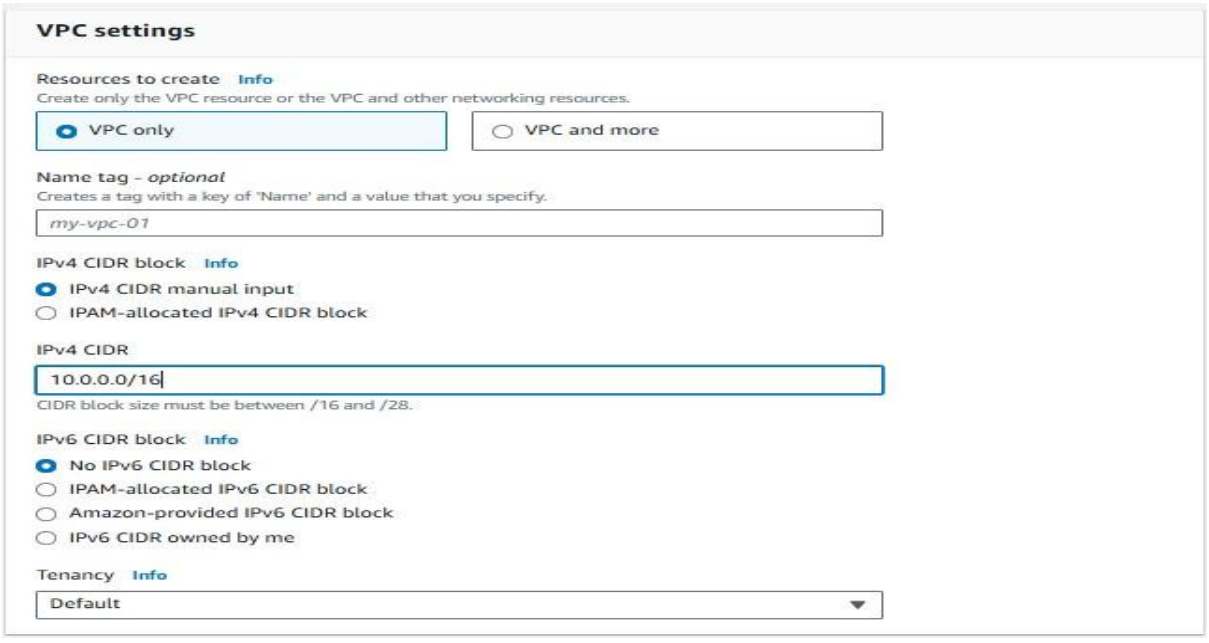
What Is VPC

1. VPC is stands for (virtual private cloud)
2. VPC is used for Networking purpose.
3. VPC is logically isolated network.
4. There are some key components in VPC
    - Subnets
    - Route tables
    - Internet gateway
    - NAT gateway
    - Security groups

Steps to create VPC

1. There are two steps two create VPC one is VPC only and another one is VPC and more
2. Click on create VPC
    - Click on create VPC
    - Select VPC only
    - Give the name for VPC
    - Select the IPV4 CIDR block range as shown in below figure



What is Subnet

1. Subnet is a part in virtual private cloud (VPC)
2. It allows you to control your network resources
3. Each subnet is associated with a specific availability zone and contain resources like EC2, RDS, S3 etc.
4. There are two types of subnets
    - Public subnet
    - Private subnet

Public subnet:

1. Resources within a public subnet can communicate directly with the internet
2. There are some key components in public subnet
    - Internet gateway
    - Public IP Addresses
    - Routing

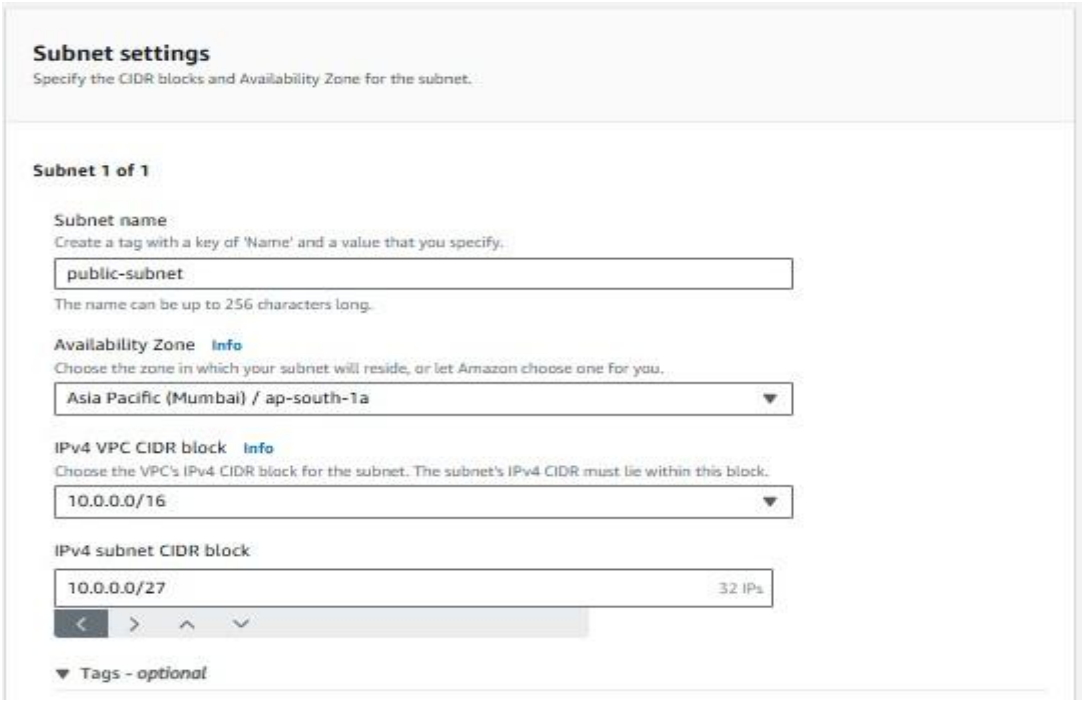
Private subnet:

