# AMAZON VPC


# Virtual Private Cloud

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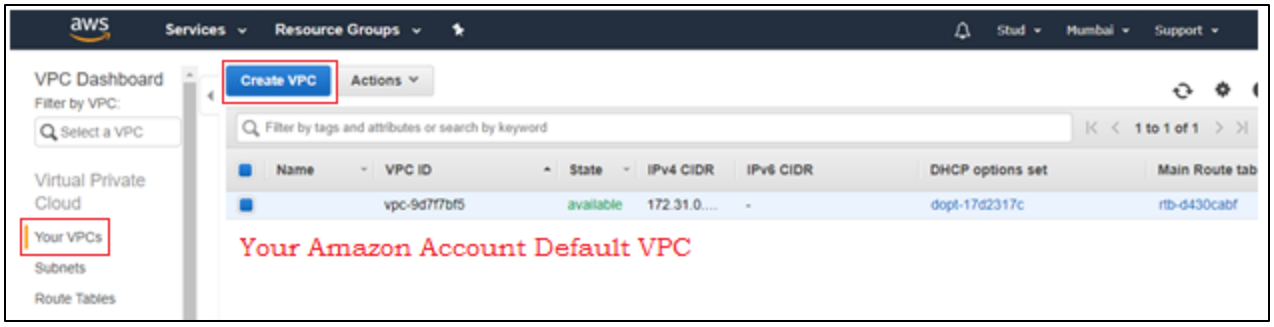
**Amazon VPC:** Amazon Virtual Private Cloud (Amazon VPC) enables you to launch AWS resources into a virtual network which is defined by you. This virtual network closely resembles a traditional network that you'd operate in your own data center, with the benefits of using the scalable infrastructure of AWS. The list of AWS services that can be used with Amazon VPC are mention below,

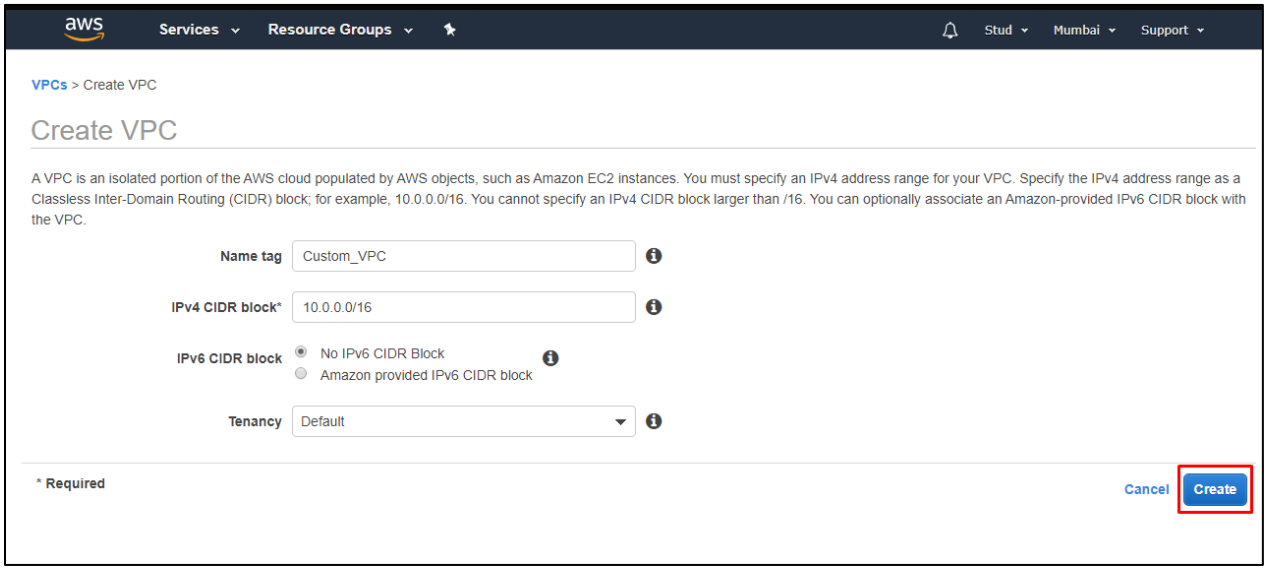
1. Amazon EC2
2. Amazon Route 53
3. Amazon WorkSpaces
4. Auto Scaling
5. Elastic Load Balancing
6. AWS Data Pipeline
7. Elastic Beanstalk
8. Amazon Elastic Cache
9. Amazon EMR
10. Amazon OpsWorks
11. Amazon RDS
12. Amazon Redshift

**Steps to create and configure VPC, Subnet, Internet Gateway and Route Table:**

1. Open the Amazon Web Console and in Services search for VPC or scroll down and look for Networking & Content Delivery below VPC will be displayed
2. A default VPC will be automatically created during the account creation. On the top search and select Create VPC a new page will open

