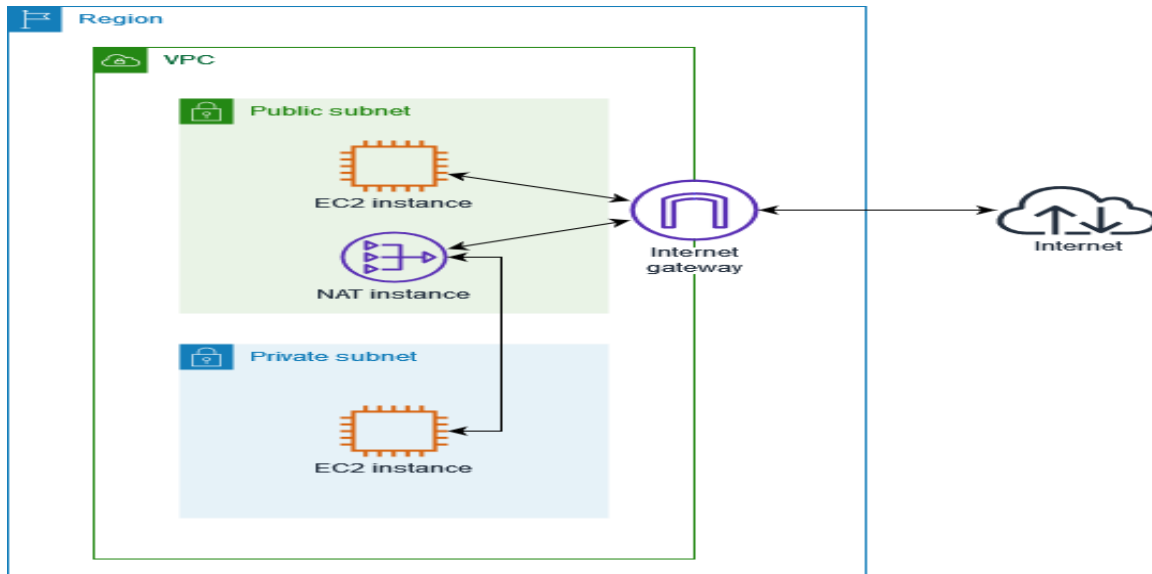


## WEEK 10

### AIM: Create and Configure Amazon Virtual Private Cloud (VPC).



**1.Create Your own VPC**

**2.Create Public Subnet**

**3.Create Private Subnet**

**4.Create Internet GateWay**

**5. Attache Internet GAteway to your VPC**

**6.Create Public Routing Table,associate subnet and add routing rules.**

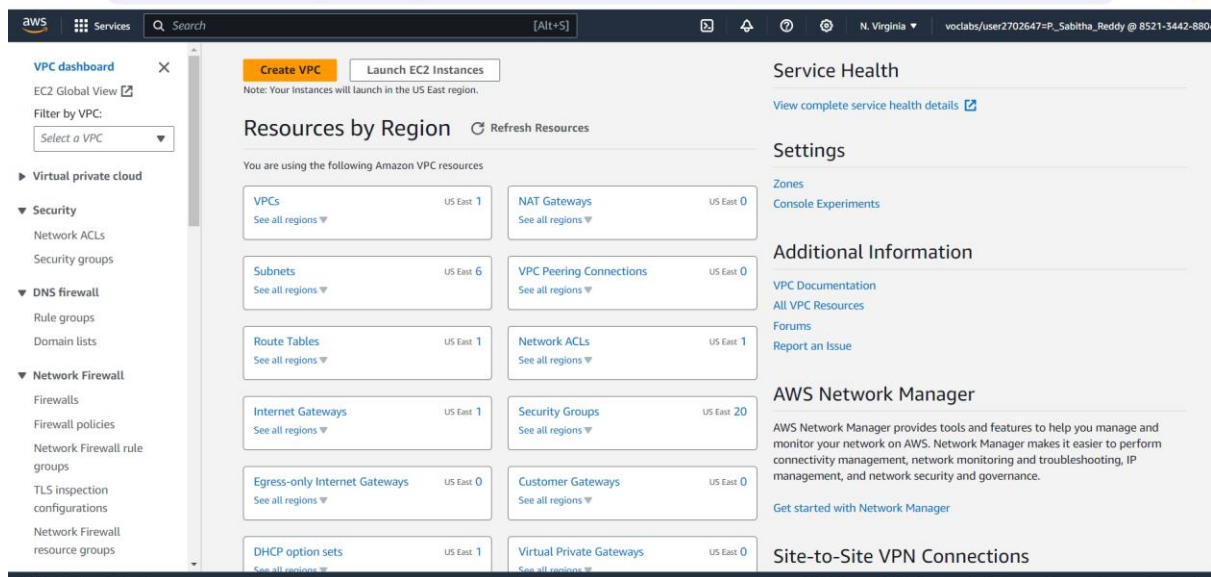
**7. Create Private Routing Table,associate subnet and add routing rules.**