1. In private subnet we don’t have direct access to the internet
2. Private subnets need additional security to access the resources like application servers, databases etc.
    - NAT gateway
    - Private IP Addresses
    - Routing

Steps to create subnets

1. Click on create subnet
    - Select the created VPC
    - Update the subnet settings

- Give the name for the subnet
- Select the availability zone
- Select the IPV4 subnet CIDR block range
- Finally click on create subnet as shown in below figure



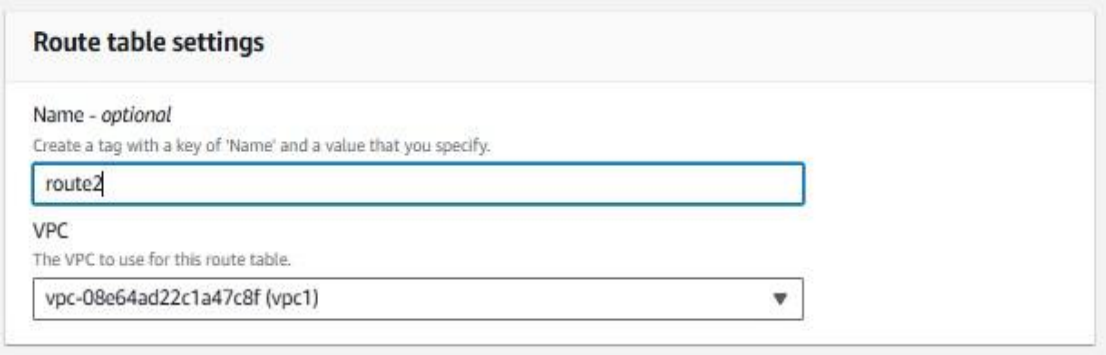
What is Route Tables

1. Every VPC has a default route table
2. Route table means set of rules that is routes
3. Routes are used to specifies a destination IP address range to the target (where to send the traffic) targets are internet gateway, NAT gateway, peering connection etc.
4. Subnet associations is used to create connections for public route table to public subnet and private route to private subnet

Steps to create Route Tables

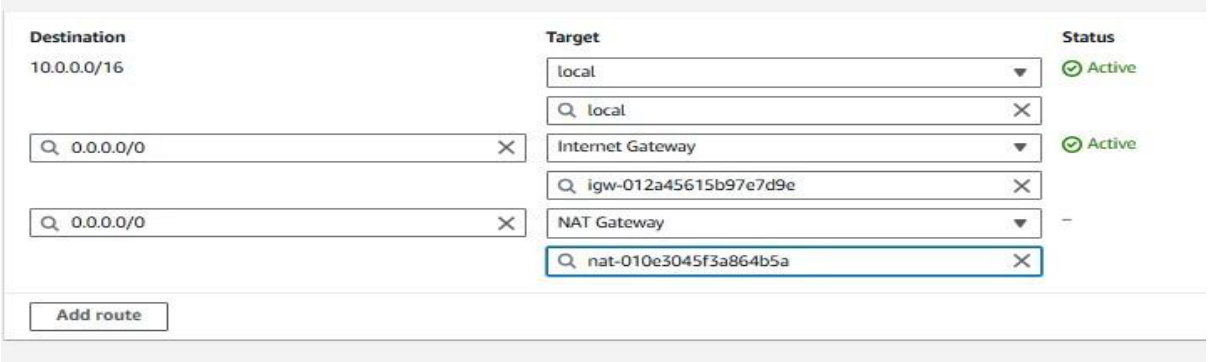
1. Click on create route table
    - Give the name for route table

- Select the created VPC
- Finally click on create route table as shown in below figure



Steps to create Routes

1. Select the route 1 in route table
2. Click on routes
3. Click on edit routes and click on add routes
4. Update the routes as shown in below figure



What is Internet gateway

1. Internet gateway is used to provide internet access to the public server
2. After updating the public route table routes, it will provide the internet access for public server

Steps to create Internet gateway

1. Click on create internet gateway
2. Give the name for internet gateway
3. Click on create internet gateway
4. And attach the internet gateway to created VPC
5. Update the routes for internet connection

What is NAT gateway

1. NAT gateway means (Network Address Translation gateway)
2. NAT gateway is used to provide internet access to the private server
3. After updating the private route table routes, it will provide the internet access for private server

Steps to create NAT gateway

1. Click on create NAT gateway
2. Give the name for NAT gateway
3. Select the subnet as public subnet
4. Click on allocate elastic IP
5. Click on create NAT gateway as shown in below figure