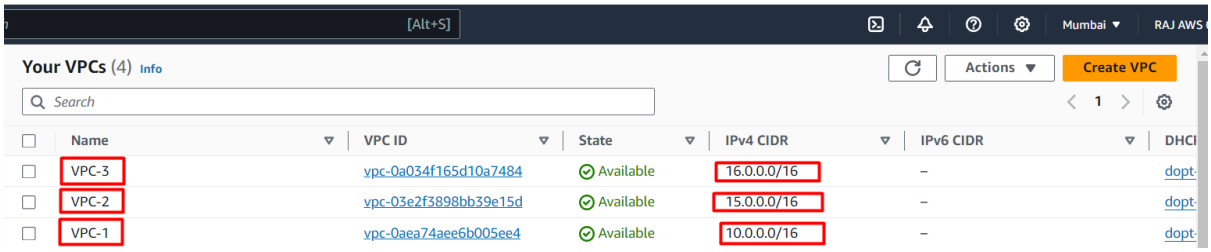
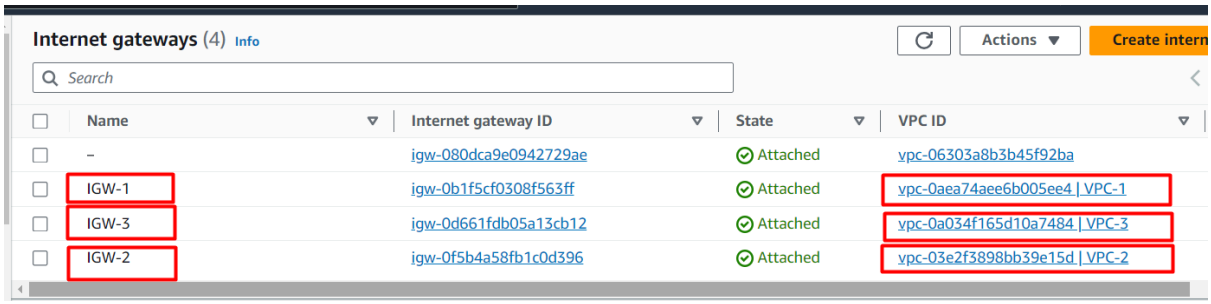
TRANSIT GATEWAY (CONECTING THREE VPC IN A SINGLE REGION)

STEP 1: Create three VPC with different CIDR



STEP 2 : Create a Internet gateway for each VPC



- And attach each IGW to its VPC

STEP 3 : Create a Two subnet for Each VPC

- Here we have created two subnets for each VPC

FOR VPC-1

It have two subnet

- VPC-1 SUBENT A
- VPC-1 SUBNET B

FOR VPC-2

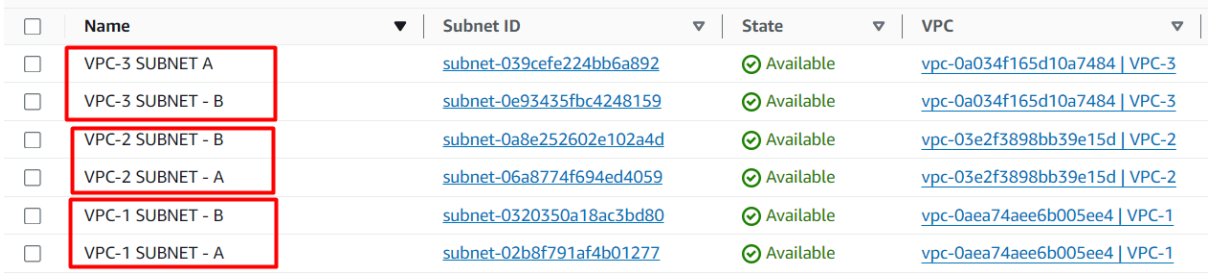
It have two subnet

- VPC-2 SUBENT A
- VPC-2 SUBNET B

FOR VPC-3

It have two subnet

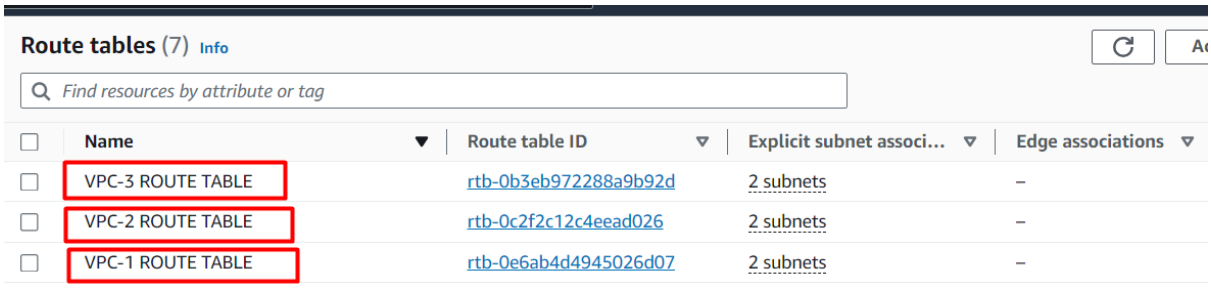
- VPC-3 SUBENT A
- VPC-3 SUBNET B



Name	Subnet ID	State	VPC
VPC-3 SUBNET A	subnet-039cefe224bb6a892	Available	vpc-0a034f165d10a7484 | VPC-3
VPC-3 SUBNET - B	subnet-0e93435fbc4248159	Available	vpc-0a034f165d10a7484 | VPC-3
VPC-2 SUBNET - B	subnet-0a8e252602e102a4d	Available	vpc-03e2f3898bb39e15d | VPC-2
VPC-2 SUBNET - A	subnet-06a8774f694ed4059	Available	vpc-03e2f3898bb39e15d | VPC-2
VPC-1 SUBNET - B	subnet-0320350a18ac3bd80	Available	vpc-0aea74aee6b005ee4 | VPC-1
VPC-1 SUBNET - A	subnet-02b8f791af4b01277	Available	vpc-0aea74aee6b005ee4 | VPC-1

STEP 4 : Create a Route Table for each VPC

- Here we have created Route table for each VPC



Route tables (7) Info

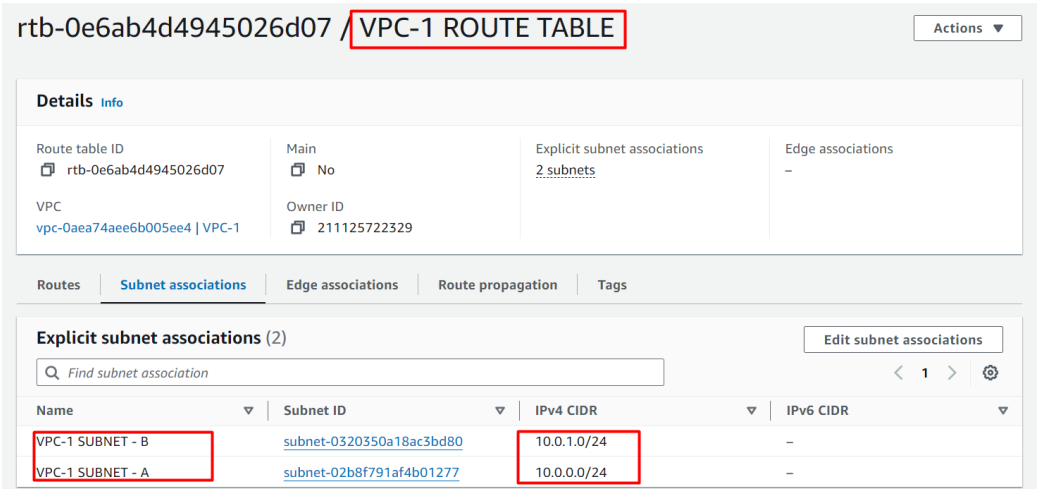
Find resources by attribute or tag

Name	Route table ID	Explicit subnet associ...	Edge associations
VPC-3 ROUTE TABLE	rtb-0b3eb972288a9b92d	2 subnets	–
VPC-2 ROUTE TABLE	rtb-0c2f2c12c4eead026	2 subnets	–
VPC-1 ROUTE TABLE	rtb-0e6ab4d4945026d07	2 subnets	–