### **Implementation:**

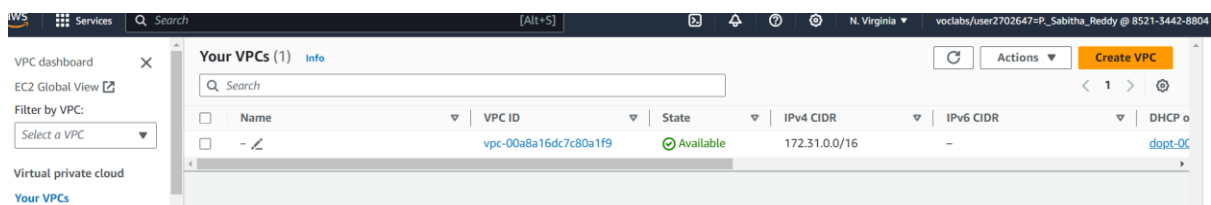
**Step1:** Open AWS console,

Search for VPC in Search Bar,

## Click on VPC



On **VPC Dashboard Panel**,  
Click on **YOUR VPC**,  
Click on **CREATE VPC** Button



On Create VPC page,  
For Name Tag → lab\_vpc,  
For IPv4CIDR Block → 10.0.0.0/16  
Leave remaining fields as default,  
Click on **CREATE VPC** Button.

## VPC settings

### Resources to create [Info](#)

Create only the VPC resource or the VPC and other networking resources.

☒ VPC only

☐ VPC and more

### Name tag - optional

Creates a tag with a key of 'Name' and a value that you specify.

lab\_vpc

### IPv4 CIDR block [Info](#)

☒ IPv4 CIDR manual input

☐ IPAM-allocated IPv4 CIDR block

### IPv4 CIDR

10.0.0.0/16

CIDR block size must be between /16 and /28.

### IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block

☐ IPAM-allocated IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

☐ IPv6 CIDR owned by me

### Tenancy [Info](#)

Default

### IPv4 CIDR

10.0.0.0/16

CIDR block size must be between /16 and /28.

### IPv6 CIDR block [Info](#)

☒ No IPv6 CIDR block

☐ IPAM-allocated IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

☐ IPv6 CIDR owned by me

### Tenancy [Info](#)

Default

## Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

### Key



### Value - optional



Remove tag

Add tag

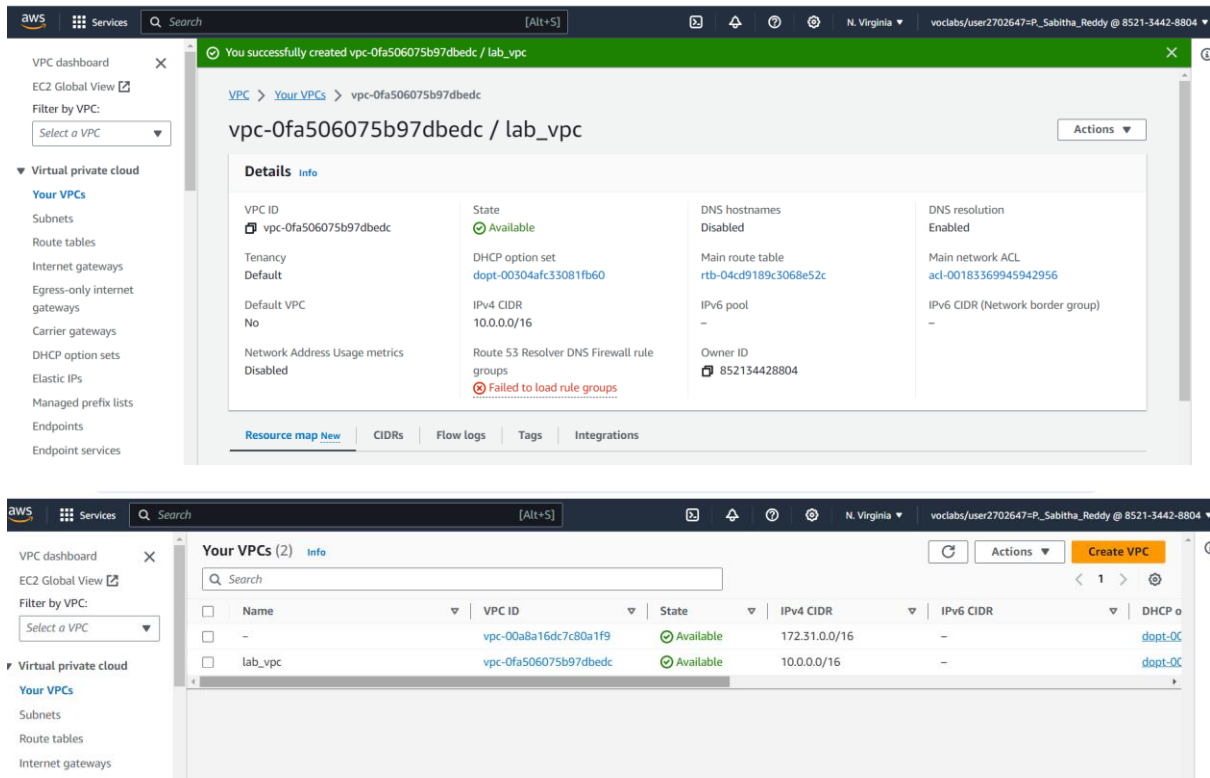
You can add 49 more tags

Cancel

Create VPC

# Verify

Lab\_vpc is Created.