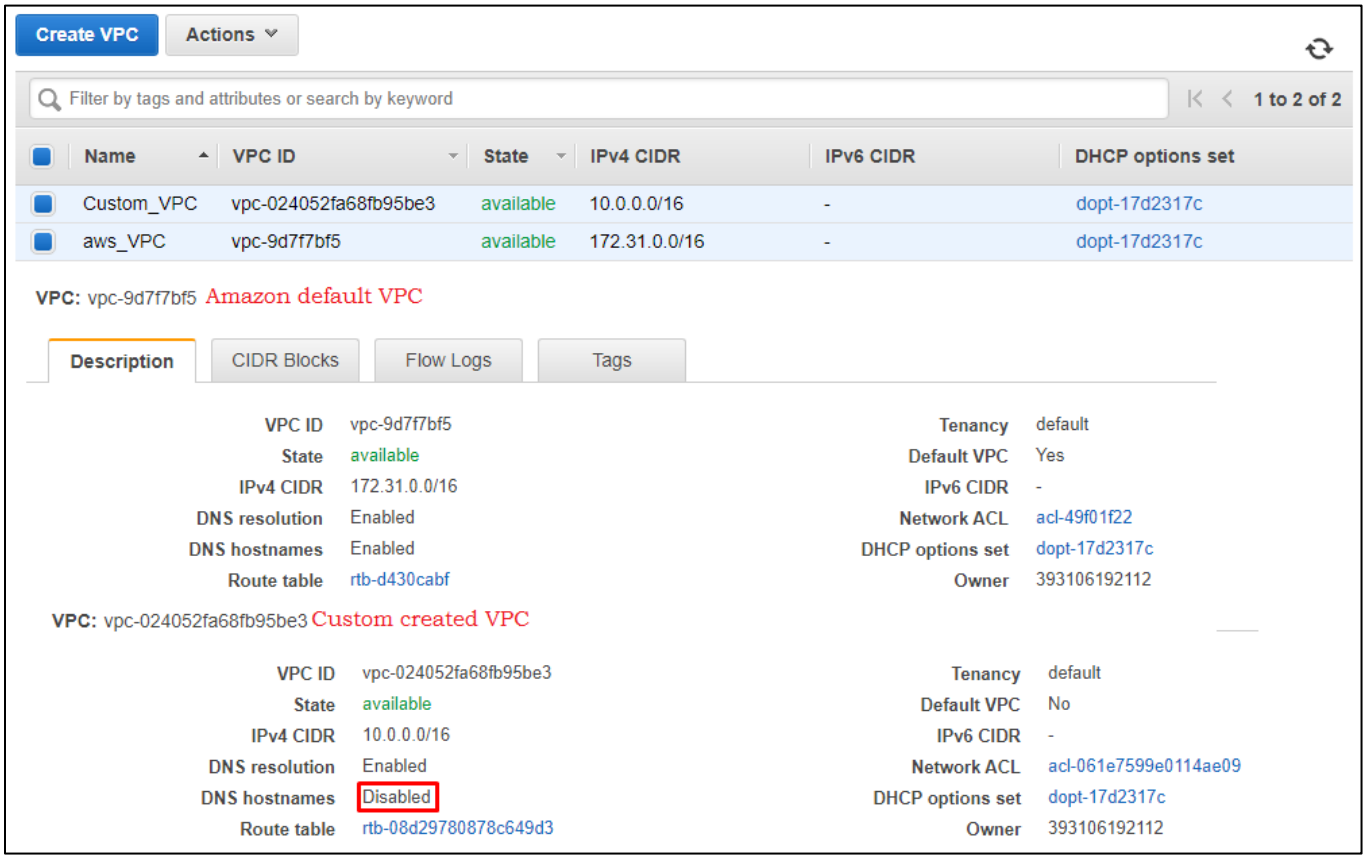



3. Fill the necessary details to create VPC and please mention the CIDR value correctly based on your requirements

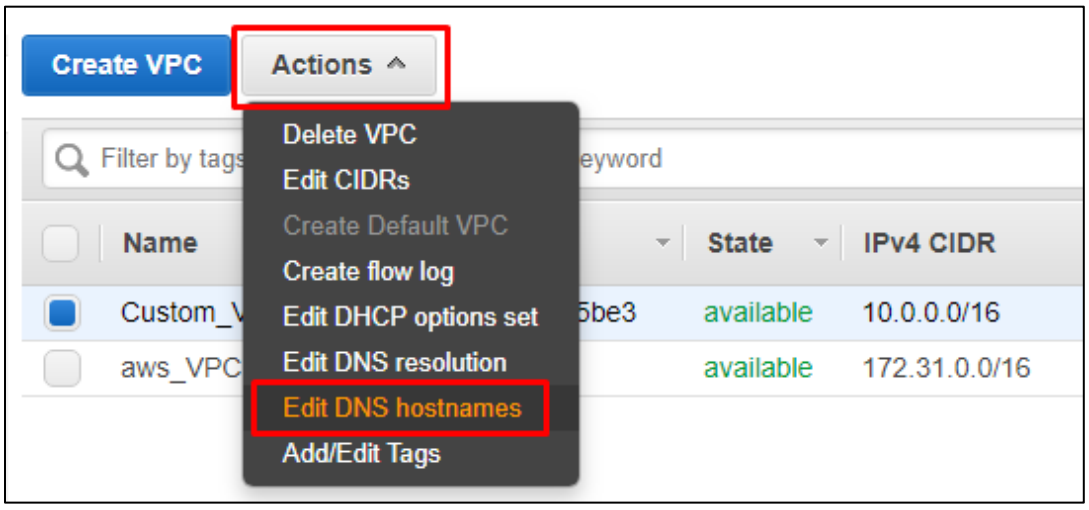


4. A confirmation page will open with VPC ID


5. Compare the Amazon VPC and custom created VPC

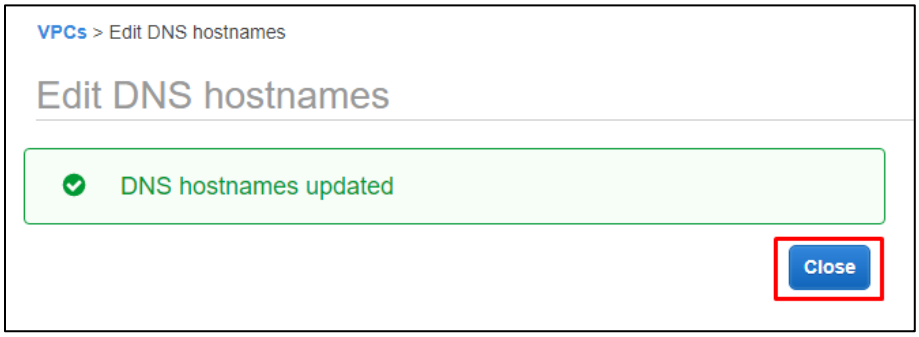



6. Select the custom VPC and click on Action to enable the DNS hostnames



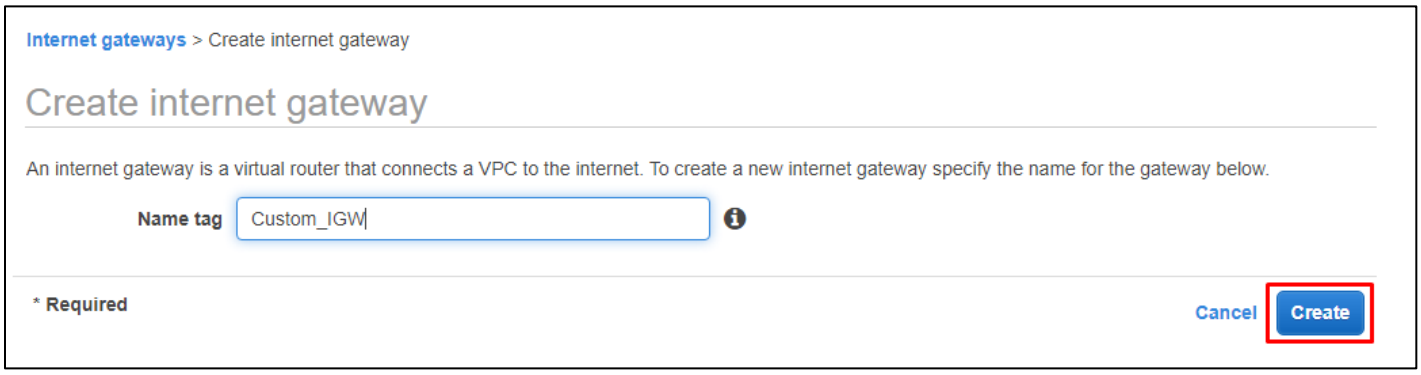
7. It will open a new page and select the box to enable the DNS Hostnames


8. Once it done it will display the DNS Hostname has been updated and in the Description the DNS Hostnames will be Enabled but do not change the custom VPC to default under no circumstances