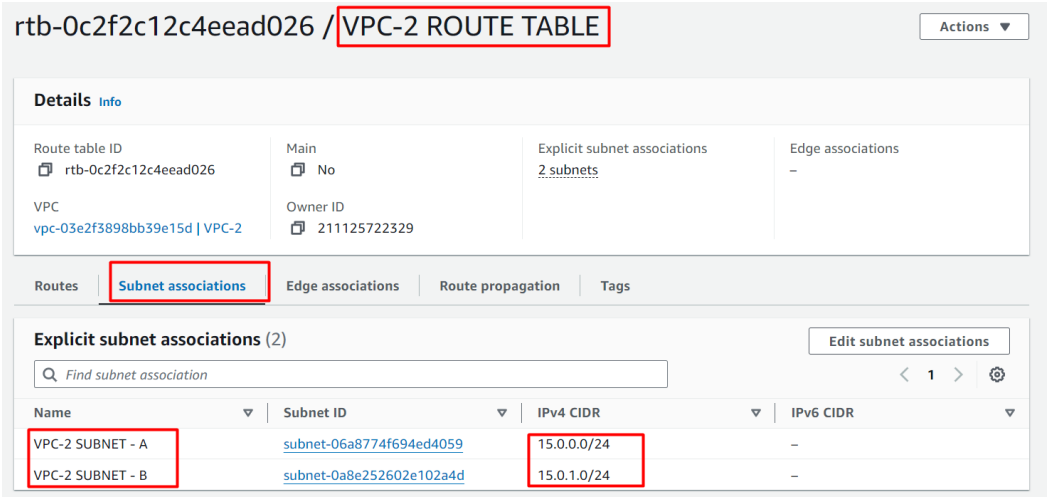
STEP 5 : Associate Subnet To its ROUTE TABLES

- And associated Subnet to its Route Table of VPC

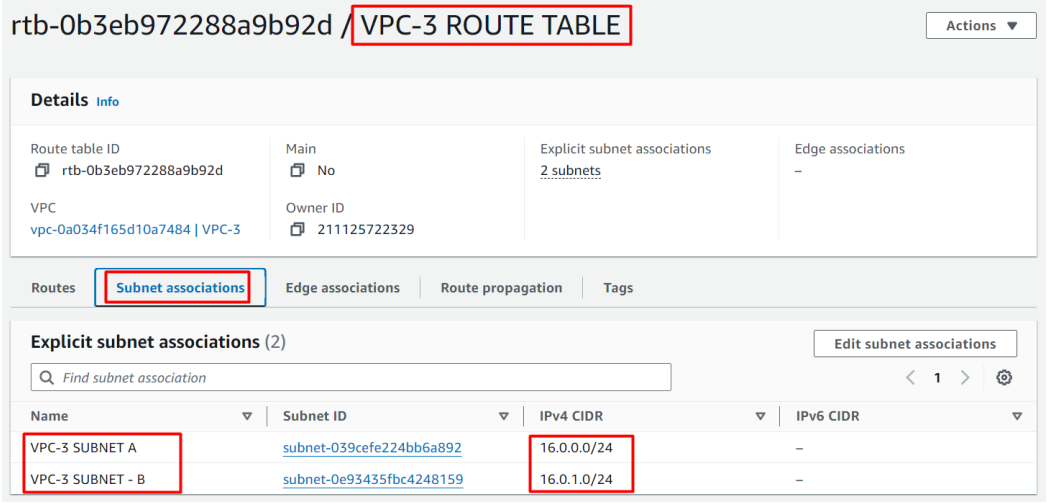
For VPC -1 : VPC-1 ROUTE TABLE



For VPC -2 : VPC-2 ROUTE TABLE



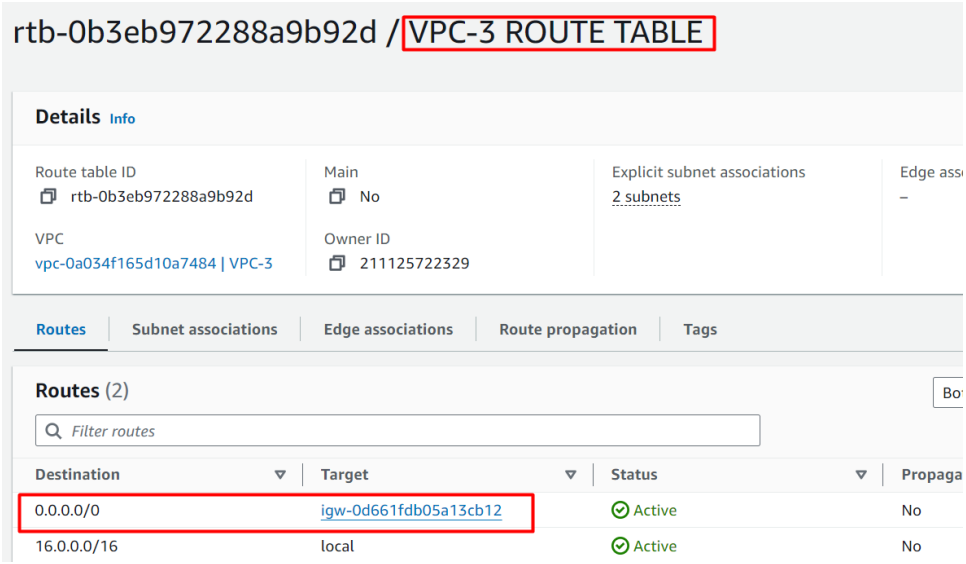
For VPC -3 : VPC-3 ROUTE TABLE



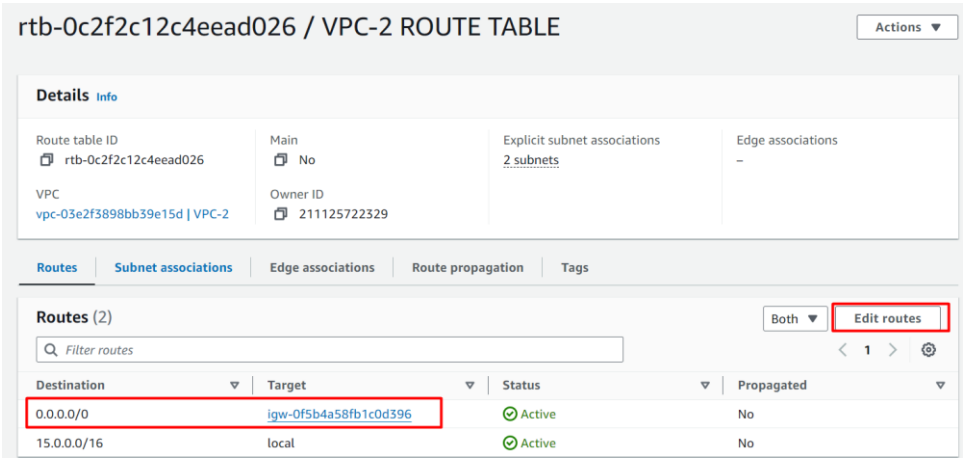
STEP 6 : Edit Route for Each Route Table

Here we will edit the Routes and Add IGW to the Route Table

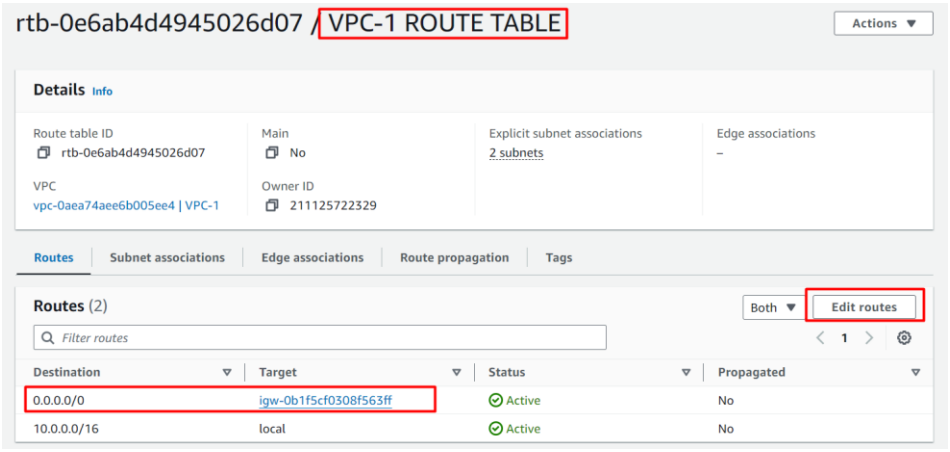
For VPC -1 ROUTE TABLE



For VPC -2 ROUTE TABLE



For VPC -3 ROUTE TABLE

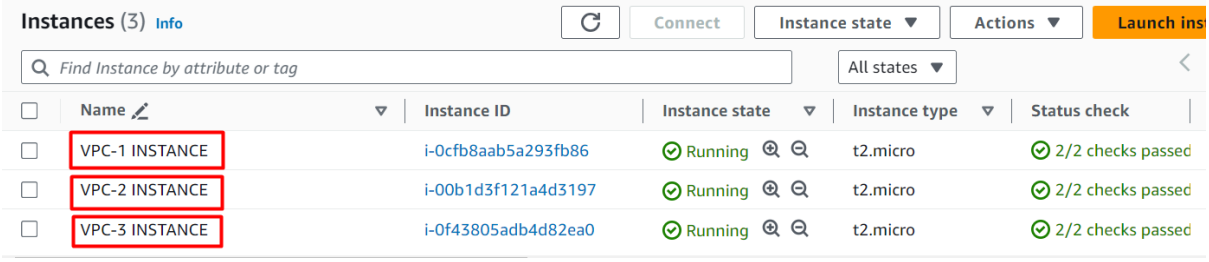


STEP 7 : Create Ec2 Instance with there respective VPC created for them

- NOW create three ec2 instance
- First instance is use VPC-1 as a VPC
- Second instance is use VPC-2 as its VPC
- Third instance is use VPC-3 as its VPC
- And While launching EC2 add Security Group
- With Port SSH and HTTP at Anywhere
- And Use User data in the Advance Setting