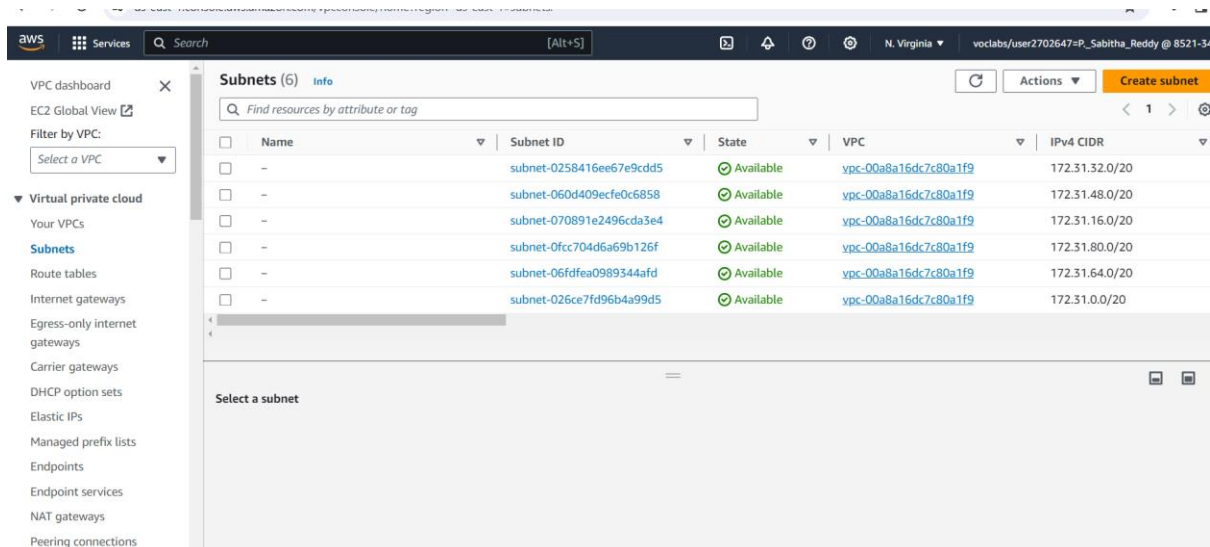


## Step2:

To Create Public Subnet

Click on Subnet

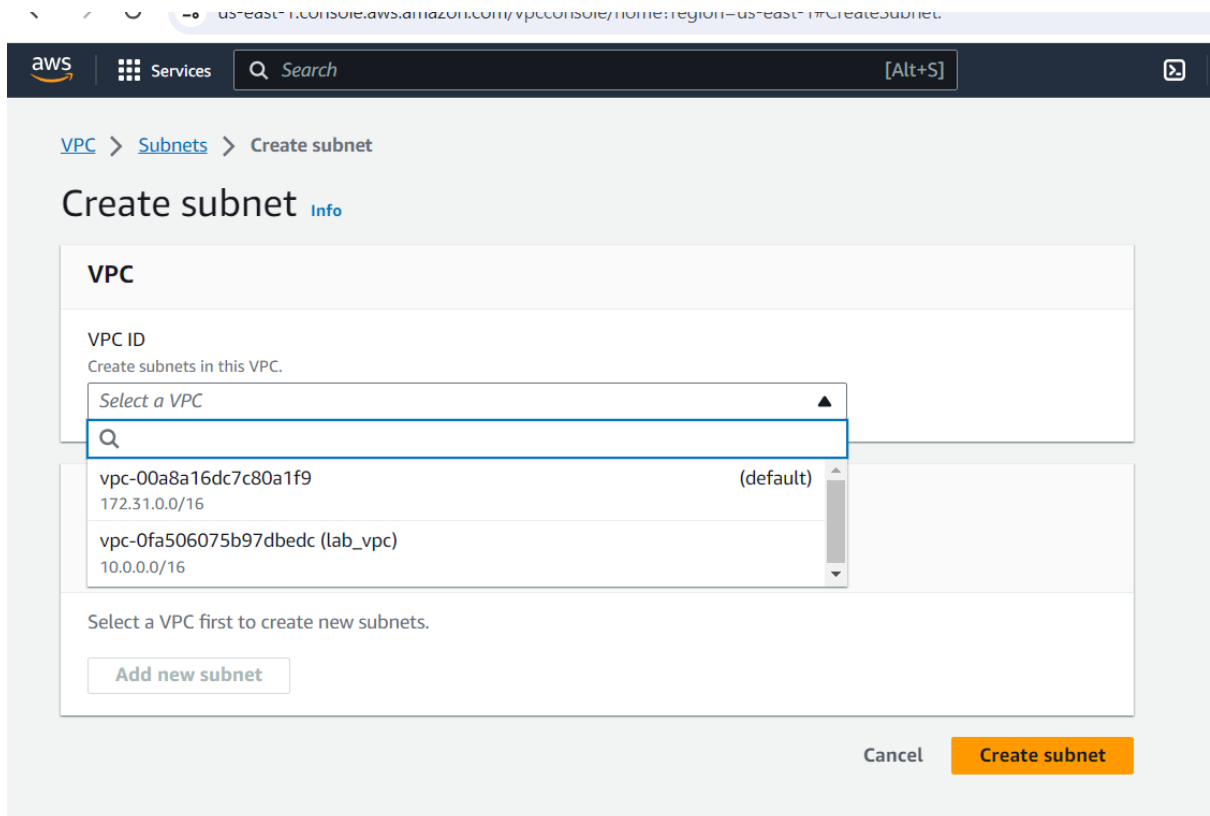
Click on Create Subnet button



On Create Subnet page

For VPC Id: lab\_vpc

Click on Create Subnet button



For Subnet Name→ public\_subnet

Availability Zone→US East(N.Virginia)/us-east-1a

IPv4 VPC CIDR block→10.0.0.0/16

IPv4 subnet CIDR block→10.0.0.0/24

Click on Create Subnet button

VPC ID

Create subnets in this VPC.

vpc-0fa506075b97dbedc (lab\_vpc) ▼

Associated VPC CIDRs

IPv4 CIDRs

10.0.0.0/16

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 1

Subnet name

Create a tag with a key of 'Name' and a value that you specify.

my-subnet-01

The name can be up to 256 characters long.