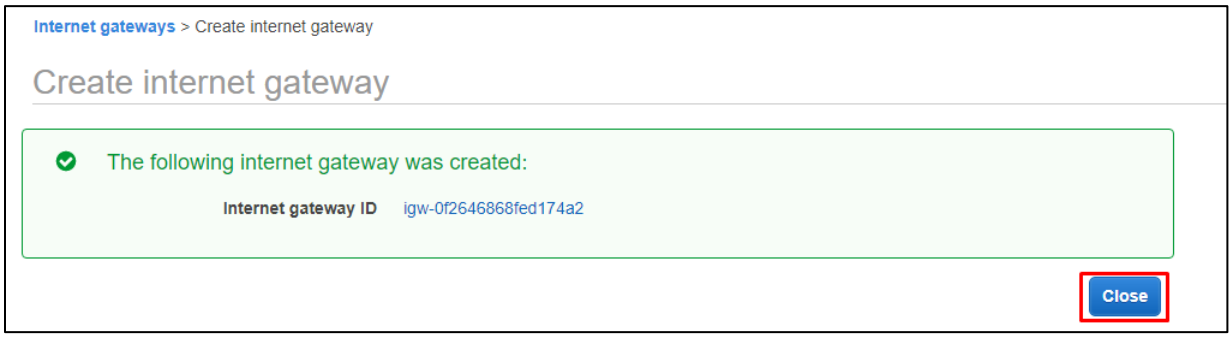



9. To create new Gateway click on the Create Internet Gateway on the top let around the corner

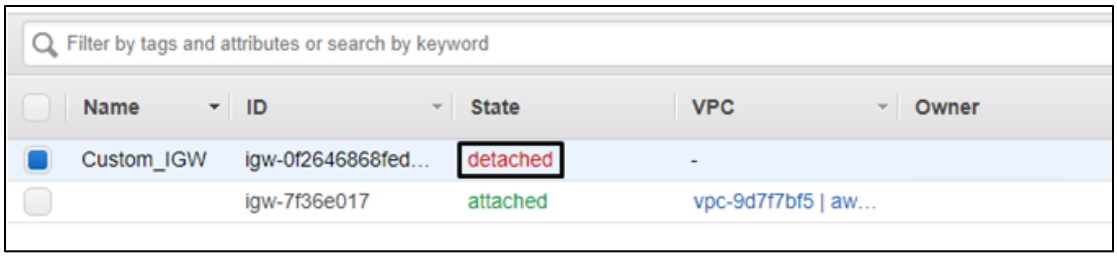

10. It will open a new page and enter the name of your choice and click on create



11. It will navigate to the page where the Internet Gateway id is generated and select close

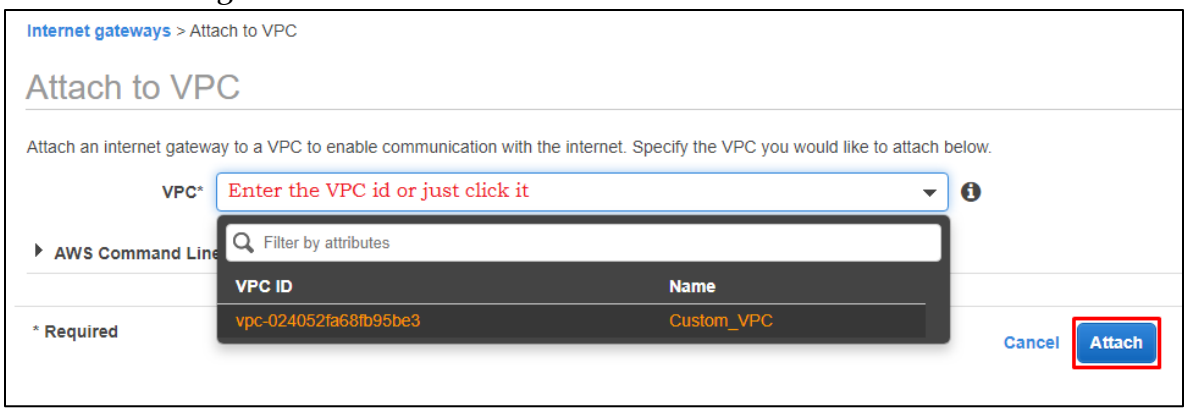



12. Once the IGW has been created it will detached status and need to be connected with VPC

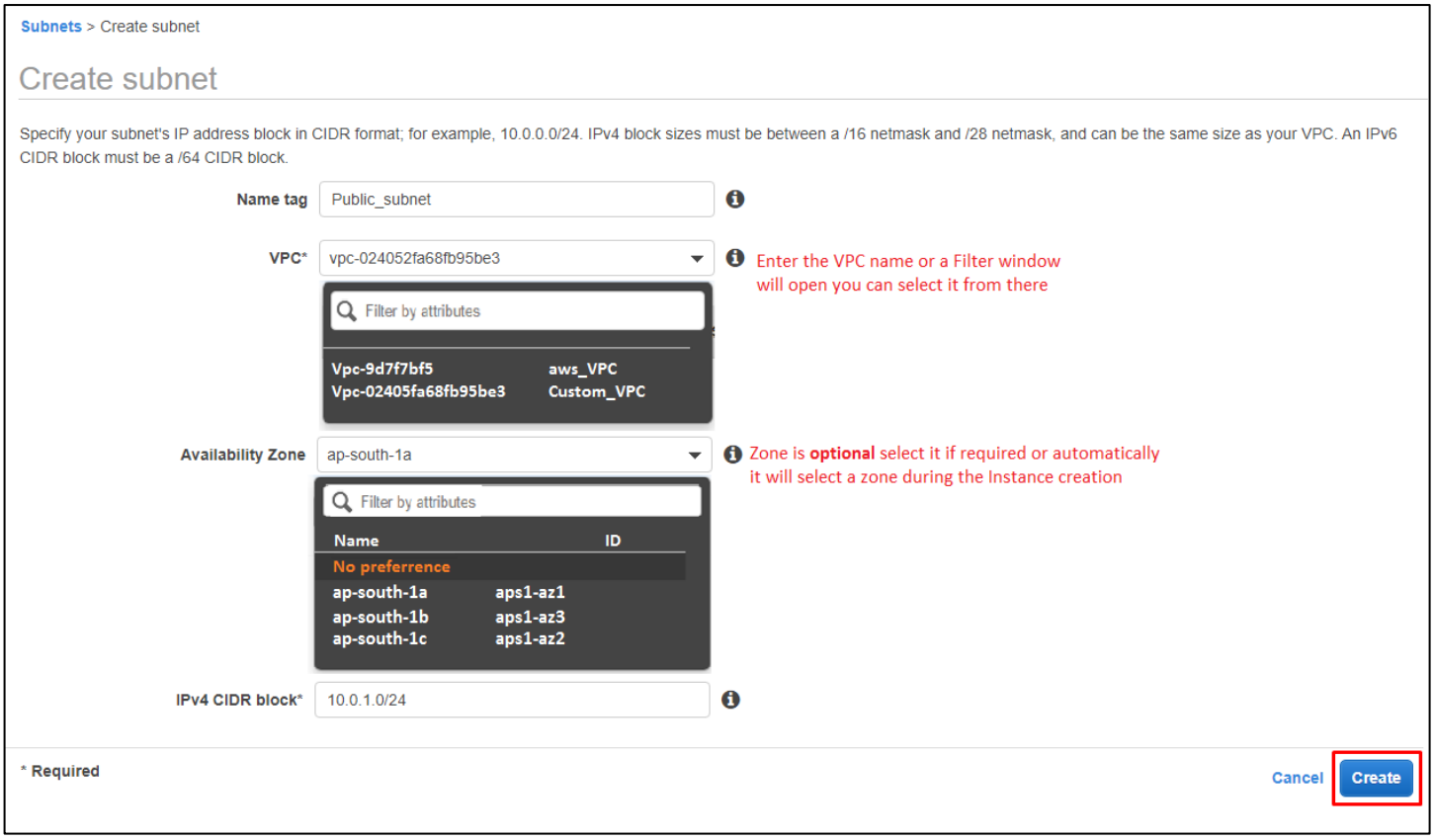



13. Click on the Action option and select Attach to VPC

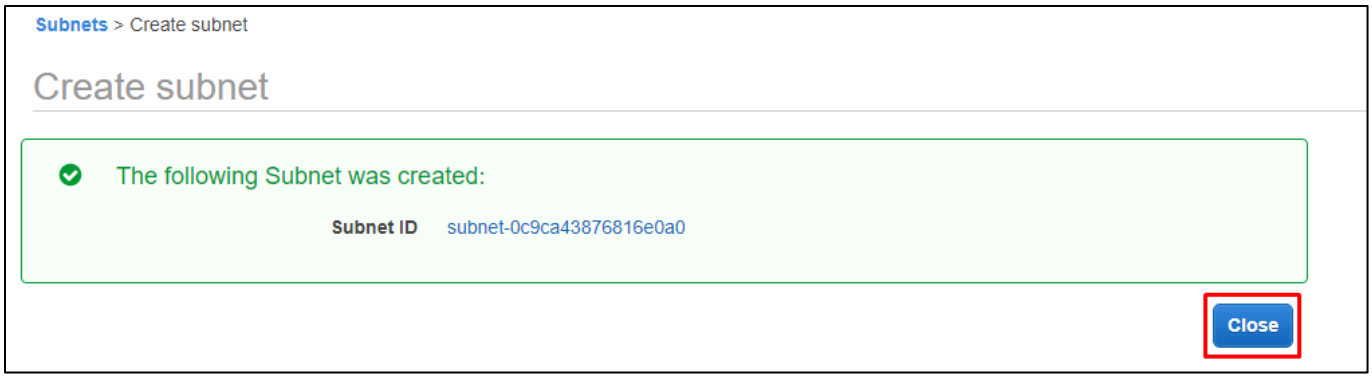

14. Enter the VPC id or click so it can list the numbers of VPC created so far and select Attach the status will be changed to attached



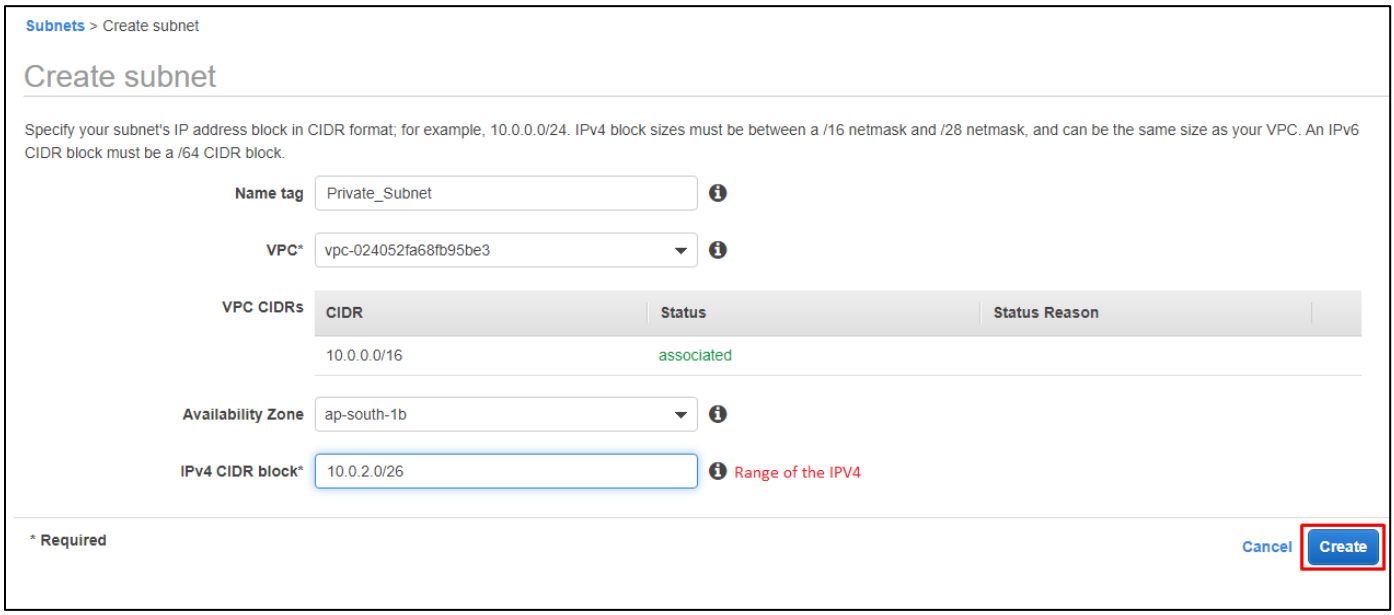
15. On the left side select Subnets to navigate to the page and create subnet and select the Create Subnet button to begin the process
16. Fill the details correctly and Create Public Subnet even sight mistake Subnet cannot be created