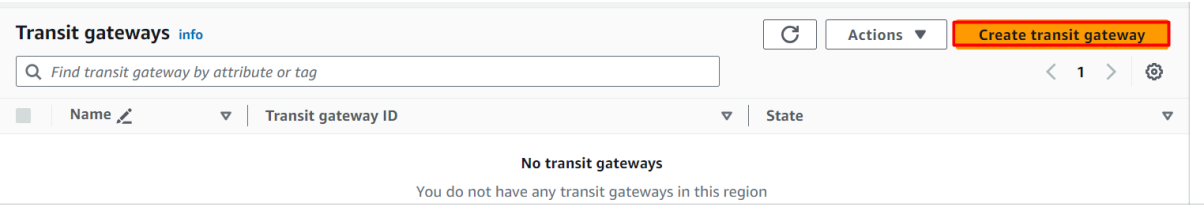
USER DATA :

```
#!/bin/bash
yum update -y
yum install -y httpd
systemctl start httpd
systemctl enable httpd
echo "<h1>Hello World from $(hostname -f)</h1>" >/var/www/html/index.html
```



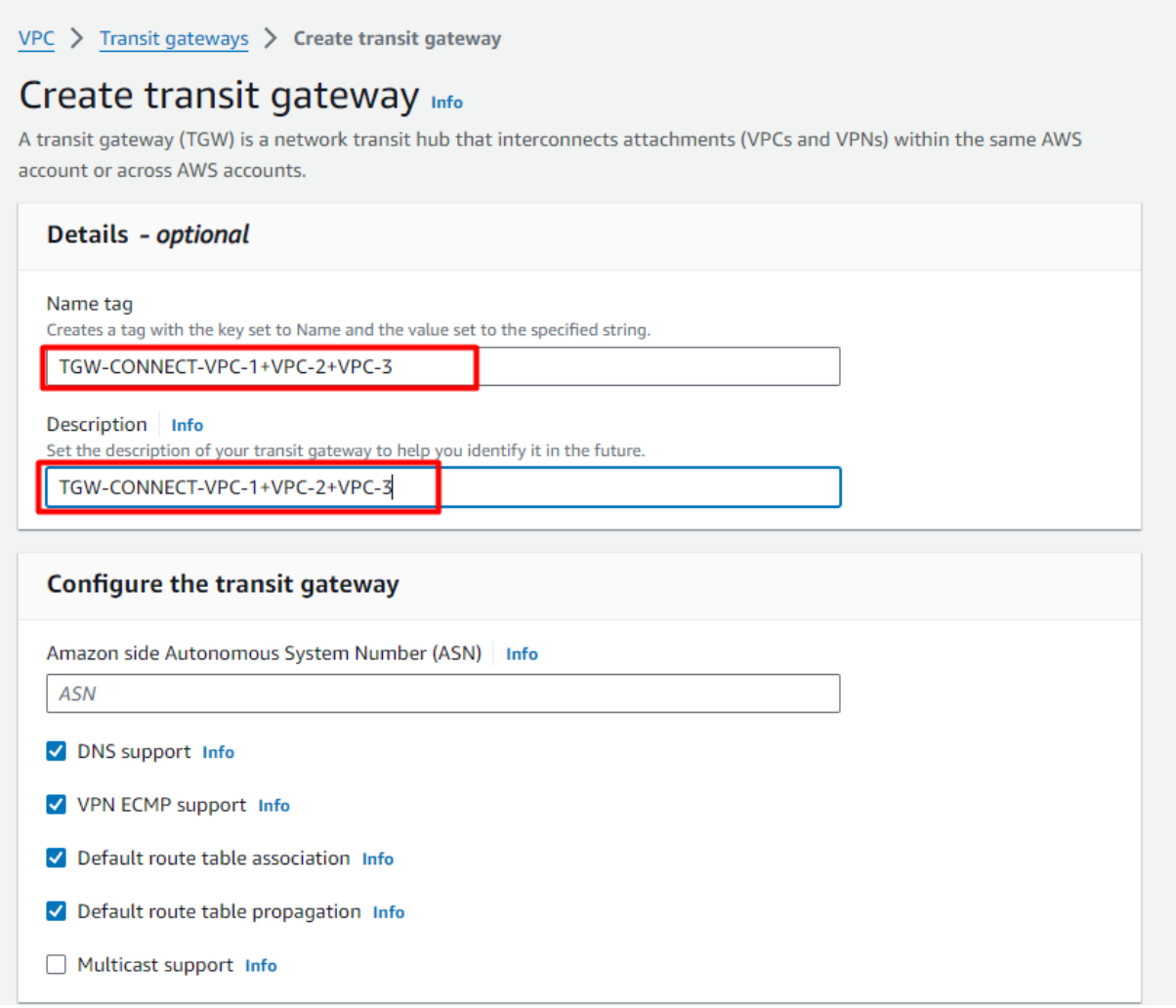
STEP 8 : Create Transit Gateway

- Now Go to VPC and Search for Transit gatwsy
- Then click on create Transit Gateway

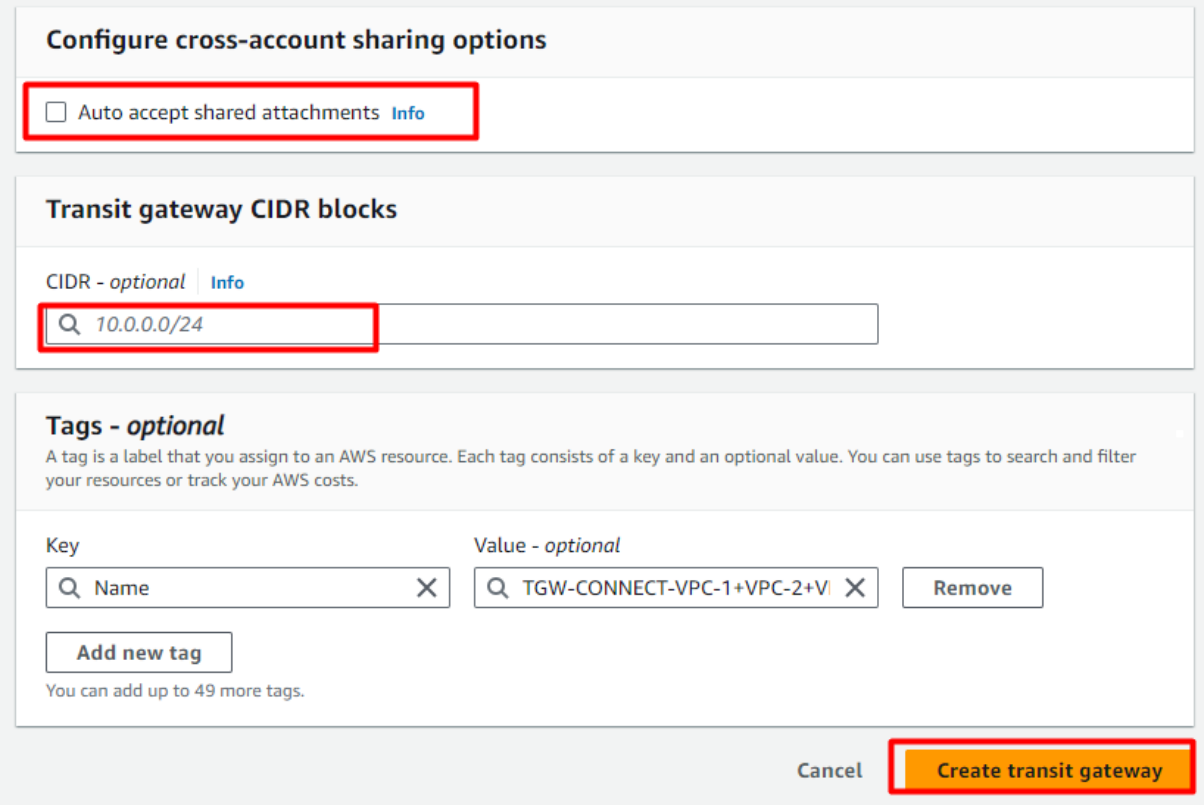


- Enter name of the Transit Gateway
- In Configure the transit gateway :
- Here we will use ASN