Availability Zone [Info](#)

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

No preference ▼

IPv4 VPC CIDR block [Info](#)

Choose the IPv4 VPC CIDR block to create a subnet in.

### Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

#### Subnet 1 of 1

##### Subnet name

Create a tag with a key of 'Name' and a value that you specify.

The name can be up to 256 characters long.

##### Availability Zone [Info](#)

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

##### IPv4 VPC CIDR block [Info](#)

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

##### IPv4 subnet CIDR block

256 IPs

#### ▼ Tags - optional

Key

×

Value - optional

×

Remove

## Step 3:

Click on ADD NEW SUBNET BUTTON

For Subnet Name → private\_subnet

Availability Zone → US East(N.Virginia)/us-east-1a

IPv4 VPC CIDR block → 10.0.0.0/16

IPv4 subnet CIDR block → 10.0.1.0/24

Click on Create Subnet button

## Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

### Subnet 1 of 1

#### Subnet name

Create a tag with a key of 'Name' and a value that you specify.

Private\_subnet

The name can be up to 256 characters long.

#### Availability Zone [Info](#)

Choose the zone in which your subnet will reside, or let Amazon choose one for you.

United States (N. Virginia) / us-east-1a

#### IPv4 VPC CIDR block [Info](#)

Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.

10.0.0.0/16

#### IPv4 subnet CIDR block

10.0.1.0/24

256 IPs

#### ▼ Tags - optional

##### Key

Q Name

##### Value - optional

Q Private\_subnet

Remove

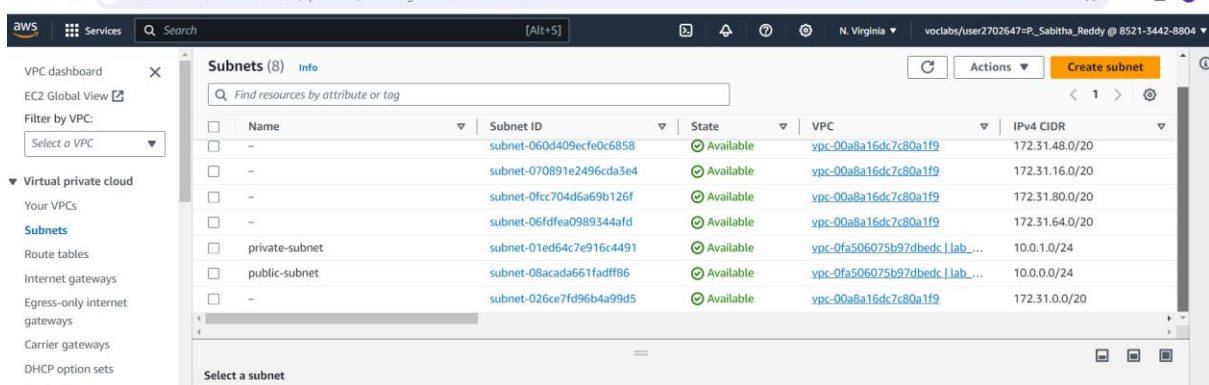
Add new tag

You can add 49 more tags.

Remove

Add new subnet

Verify public, private subnets are created.



The screenshot shows the AWS VPC console with a list of subnets. The table has columns for Name, Subnet ID, State, VPC, and IPv4 CIDR. There are 8 subnets listed, including private and public subnets.

Name	Subnet ID	State	VPC	IPv4 CIDR
-	subnet-060d409ecfe0c6858	Available	vpc-00a8a16dc7c80a1f9	172.31.48.0/20
-	subnet-070891e2496cda3e4	Available	vpc-00a8a16dc7c80a1f9	172.31.16.0/20
-	subnet-0fcc704d6a69b126f	Available	vpc-00a8a16dc7c80a1f9	172.31.80.0/20
-	subnet-06fdfea0989344afd	Available	vpc-00a8a16dc7c80a1f9	172.31.64.0/20
private-subnet	subnet-01ed64c7e916c4491	Available	vpc-0fa506075b97d8edc   lab...	10.0.1.0/24
public-subnet	subnet-08acada661fadff86	Available	vpc-0fa506075b97d8edc   lab...	10.0.0.0/24
-	subnet-026ce7fd96b4a99d5	Available	vpc-00a8a16dc7c80a1f9	172.31.0.0/20