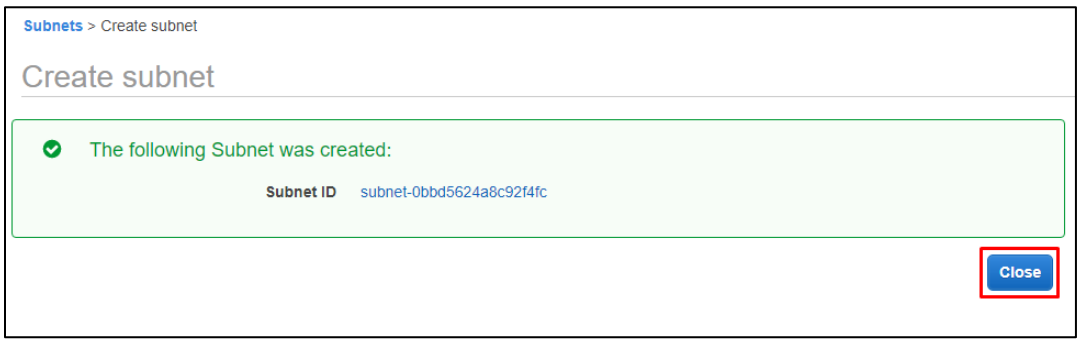

17. If the Subnet is successfully created a subnet id will be generated in next page



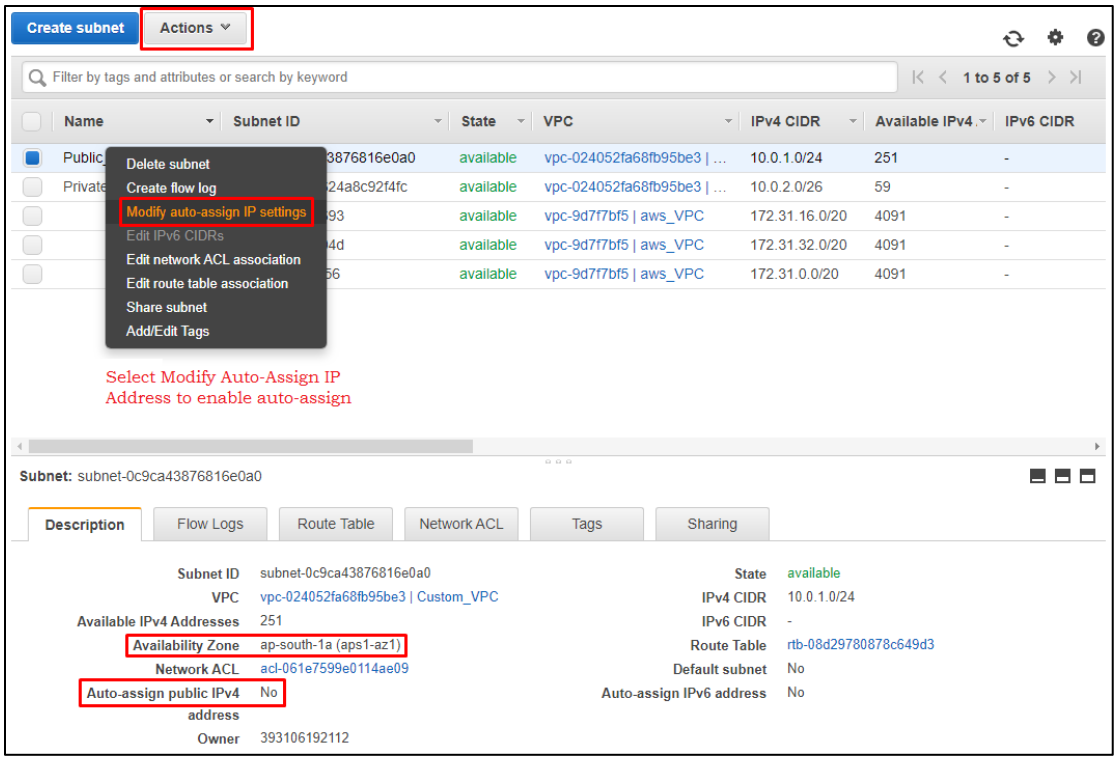
## 18. Create the Private Subnet



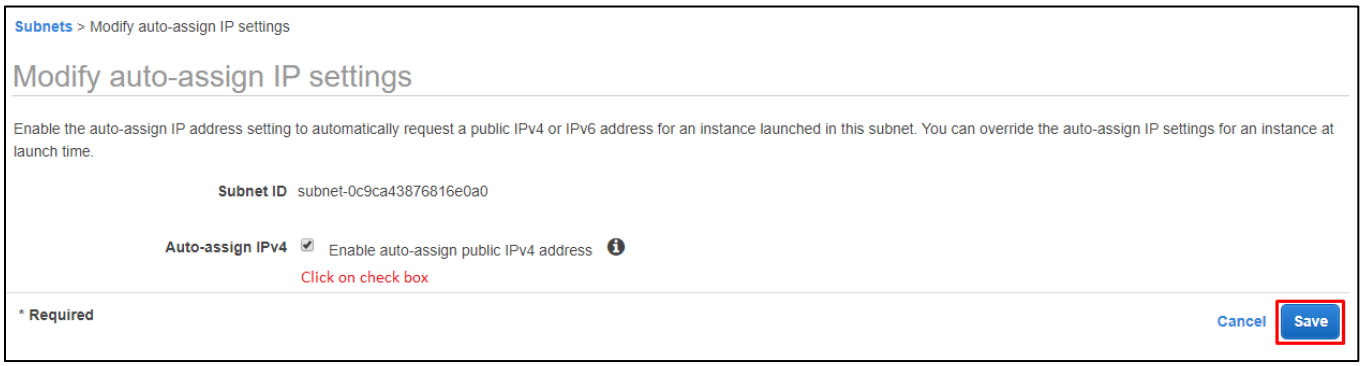

## 19. It will generate a Subnet id in the next page



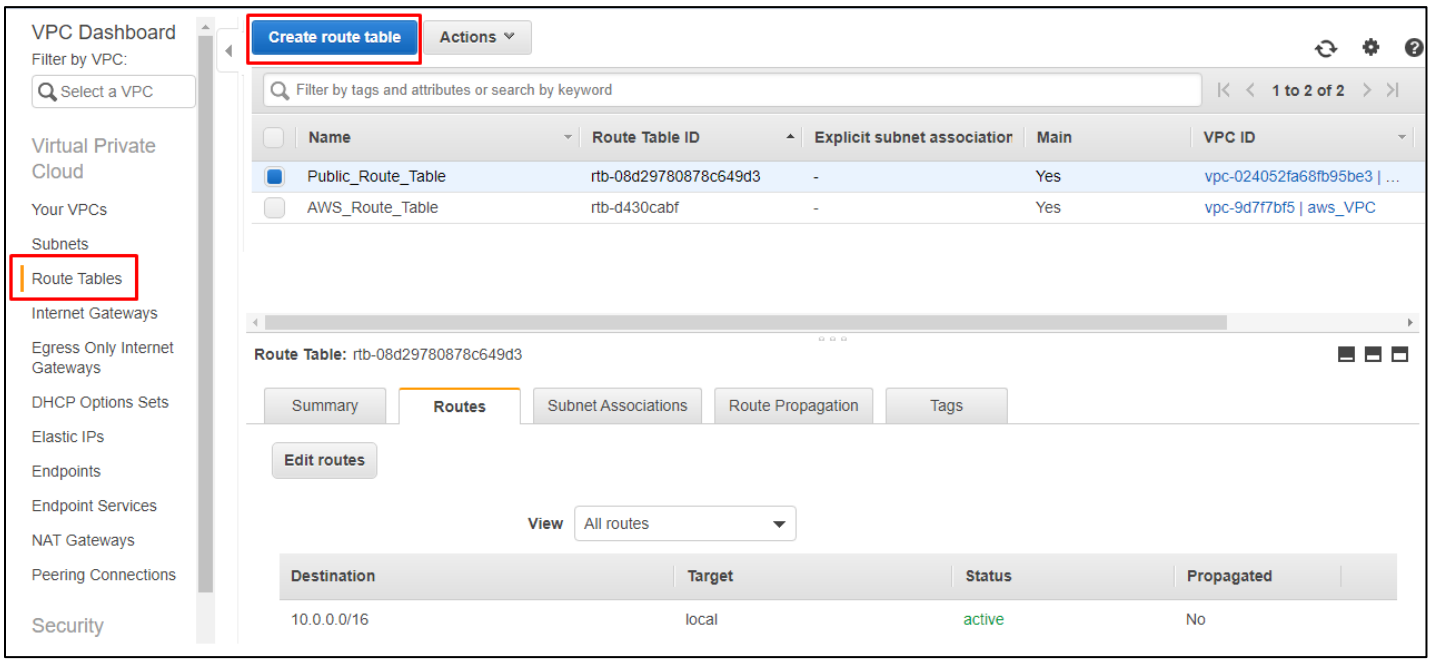

## 20. Select a Subnet and enable the Auto-Assign IP Address for it



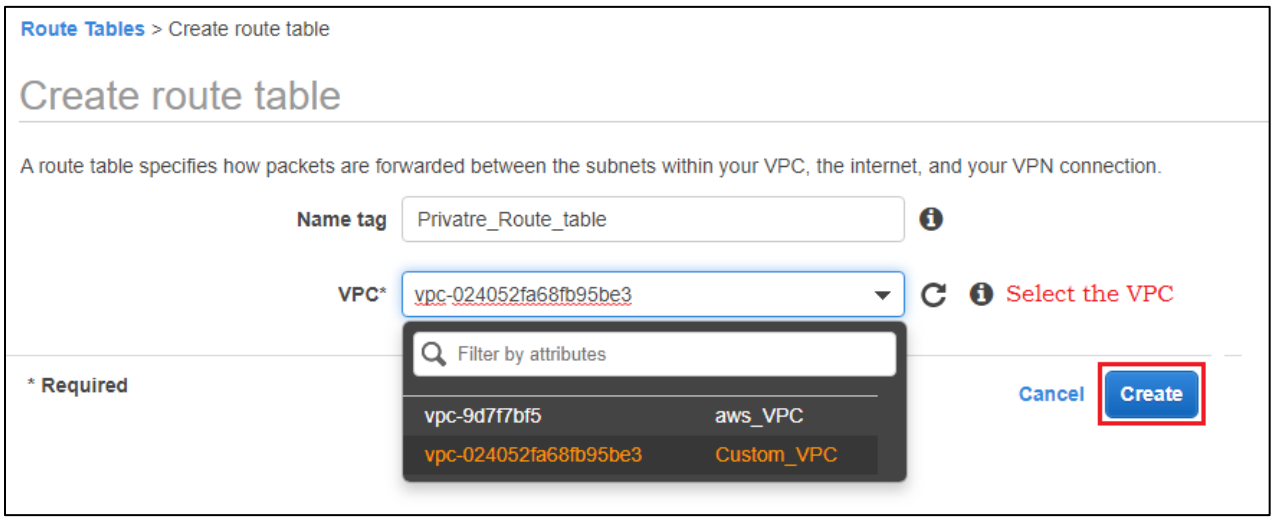
21. On the next page select the check box and save to enable the Auto-Assign IP Address in the description of the Subnet it will be enabled or yes



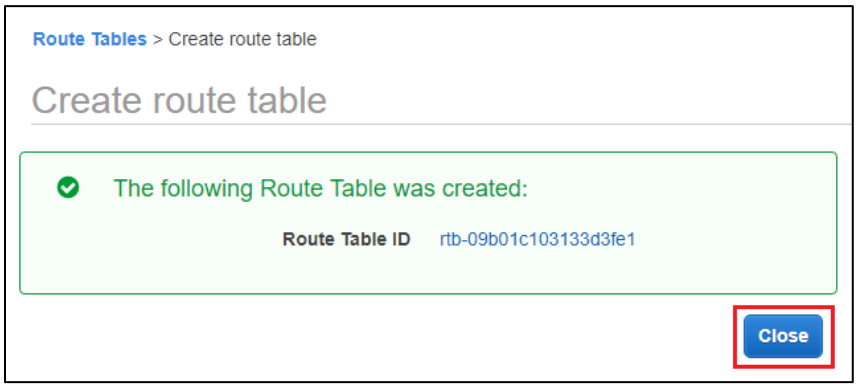

22. By default a Route Table and NACL will be created during the creation of VPC
23. Since we are creating private RT we are using the default RT as public and we need two Route Table
24. On the left select Route Table to open and Select Create Route Table initiate the process