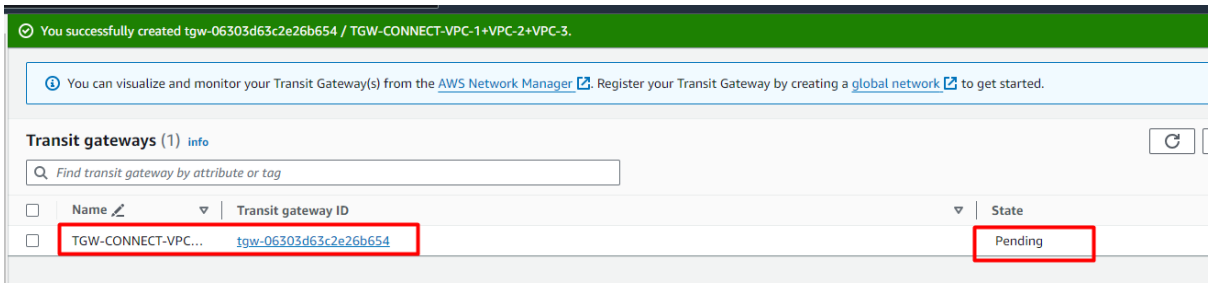
- It is used to configure with different Account
- If you don't have ASN AWS will create it when you create a Transit gateway



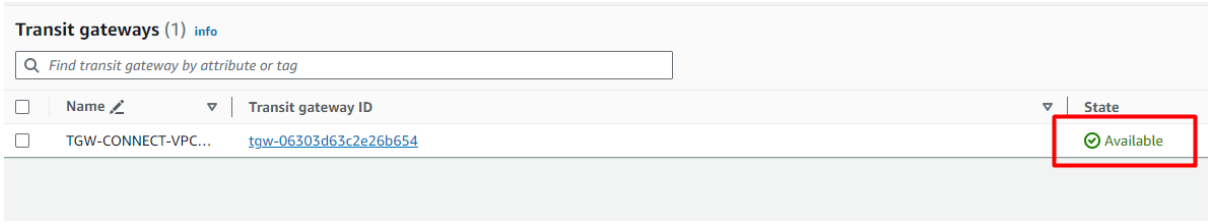
- Here we will not click the check box as we are not doing cross account
- And we can give our Transit Gateway a CIDR
- But we are not going to give it for now as we are making default transit gateway to use it for this VPC's



- So hence we can create our transit gateway

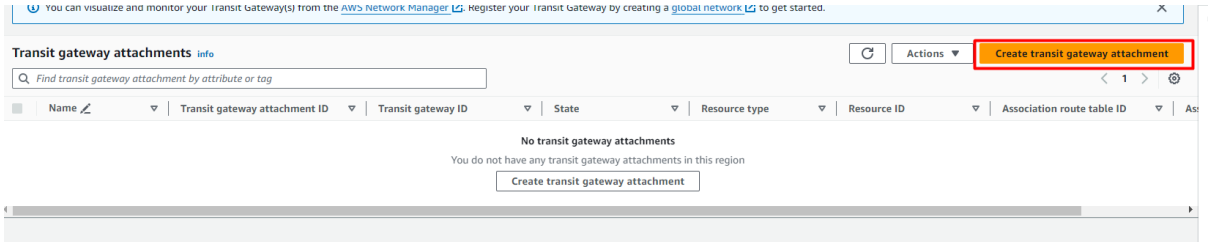


- HENCE we can see the Transit Gateway is been created and its in pending state we will wait till the Gateways is available,



STEP 9 : Create Transit Gateway Attachment

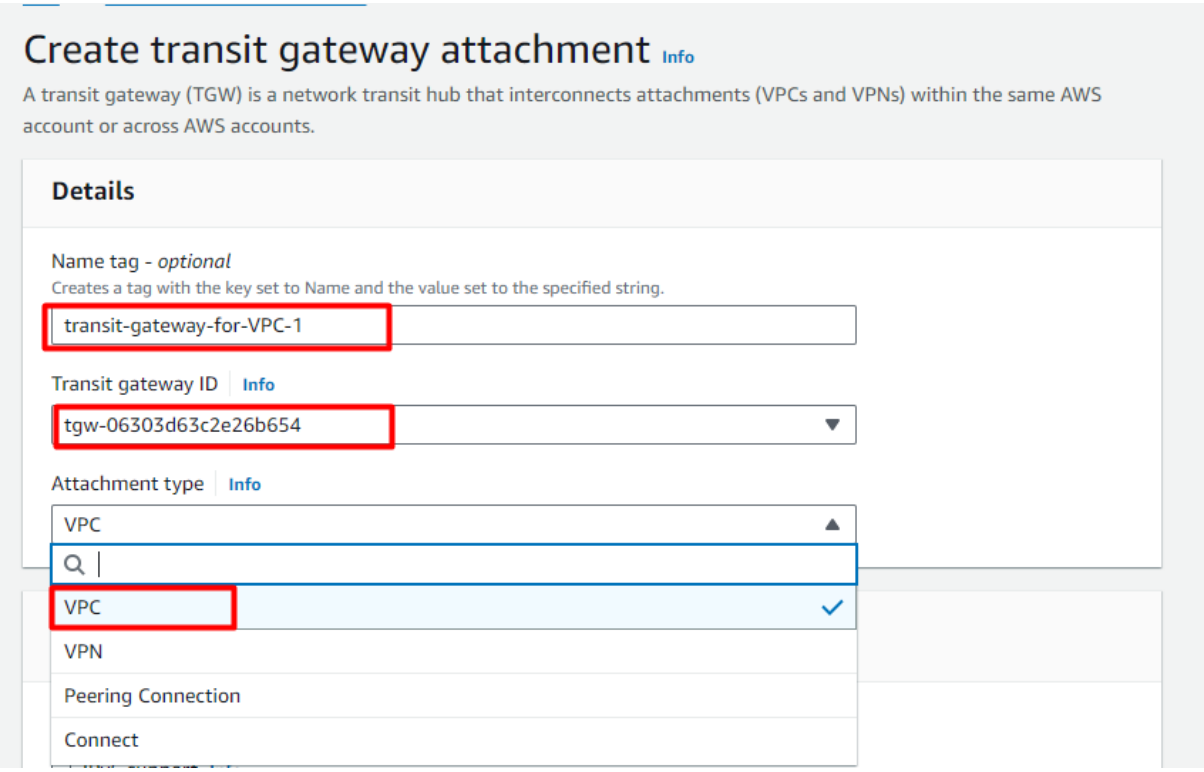
- Now we will create Transit gateway Attachment