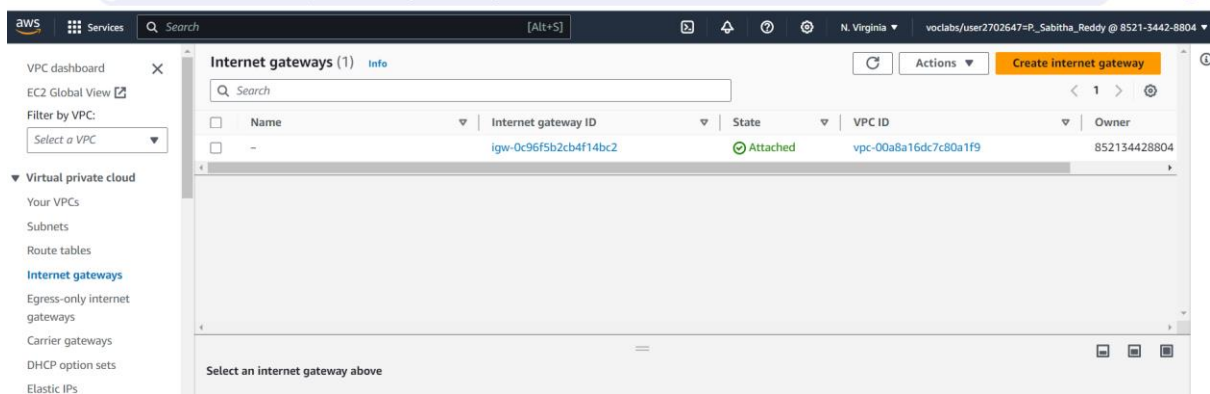
**Step 4: Create INTERNET GATEWAY and ATTACH TO VPC**

In VPC Dashboard Panel

Click on Internet Gateways

Click on Create Internet Gateway button





In Create Internet Gateway page

For Name Tag → lab\_vpc\_IG

Click on Create Internet Gateway button

**Internet gateway settings**

**Name tag**  
Creates a tag with a key of 'Name' and a value that you specify.

lab\_vpc\_IG

**Tags - optional**  
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

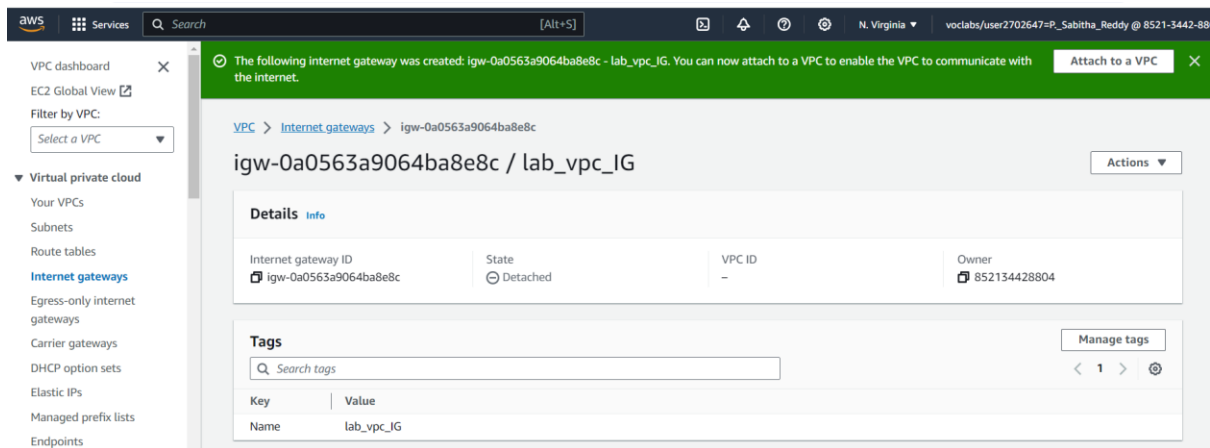
Key	Value - optional	
Name	lab_vpc_IG	Remove

**Add new tag**  
You can add 49 more tags.

Cancel **Create internet gateway**

**Verify**

Internet Gateway created.



