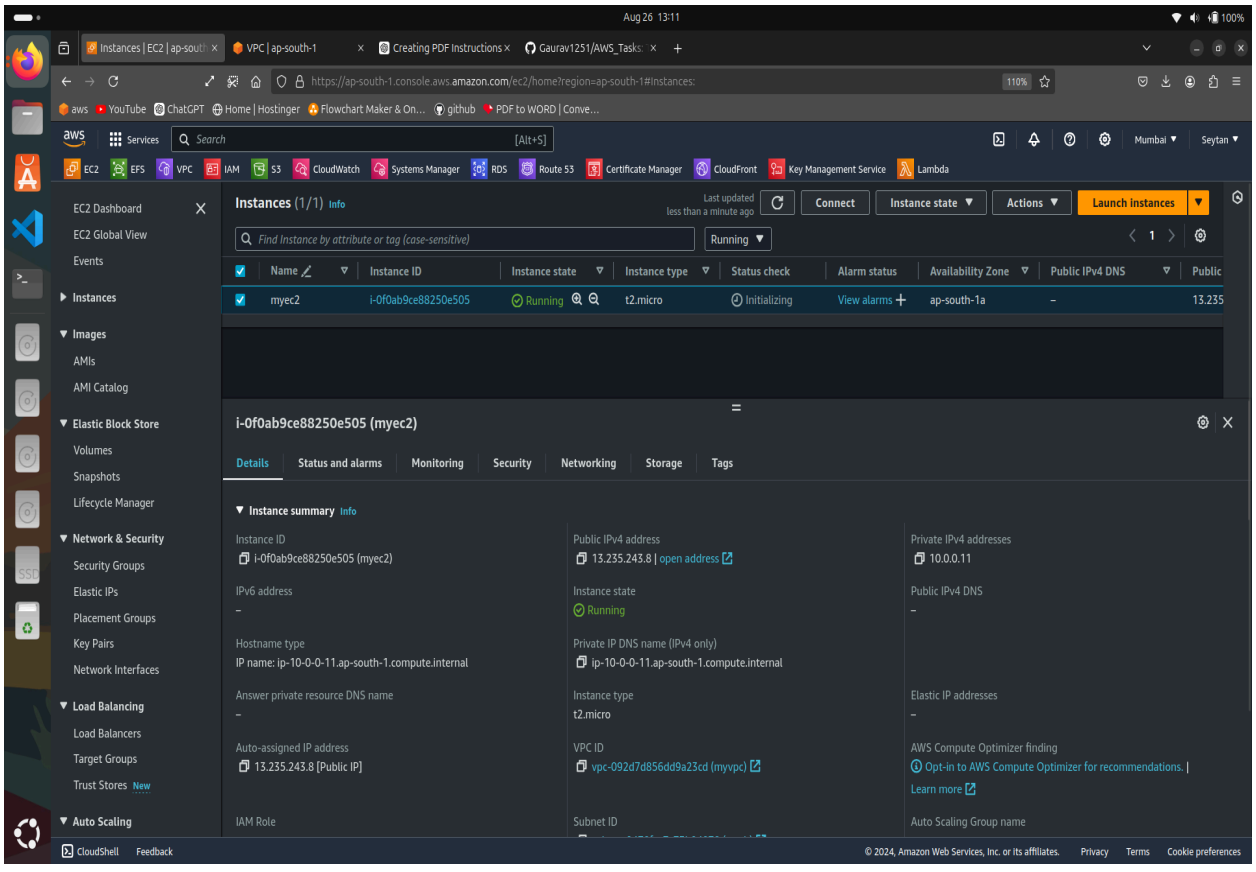
Step 5: Now Create an ec2 Instance .



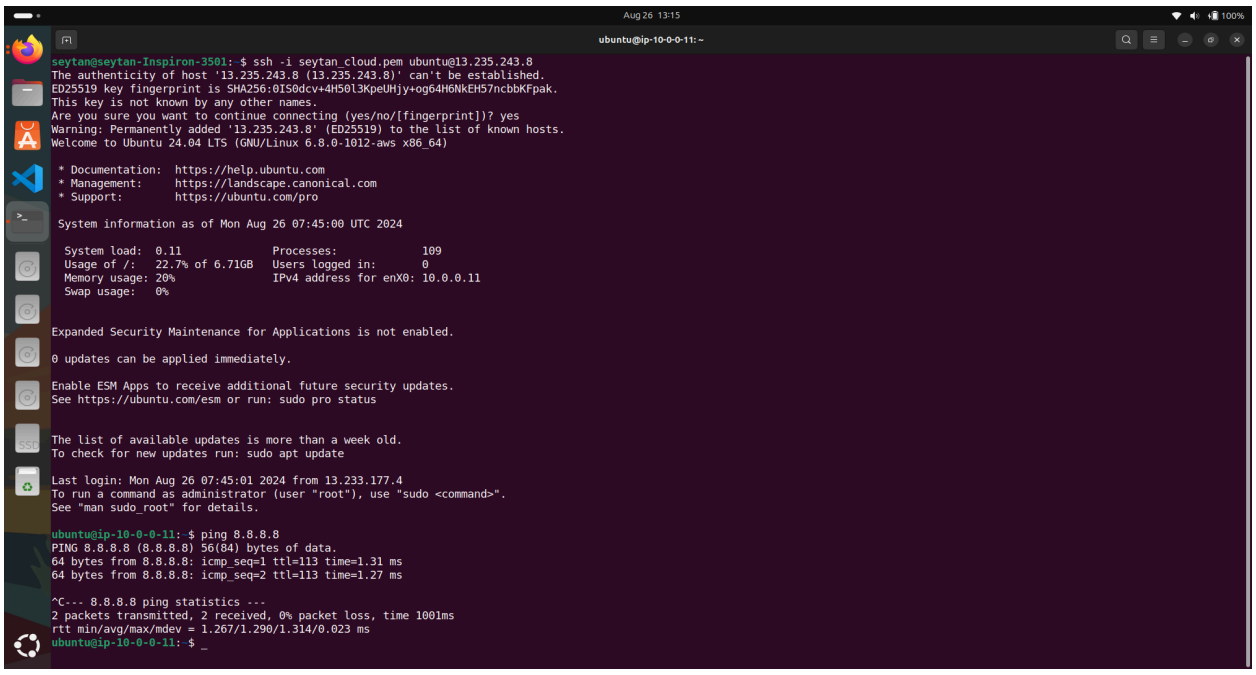
Step 6: In Network Setting edit the vpc and subnet and Select appropriate VPC which we created just.
Also Enable the public ip so we can access the ec2 instance over ssh.



Step 7: Now Copy the public ip of ec2 and connect it using command →ssh -i private_key.pem user@public_ip



After Connecting check the internet working or not by pinging at 8.8.8.8



Conclusion: Creating a VPC and launching an EC2 instance within it provides a secure and isolated network environment in

the cloud. This setup enables controlled access to resources and the internet, ensuring efficient management and enhanced security for your cloud infrastructure.