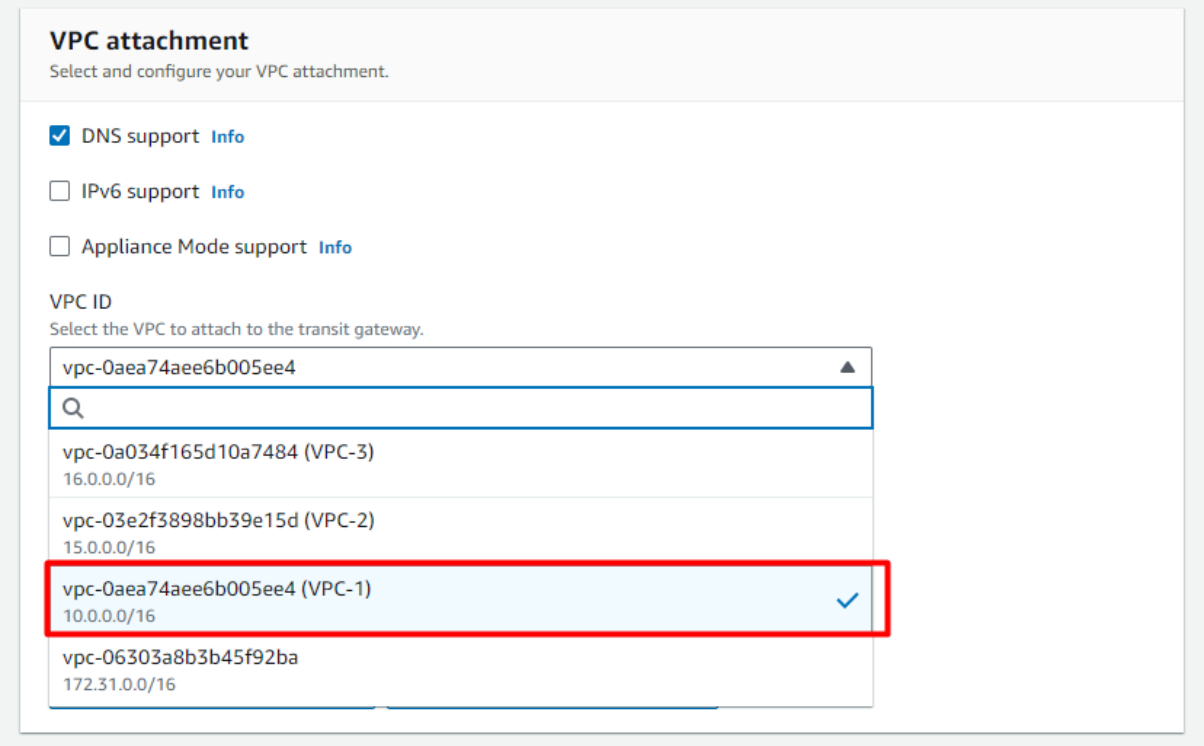
FOR VPC-1

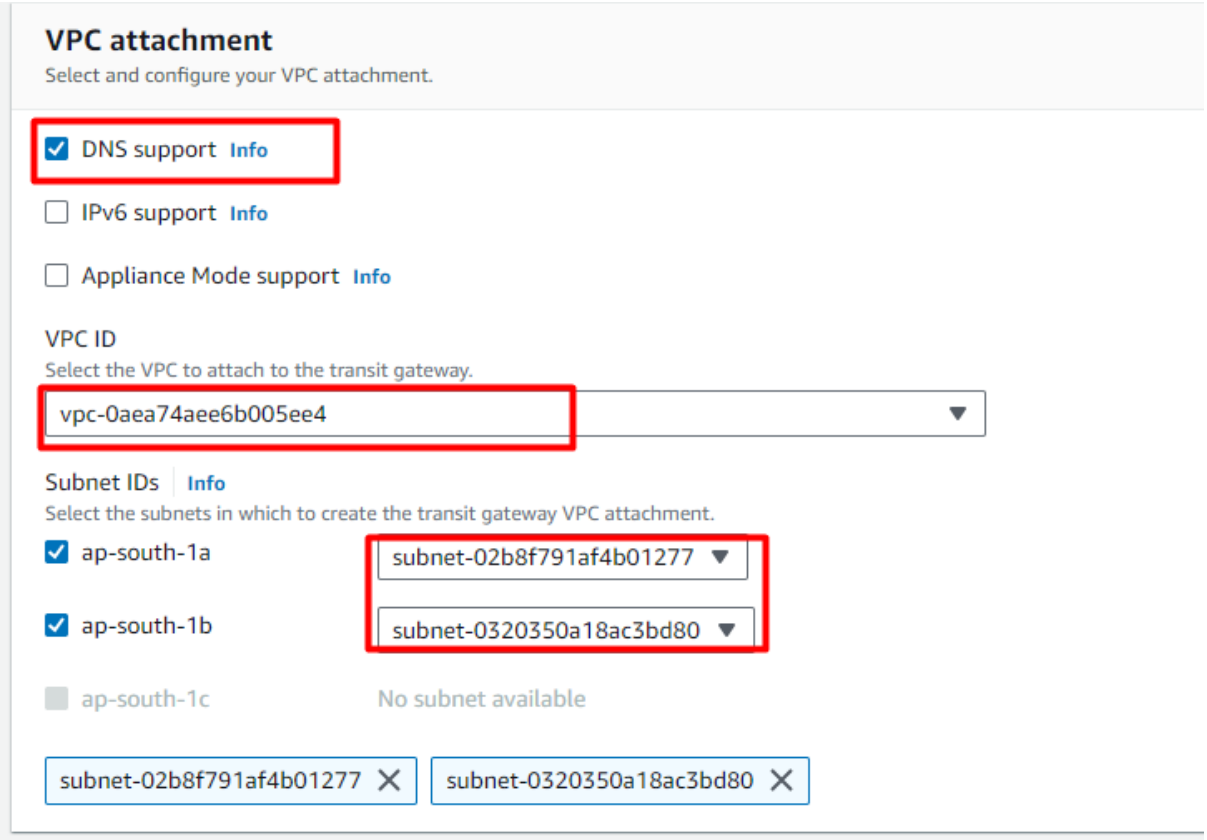
- Now we will create a Transit attachment for VPC-1
- Here we will first give a Transit attachment a name
- Now in Transit gateway ID we will choose the Transit Gateway which we have created early and provide it ID for the connection
- And in attachment Type ;
- We will choose VPC
- as we are using VPC to connect each other

NOTE : we can use this Transit gateway for VPN,direct Conentct and for peering connection also



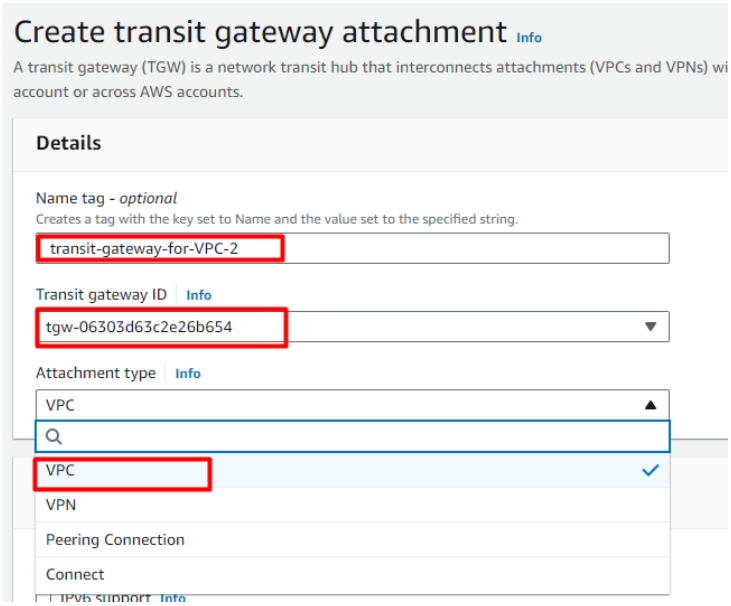
- Here we will choose DNS support as we are using IPv4 CIDR for VPC
- In VPC ID we will choose VPC ID of VPC-1
- And choose its Subnets
- And hence we can create this attachment