## Step 5:

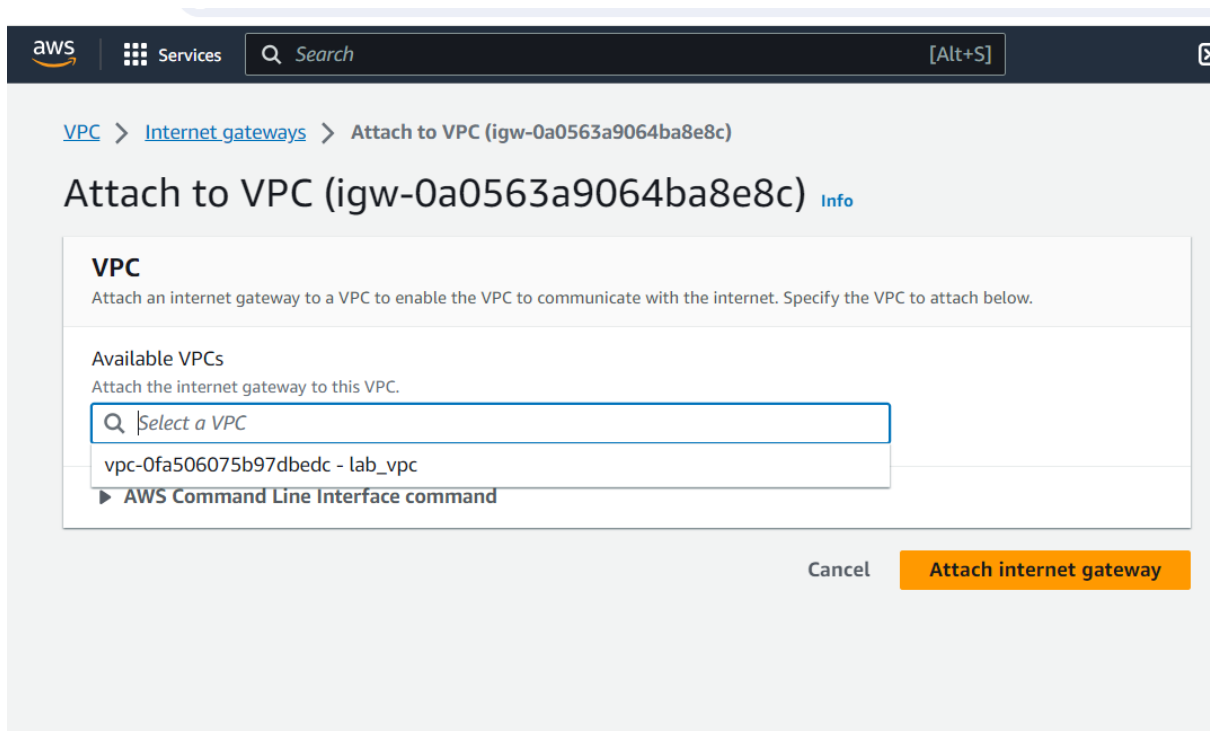
Select lab\_vpc\_IG

Click on ATTACH to VPC

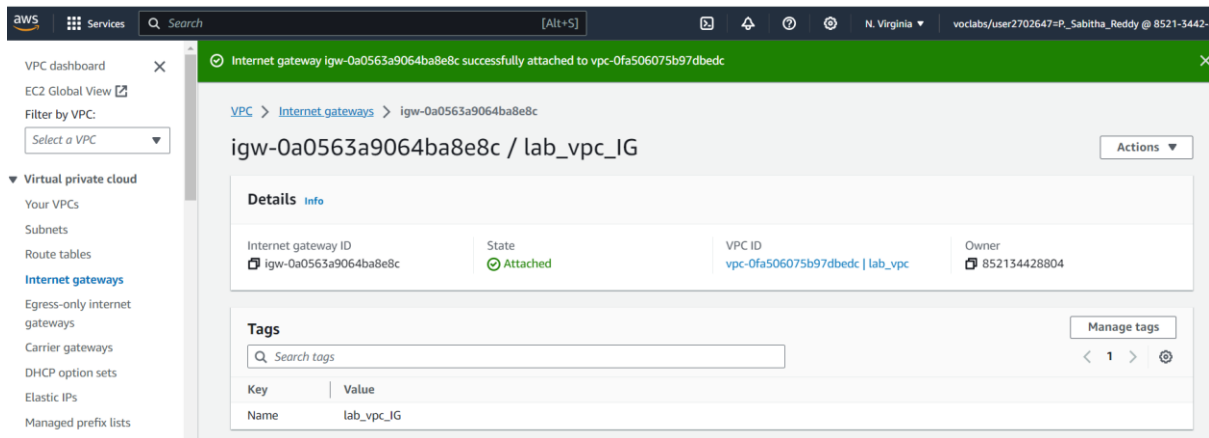
In ATTACH to VPC box

For VPC → lab\_vpc

Click on attach internet gateway button.



**Verify** Internet gateway is connected to your VPC

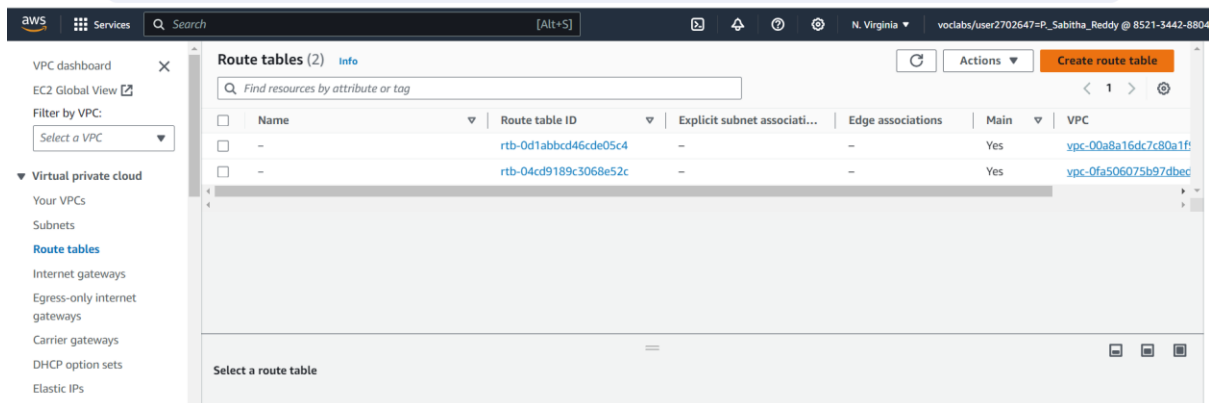


**Step 6:** Create Public Routing Table, associate subnet and add routing rules

On VPC Dashboard panel

Click on Route Table

Click on Create route table button



On route table box

For Name Tag → PUBLIC-RT-lab\_vpc

For VPC → lab\_vpc

Click on Create route table button

VPC > Route tables > Create route table

## Create route table [Info](#)

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

### Route table settings

**Name - optional**  
Create a tag with a key of 'Name' and a value that you specify.

**VPC**  
The VPC to use for this route table.

### Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - optional	
<input type="text" value="Name"/>	<input type="text" value="PUBLIC-RT-lab_vpc"/>	<input type="button" value="Remove"/>
<input type="button" value="Add new tag"/>		

You can add 49 more tags.