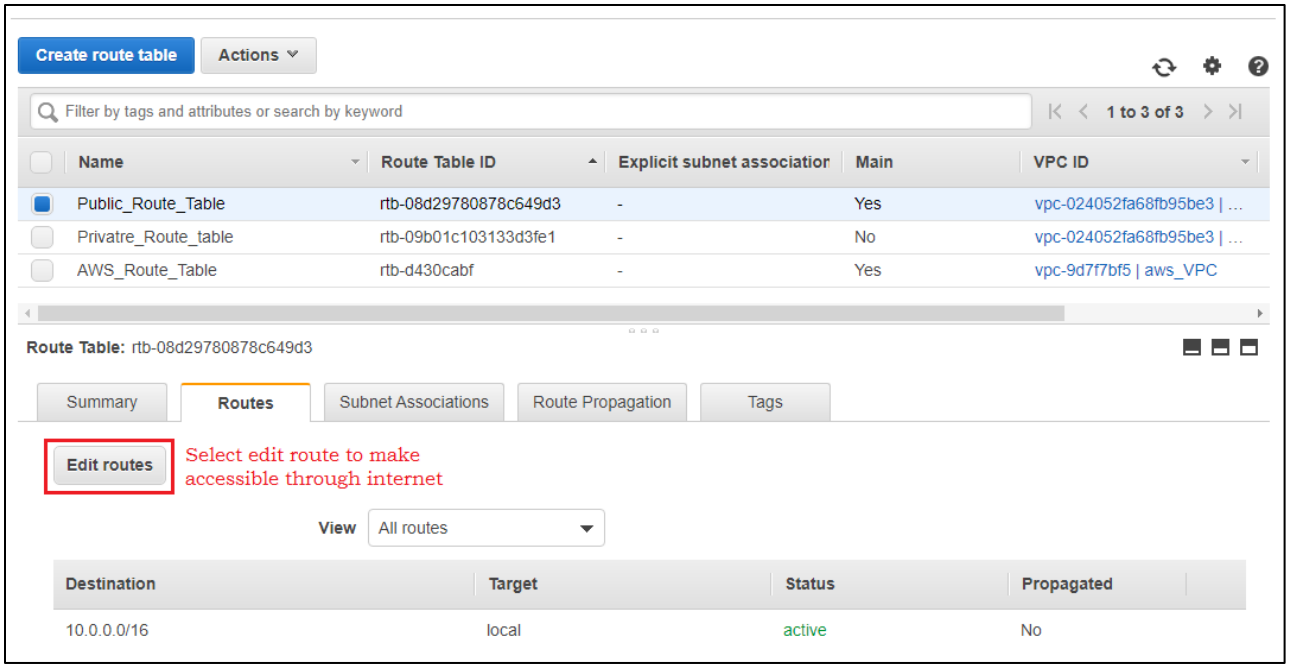

25. Enter the RT name and select the VPC



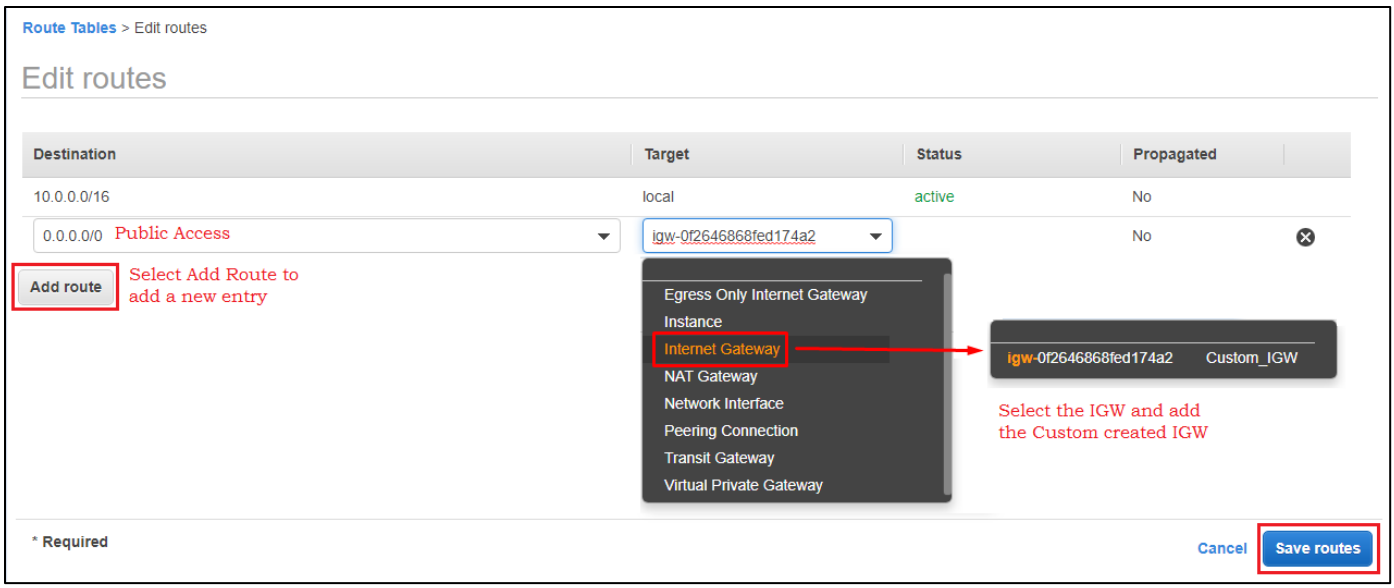
26. Route Table id will be generated



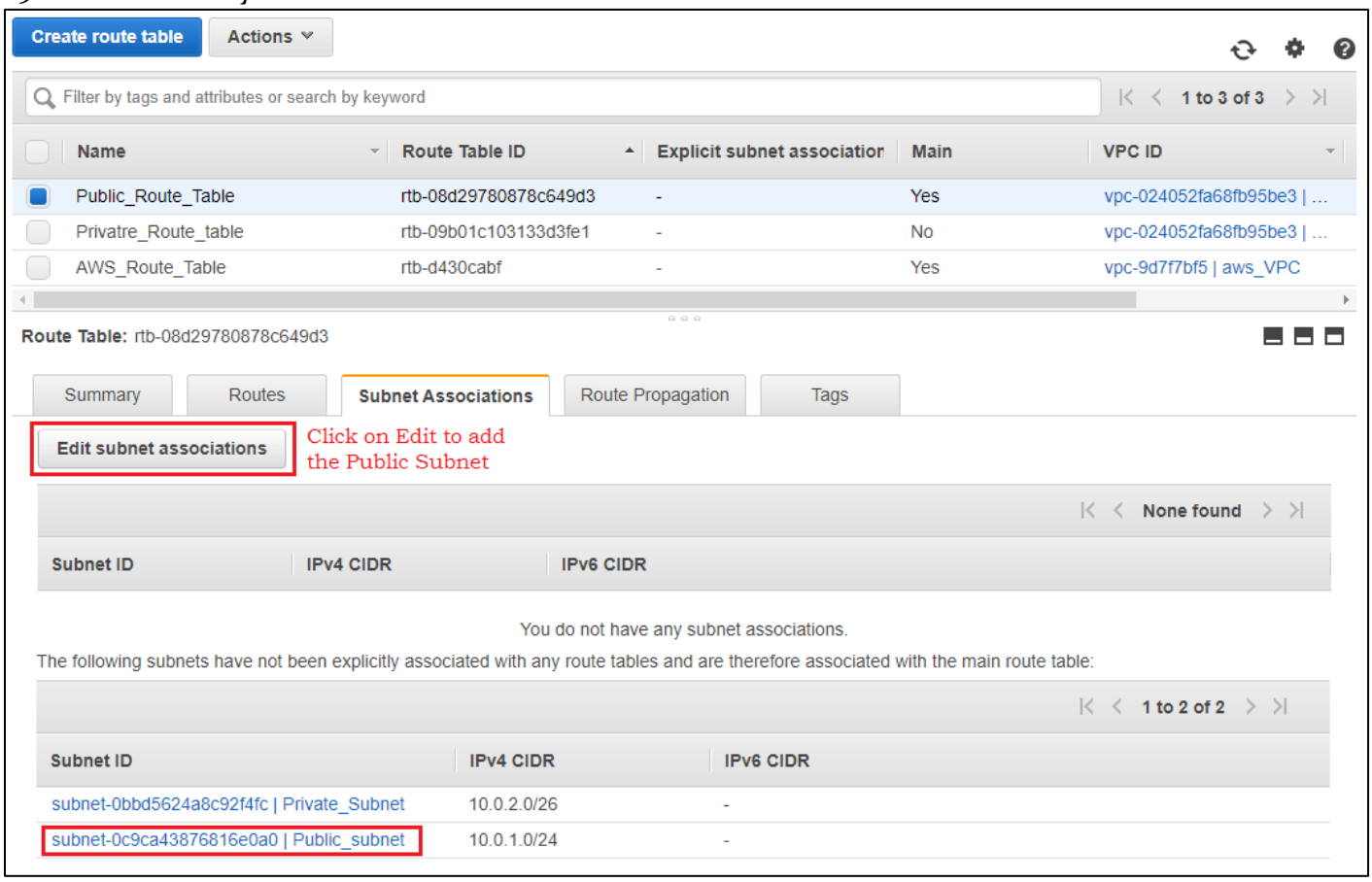

27. Select Public RT to add the public route by click on edit route in the Routes