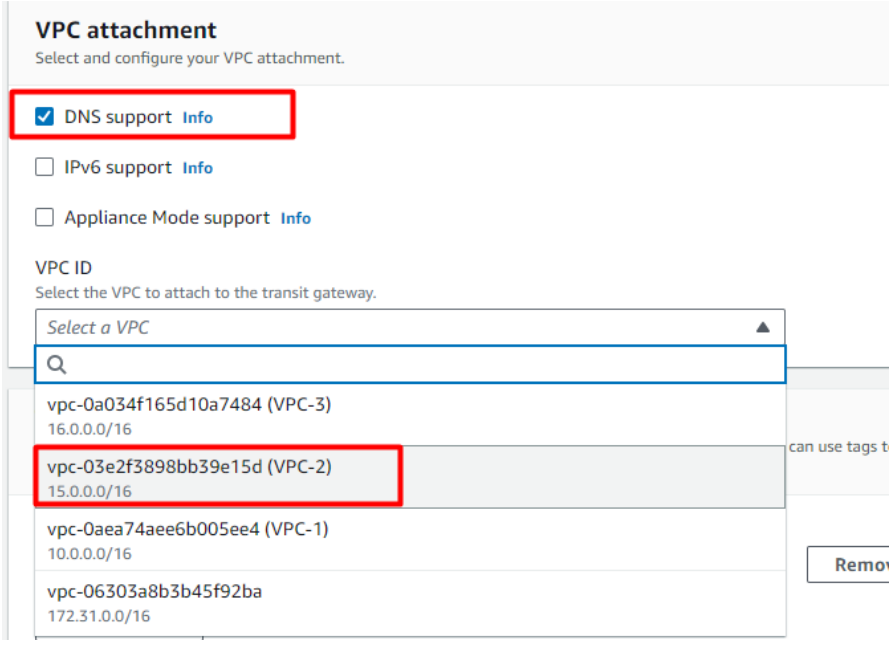


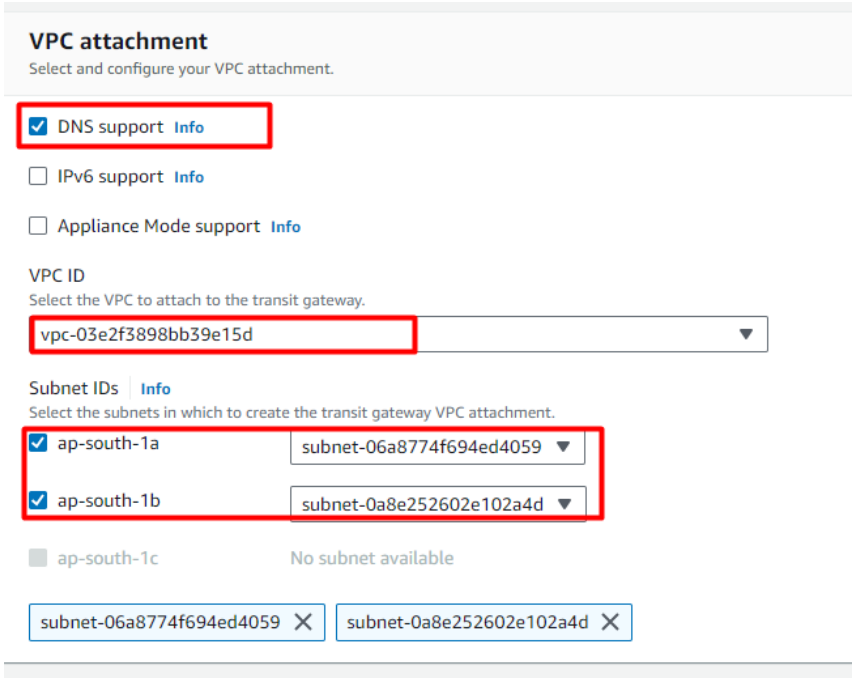
FOR VPC-2

- Now we will create a Transit attachment for VPC-2
- Here we will first give a Transit attachment a name
- Now in Transit gateway ID we will choose the Transit Gateway which we have created early and provide it ID for the connection
- And in attachment Type ;
- We will choose VPC
- as we are using VPC to connect each other



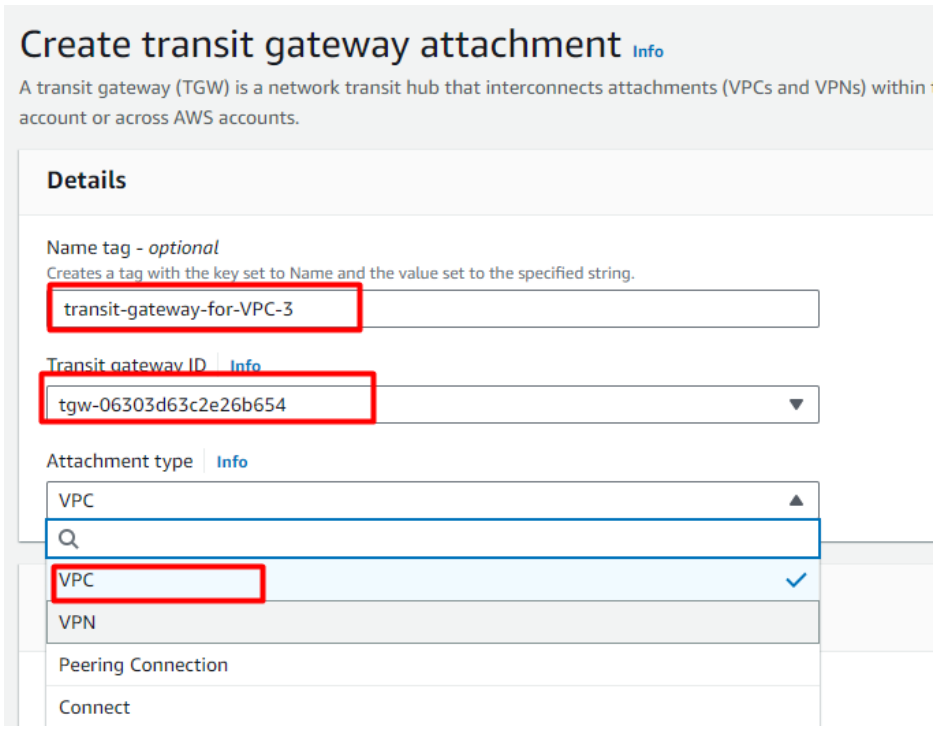
- Here we will choose DNS support as we are using IPv4 CIDR for VPC
- In VPC ID we will choose VPC ID of VPC-2
- And choose its Subnets
- And hence we can create this attachment

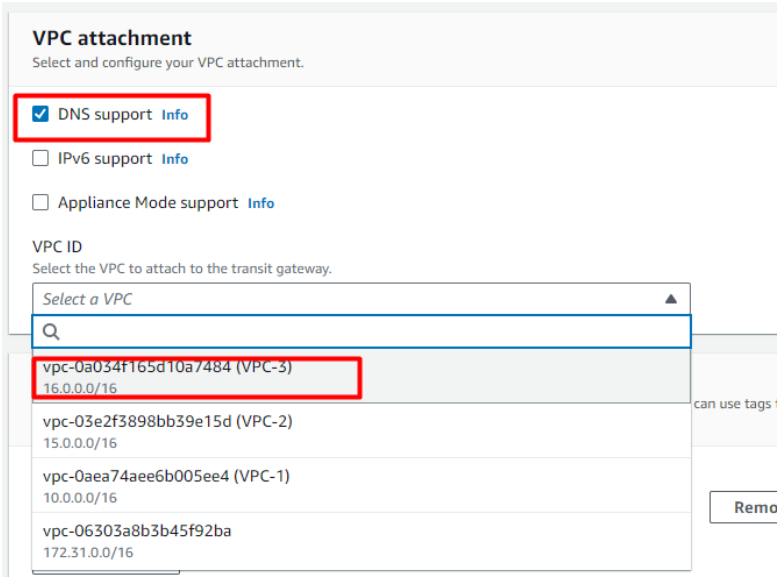




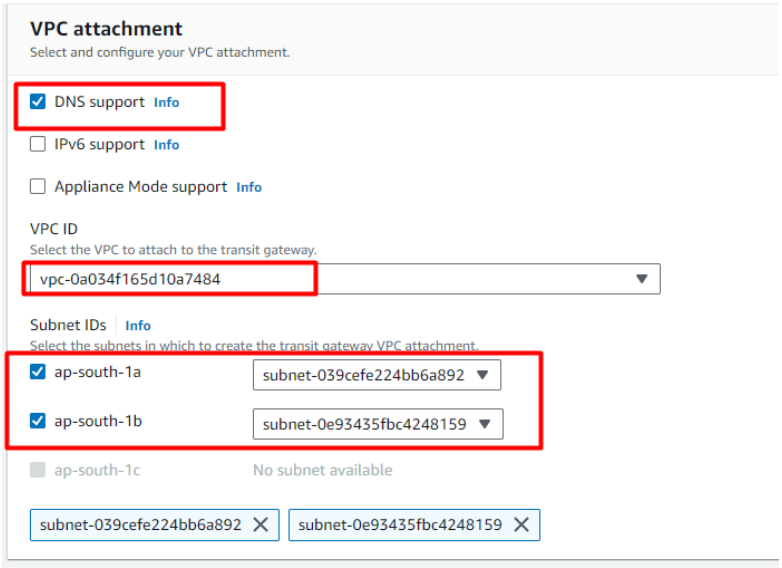
FOR VPC-3

- Now we will create a Transit attachment for VPC-3
- Here we will first give a Transit attachment a name
- Now in Transit gateway ID we will choose the Transit Gateway which we have created early and provide it ID for the connection
- And in attachment Type ;
- We will choose VPC
- as we are using VPC to connect each other

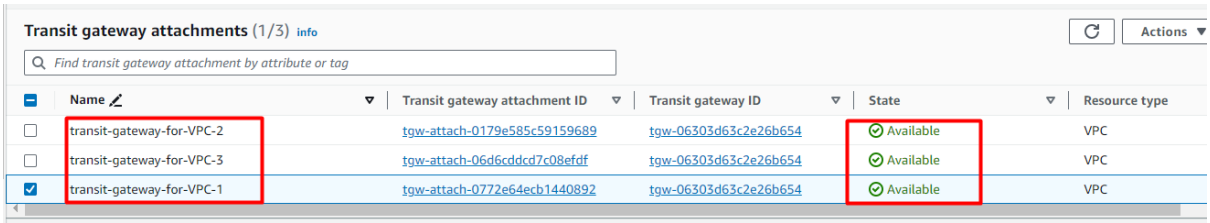




- Here we will choose DNS support as we are using IPv4 CIDR for VPC
- In VPC ID we will choose VPC ID of VPC-2
- And choose its Subnets
- And hence we can create this attachment