**Verify ,**

PUBLIC-RT-lab\_vpc Is created.

### Step 7:

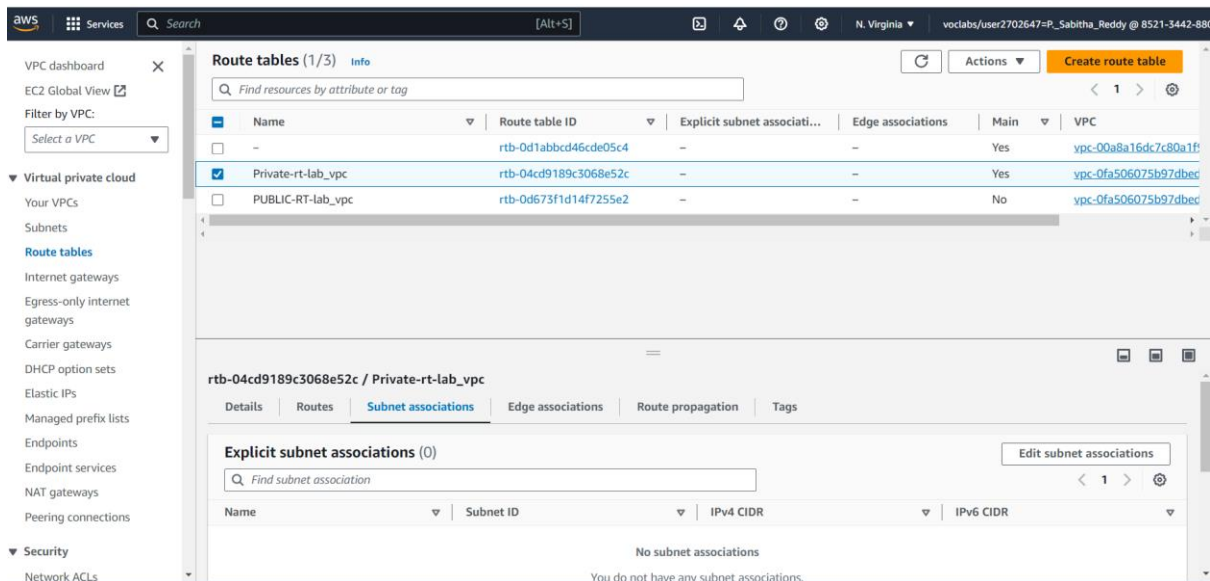
For Name Tag→PRIVATE-RT-lab\_vpc

For VPC→ lab\_vpc

Click on Create route table button

Select Private-RT-lab\_vpc →Actions

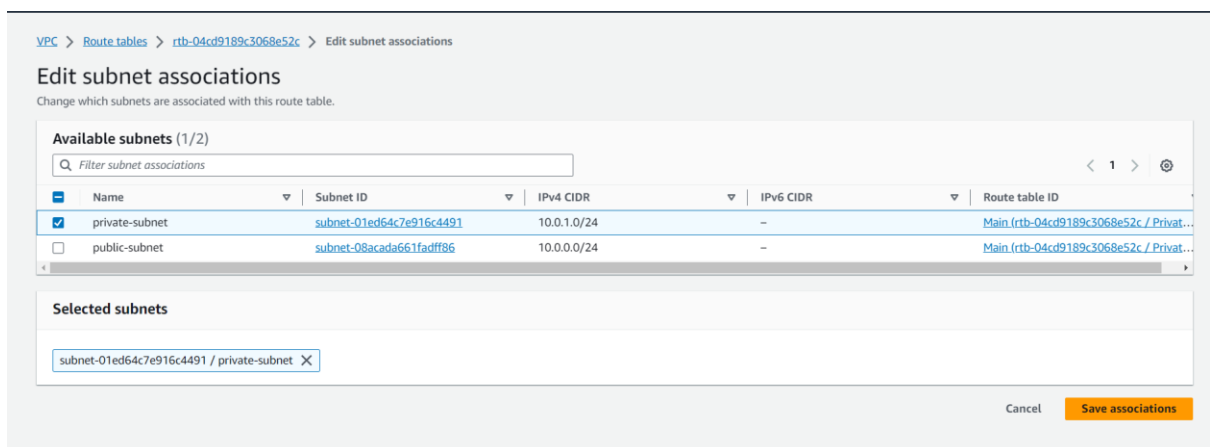
Click on subnet associations



Click on Edit subnet associations

Select check box of private\_subnet → 10.0.1.0/24

Click on save associations

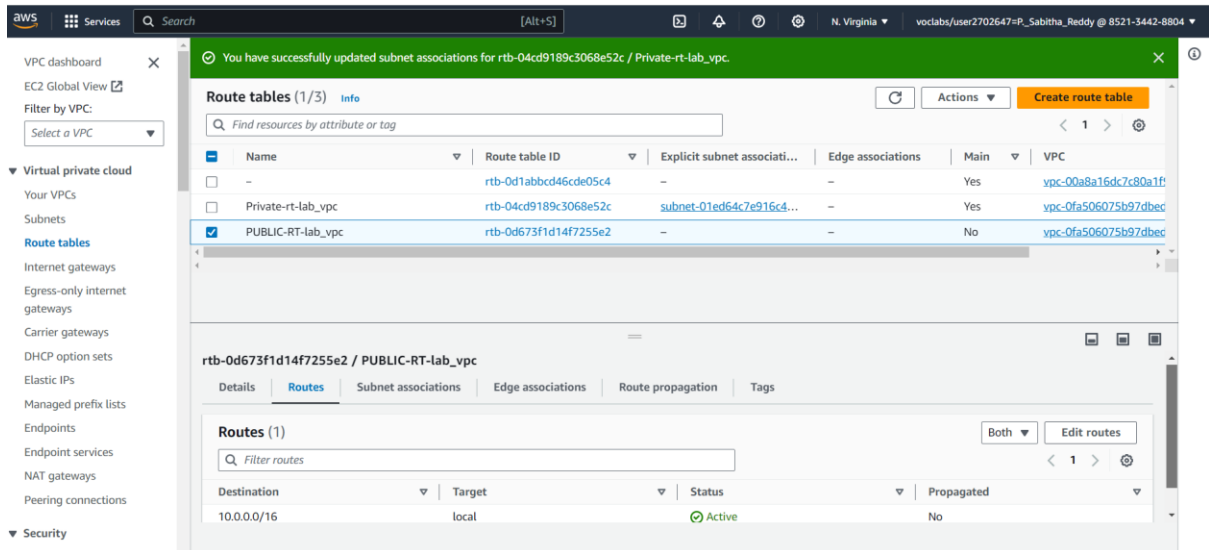


Verify private\_subnet is associated with routing table .

Select PUBLIC-RT-lab\_vpc → Actions

Click on subnet associations

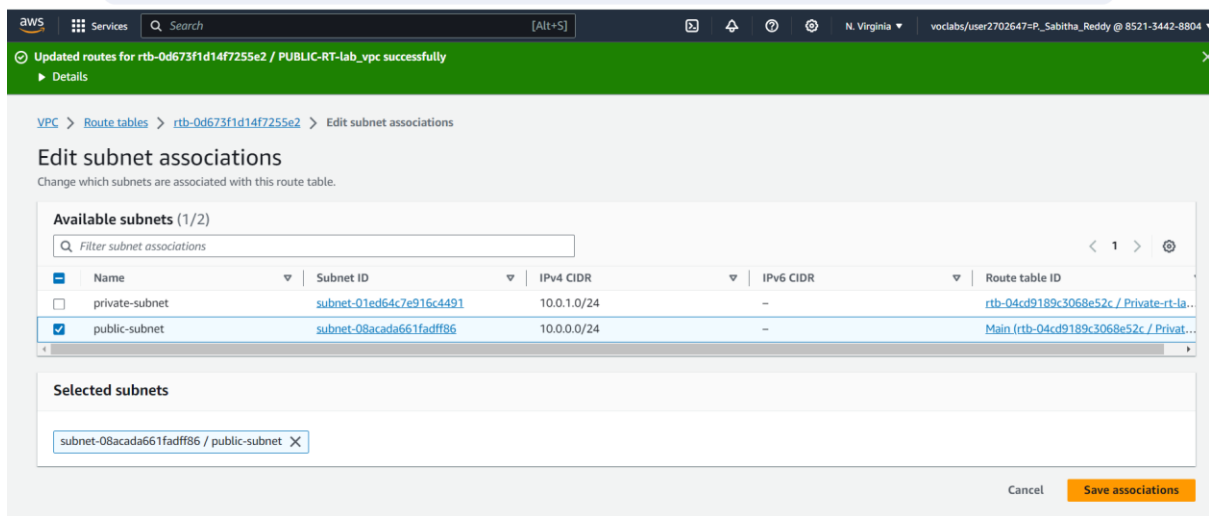
Click on Edit subnet associations



Select check box of public\_subnet → 10.0.0.0/24

Click on save associations

Verify public\_subnet is associated with routing table



Select PUBLIC-RT-lab\_vpc → Actions

Click on Edit routes button,

Click on add route button,

For Destination → 0.0.0.0/0

Target → internet gateway → igw-0a0563a9064ba8e8c (lab\_vpc\_IG)

Click on Save changes button