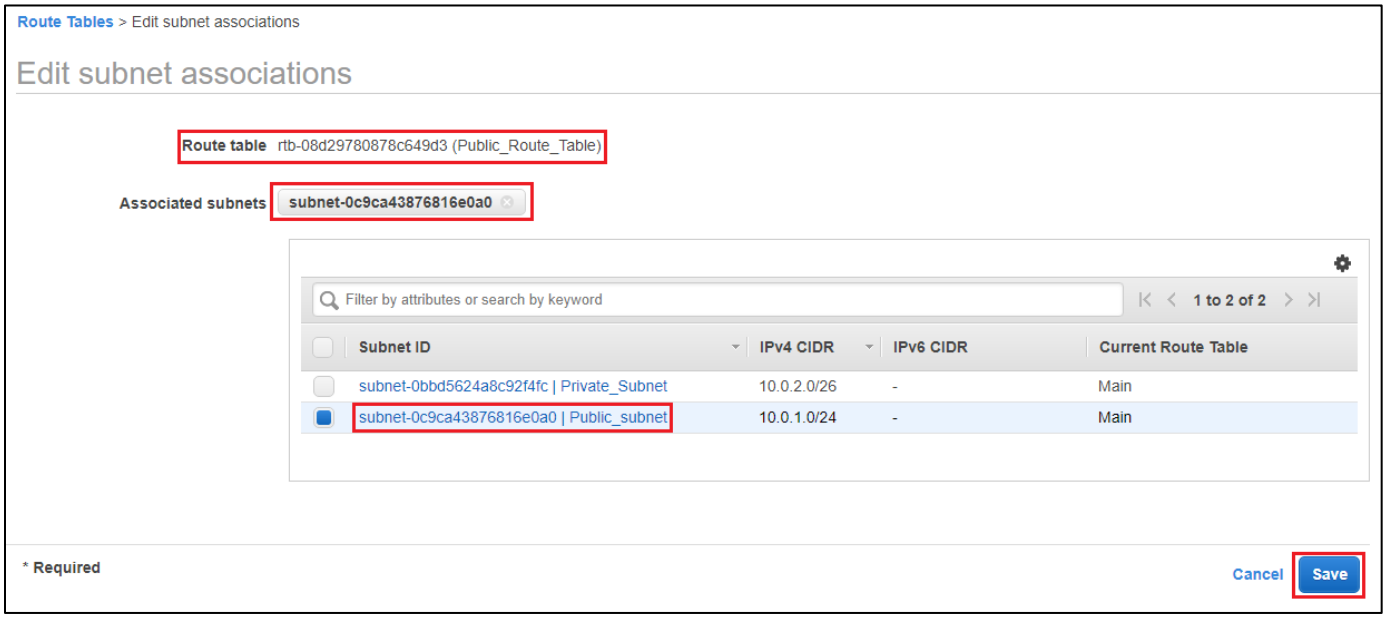

28. Enroll the Public access to the route and click on save routes late on it will display Routes successfully edited



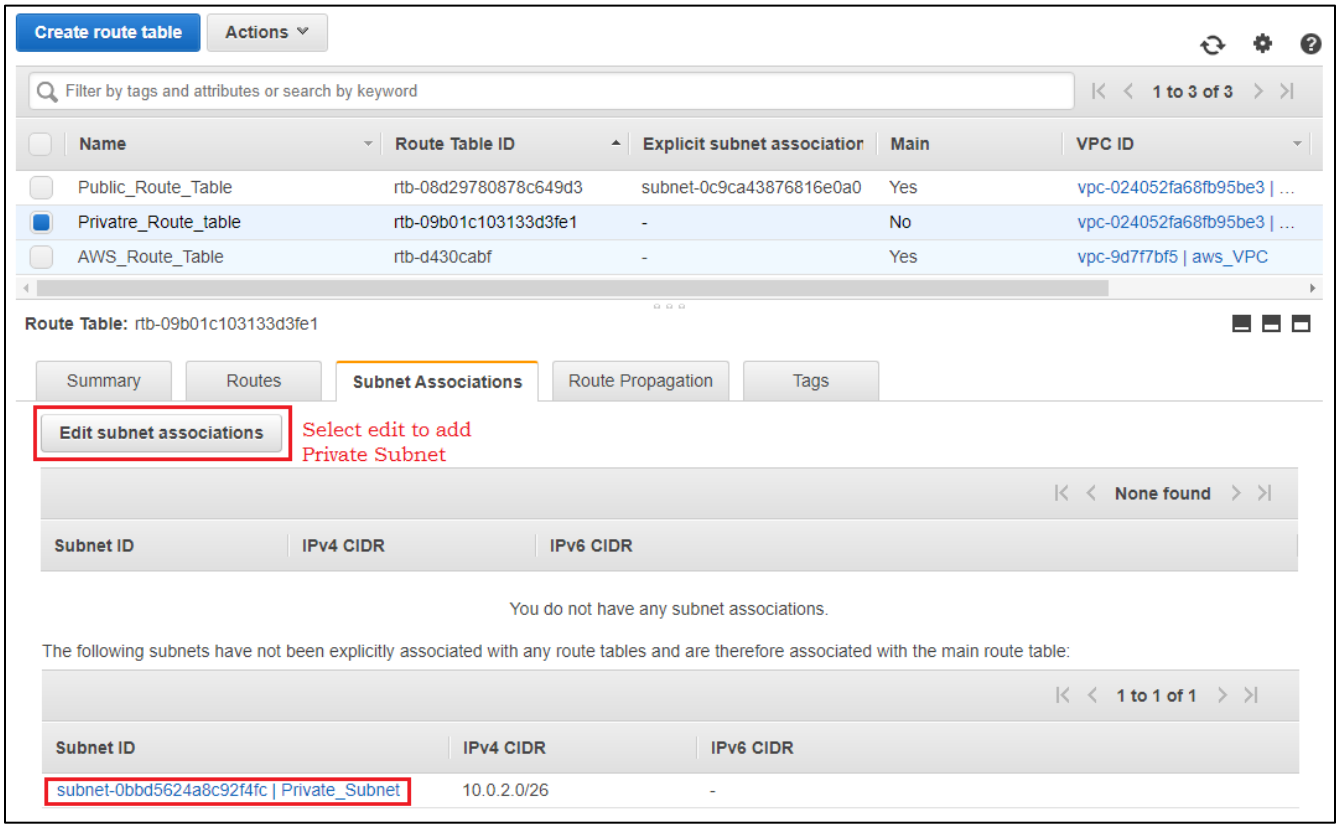
29. It is mandatory to attach the Public Subnet to the Public RT