- HENCE, we can see we have successfully created transit Gateway Attachment and it is also in available state

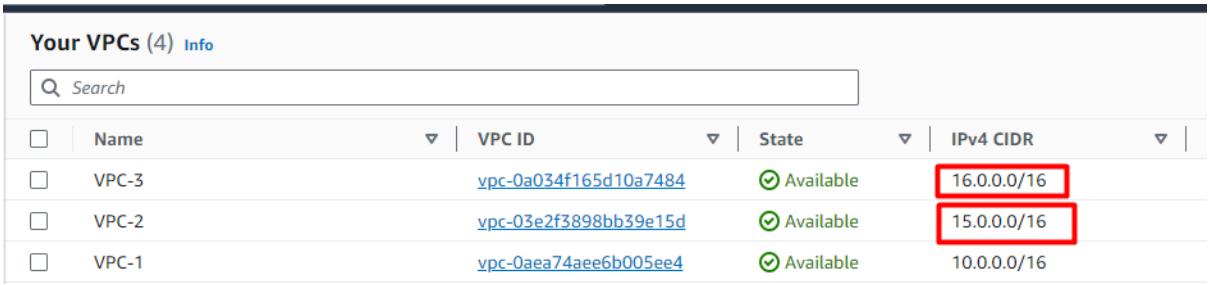


STEP 10 : Configure Route Table to access the transit route

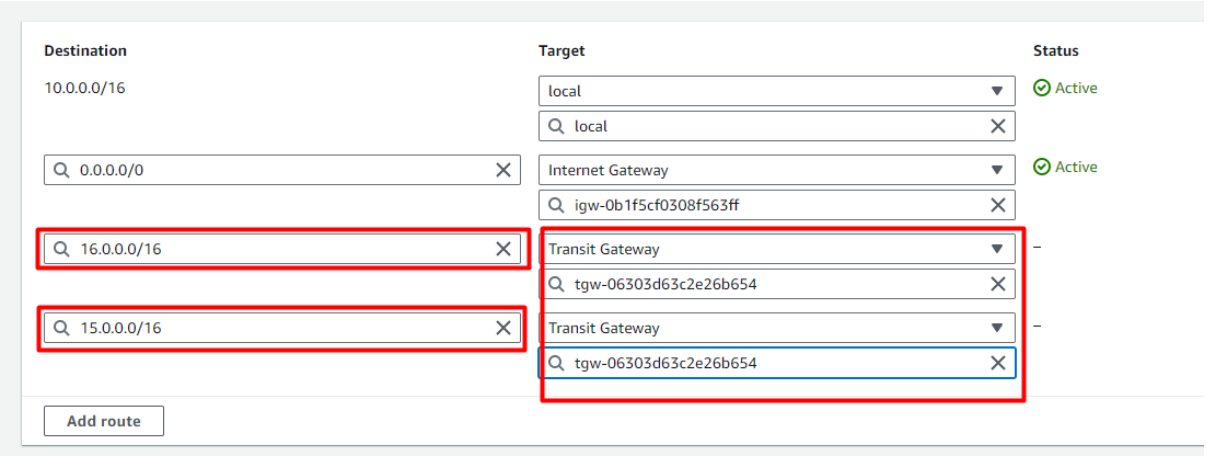
- Hence, we have done everything to setup for the Transit gateway
- Now we need to configure Route Table to access this transit route

FOR VPC-1 ROUTE TABLE

- Copy the CIDR of VPC-2 and VPC3



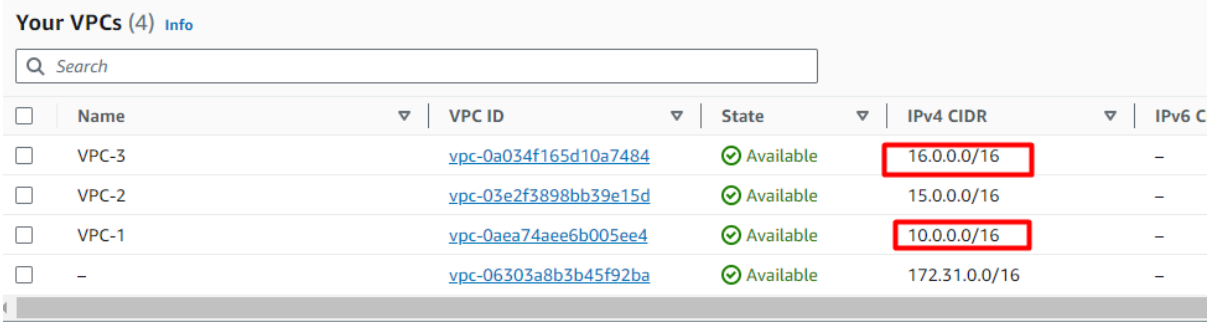
- Here we add the CIDR of VPC-2 and VPC-3 in the edit Route
- With the VPC -1 transit gateway attachment ID



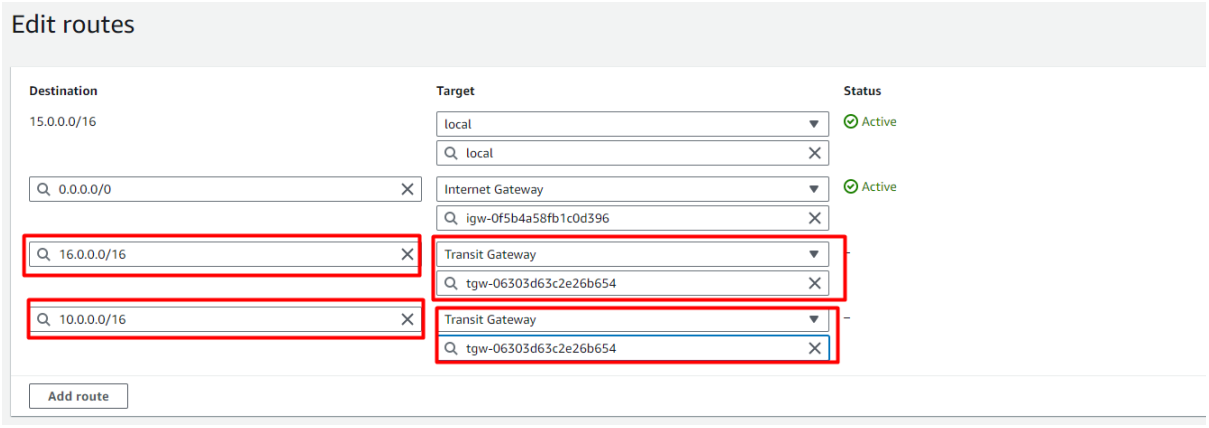
- Save the changes and exit

FOR VPC-2 ROUTE TABLE

- Here we add the CIDR of VPC-1 and VPC-3 in the edit Route
- Copy the CIDR of VPC-1 and VPC-3



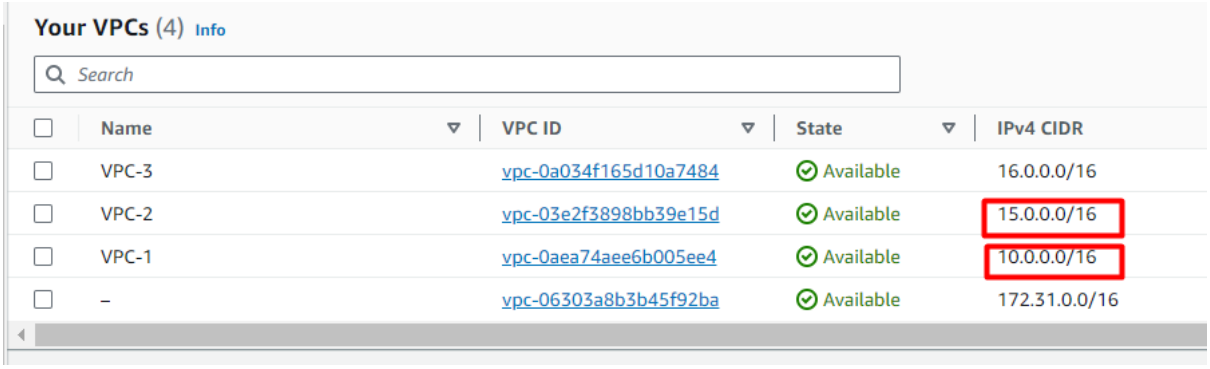
- With the VPC -2 transit gateway attachment ID