us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#EditRoutes:RouteTableId=rtb-0d673f1d14f7255e2

VPC > Route tables > rtb-0d673f1d14f7255e2 > Edit routes

### Edit routes

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No
0.0.0.0/0	Internet Gateway	-	No
	igw-0a0563a9064ba8e8c (lab_vpc_IG)		

Add route

Cancel Preview **Save changes**

Verification

PUBLIC-RT-lab\_vpc is added through Internet Gateway

Verify Status column is Active.

Route tables (1/7) Info

Find resources by attribute or tag

Name	Route table ID	Explicit subnet associations	Edge associations
<input checked="" type="checkbox"/> PUBLIC-RT-lab_vpc	rtb-0d673f1d14f7255e2	subnet-08acada661fadff...	-
<input type="checkbox"/> LAB1_RT	rtb-06be2770f78b86030	subnet-08b3a063612d18...	-
<input type="checkbox"/> -	rtb-0d1abbcd46cde05c4	-	-
<input type="checkbox"/> Private-rt-lab_vpc	rtb-04cd9189c3068e52c	subnet-01ed64c7e916c4...	-

### Routes (2)

Both Edit routes

Filter routes

Destination	Target	Status	Propagated
0.0.0.0/0	igw-0a0563a9064ba8e8c	Active	No
10.0.0.0/16	local	Active	No