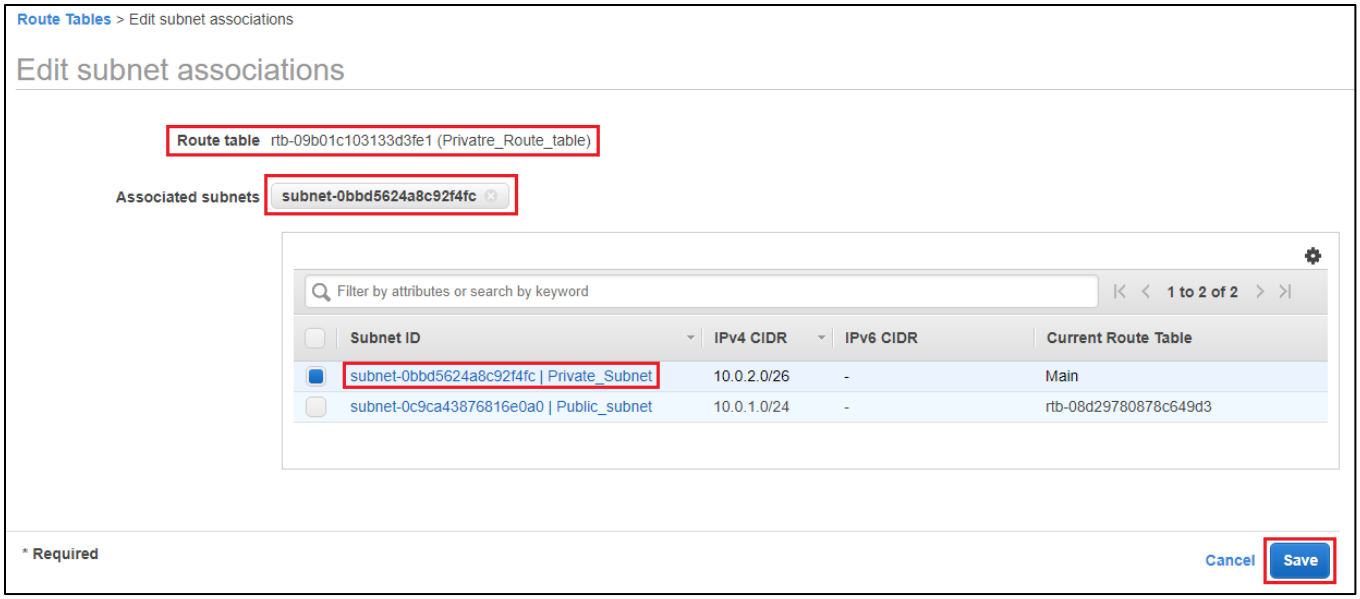



30. Adding the Public Subnet

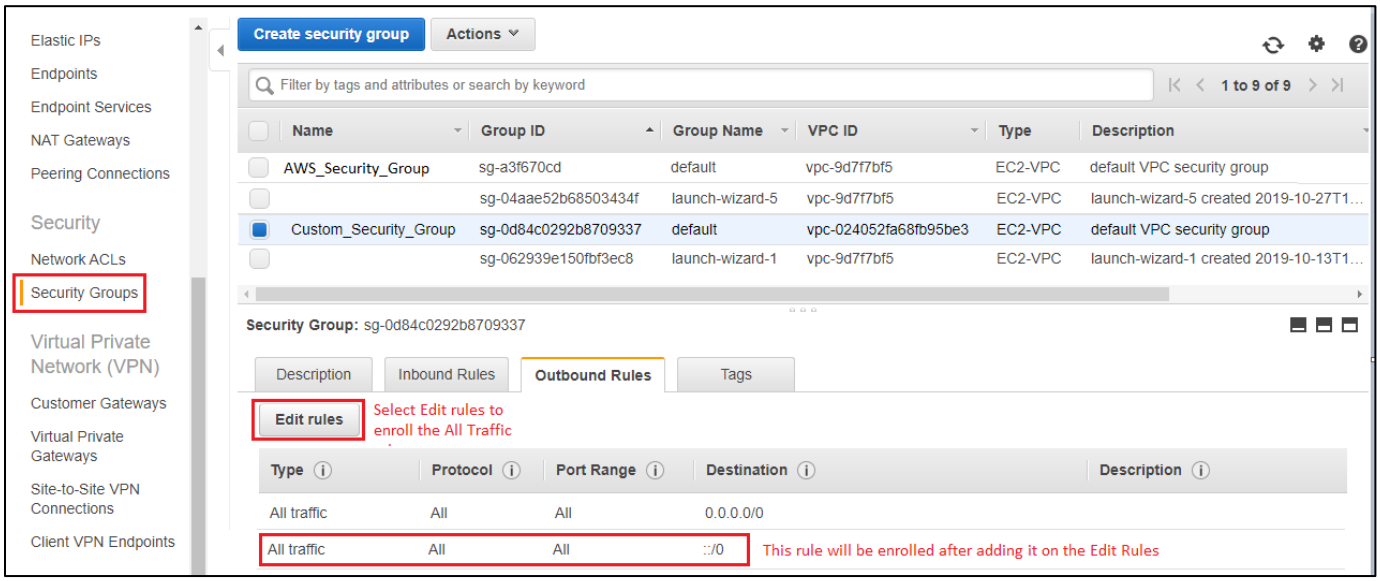


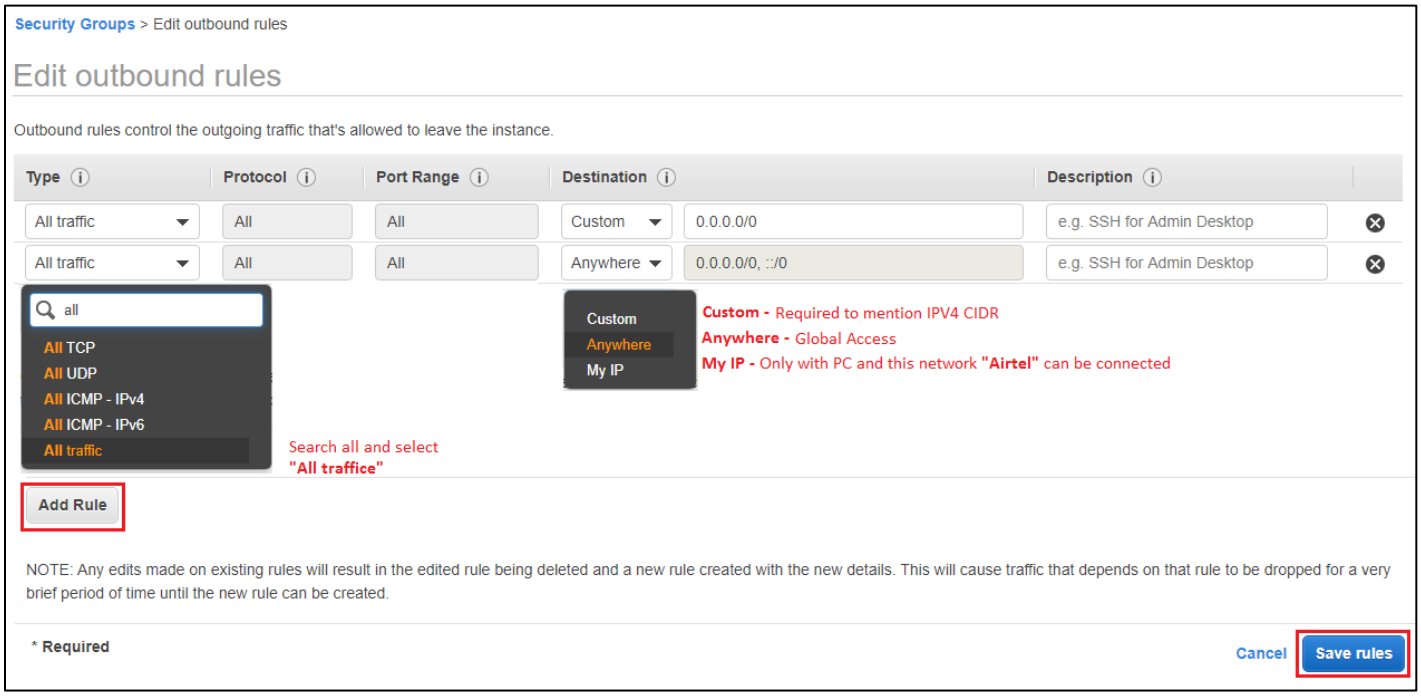
31. Select and add Private Subnet on Private RT



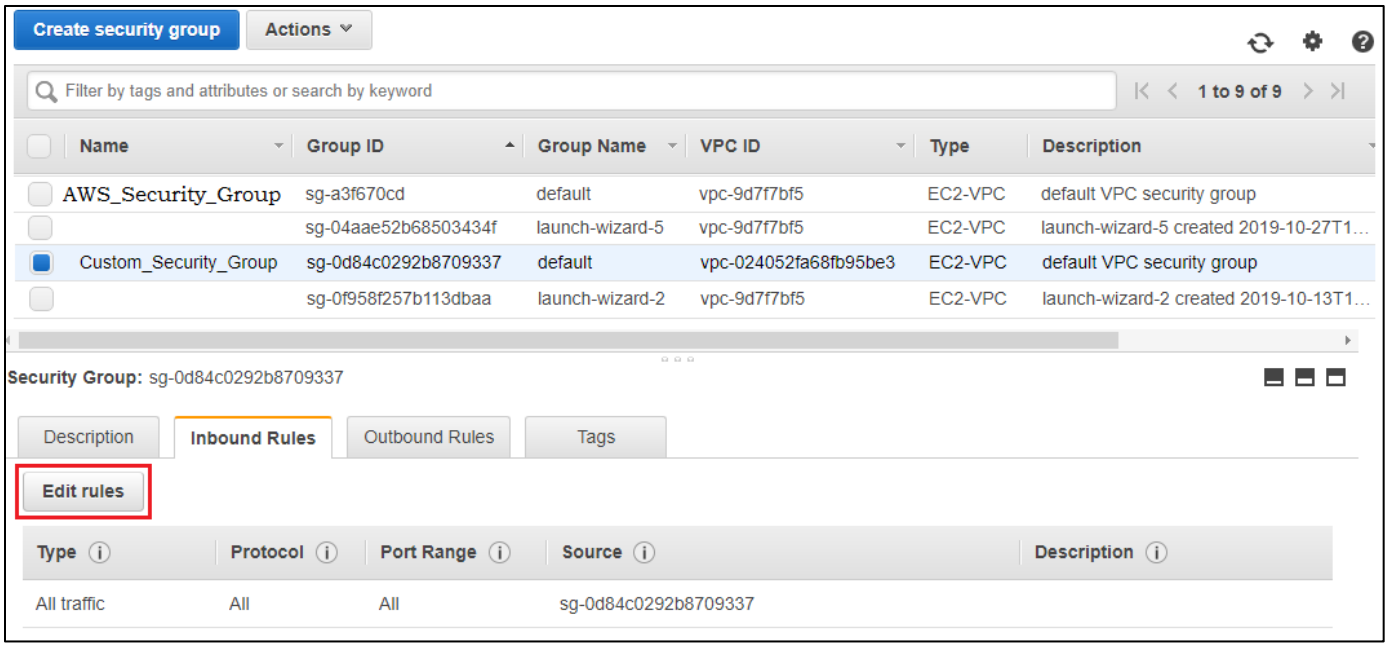



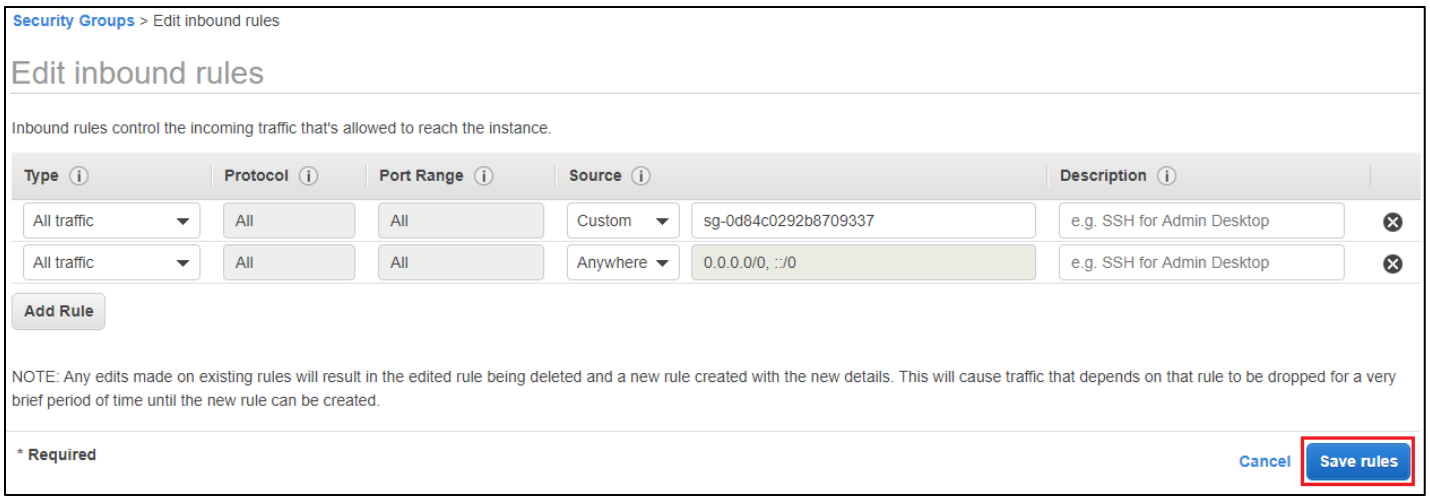
32. In Security Group it's mandatory to change the Inbound and outbound rules in order for network connection
33. Identify the SG through the VPC ID and edit the Outbound and Inbound rules and add the All Traffic rule and select Save Rules
34. Changing Outbound Rule