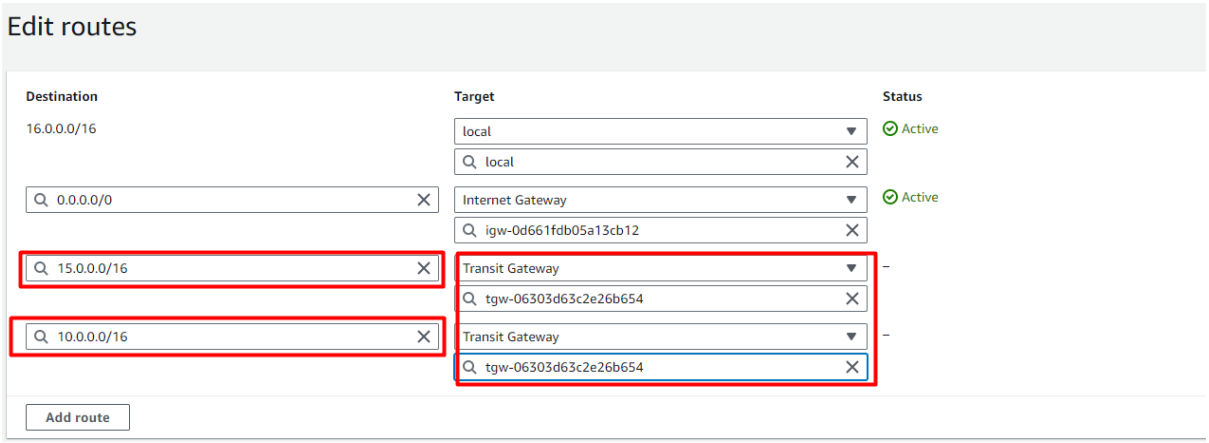
- Save the changes and exit

FOR VPC-3 ROUTE TABLE

- Here we add the CIDR of VPC-1 and VPC-2 in the edit Route
- Copy the CIDR of VPC-1 and VPC-2



- With the VPC -3 transit gateway attachment ID



- Save the changes and exit

STEP 11 : OUTPUT

CHECK THE CONNECTION :

- Now connect each Ec2 instance and check the connection is proper or not

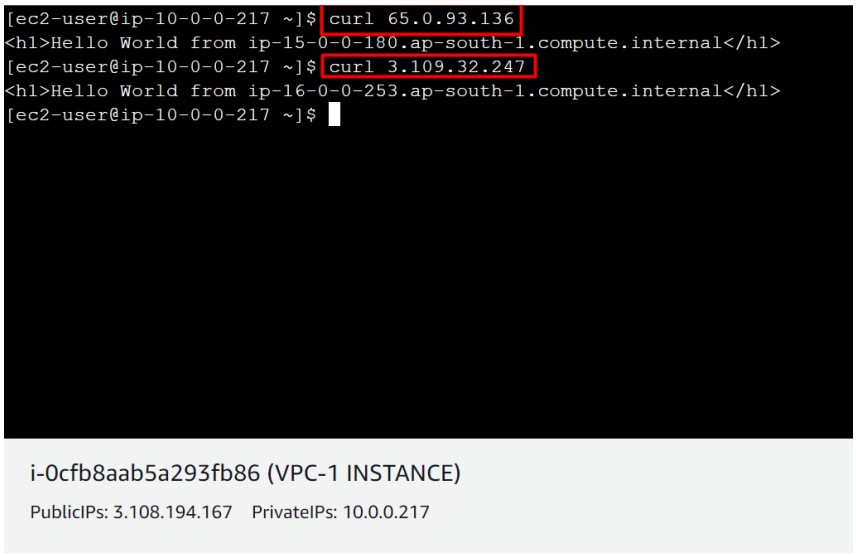
VPC-1 INSTANCE

- Connect to VPC-1 instance
- And Copy the IPv4 Public Address of VPC-2 INSATCNE and VPC-3 INSTCANCE

Command used to see the connection :

- # curl 65.0.93.136 //VPC-2 INSATCNE PUBLIC IPv4
- # curl 3.109.32.247 //VPC-3 INSATNCE PUBLIC IPv4'

- Hence, we can see the connection Is proper



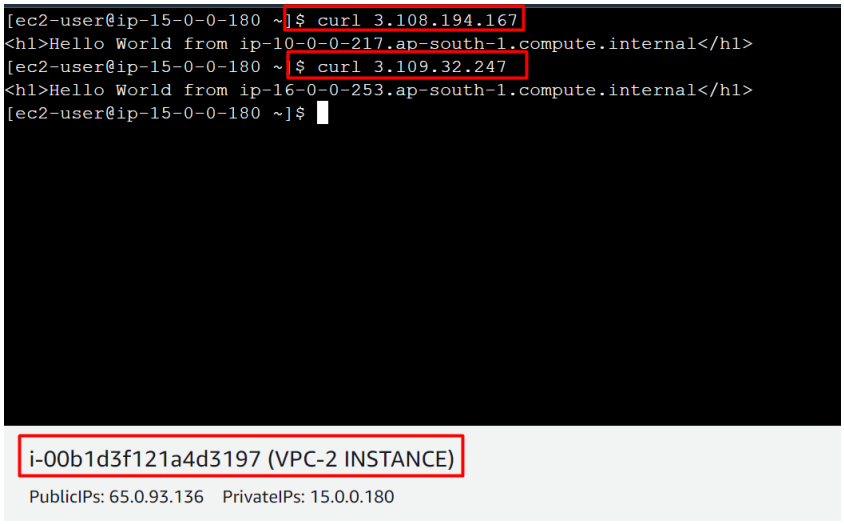
VPC-2 INSTANCE

- Connect to VPC-2 instance
- And Copy the IPv4 Public Address of VPC-1 INSATCNE and VPC-3 INSTCANCE

Command used to see the connection :

- # curl 3.108.194.167 //VPC-1 INSATCNE PUBLIC IPv4
- # curl 3.109.32.247 //VPC-3 INSATNCE PUBLIC IPv4

- Hence, we can see the connection Is proper



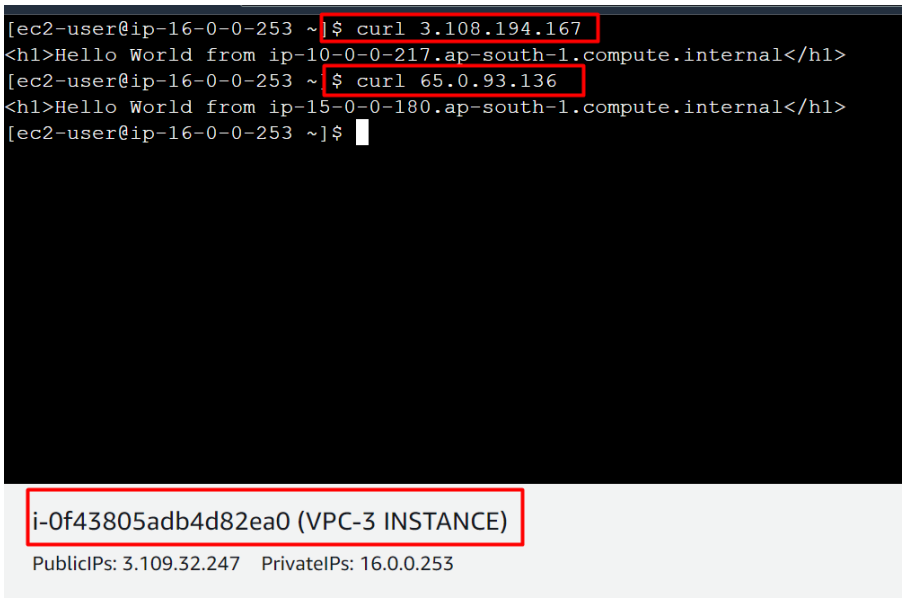
VPC-3 INSTANCE

- Connect to VPC-1 instance
- And Copy the IPv4 Public Address of VPC-1 INSATCNE and VPC-2 INSTCANCE

Command used to see the connection :

- # curl 3.108.194.167 //VPC-1 INSATNCE PUBLIC IPv4
- # curl 65.0.93.136 //VPC-2 INSATCNE PUBLIC IPv4

- Hence we can see the connection Is proper



REFERNCE LINK :

https://youtu.be/GV4KreiF_D4?si=AjXx0K0acDrkTdlN