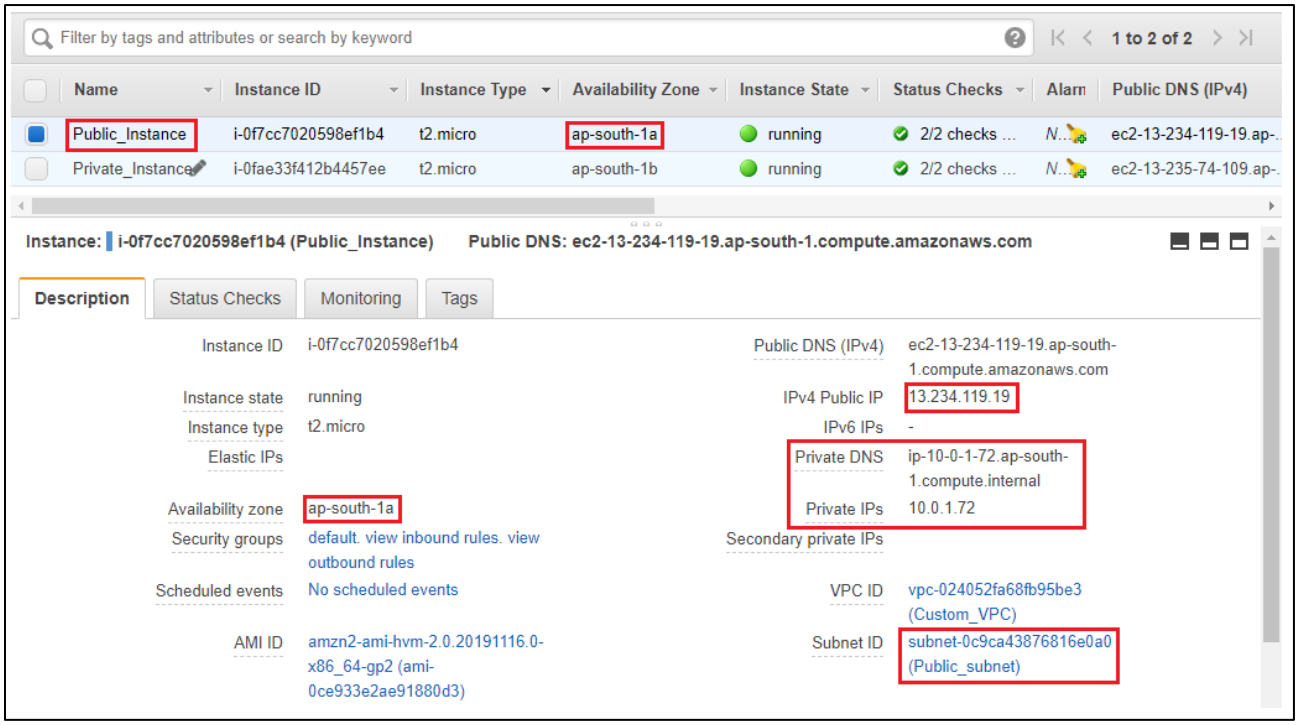



## 35. Changing Inbound Rules

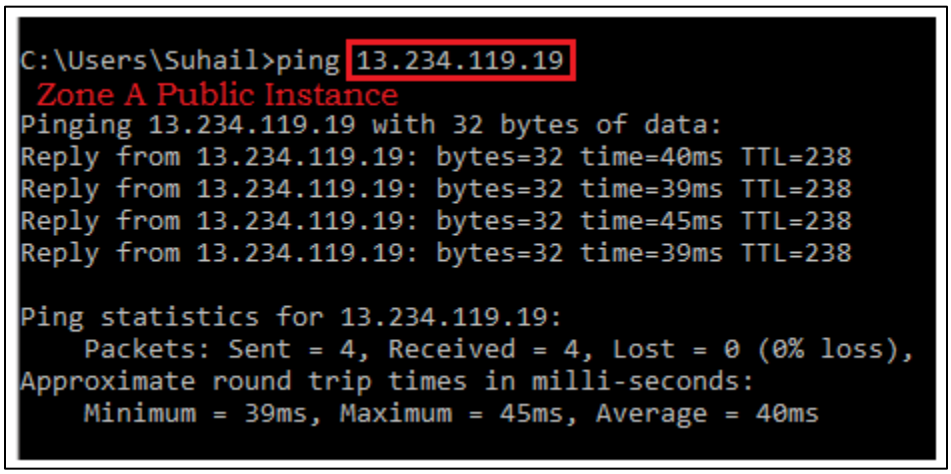


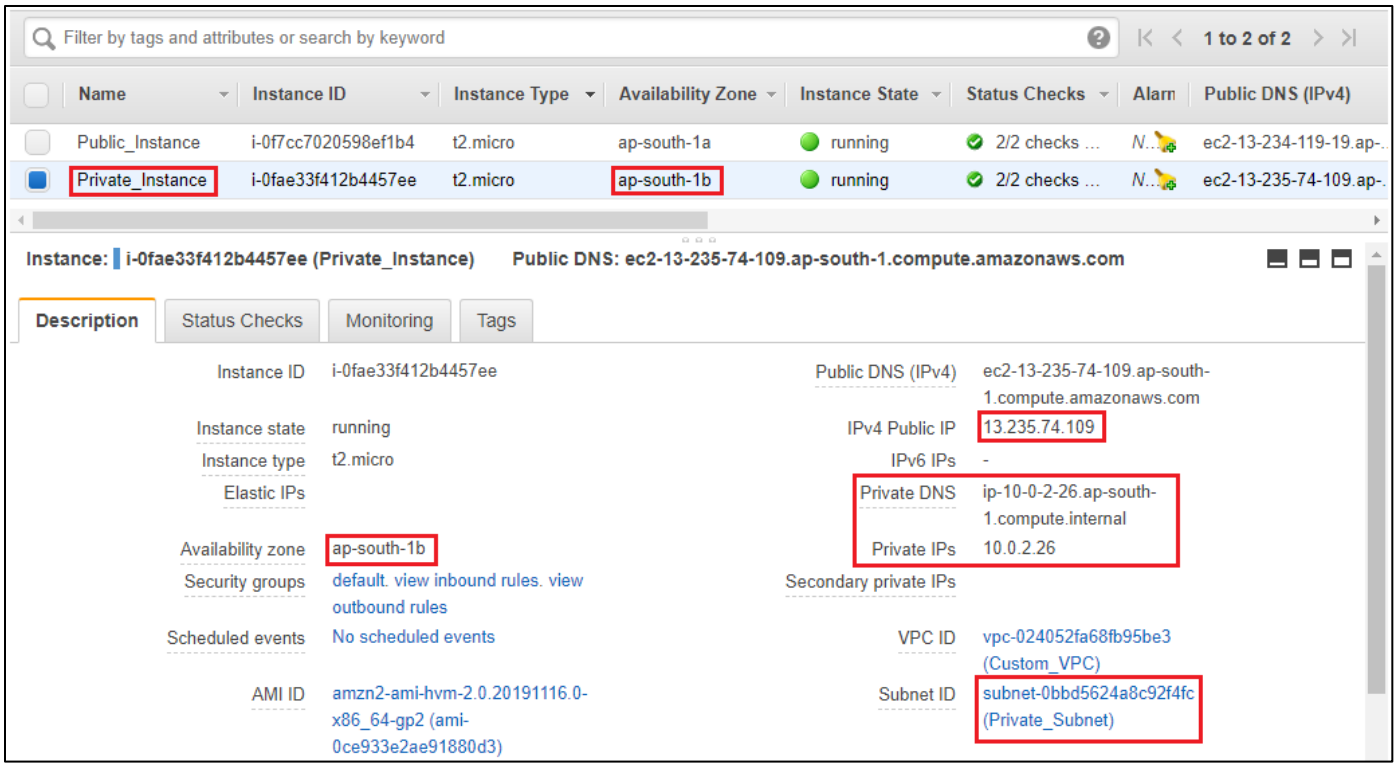
36. Create an Ec2 Instance in Custom VPC in both Public and Private Subnets from Zone A and Zone B

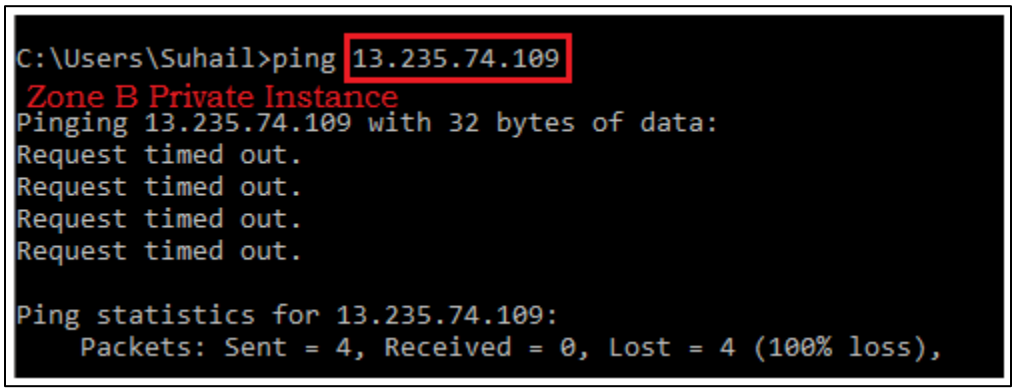



37. Zone A Public Instance



38. Zone B Private Instance




## Amazon Reference Link:

1. https://docs.aws.amazon.com/vpc/latest/userguide/what-is-amazon-vpc.html

## Other's Reference Links:

1. https://www.tutorialspoint.com/amazon_web_services/amazon_web_services_virtual_private_cloud.htm
2. https://www.youtube.com/watch?v=gUesnoDzNr4