**AWS Task-2**

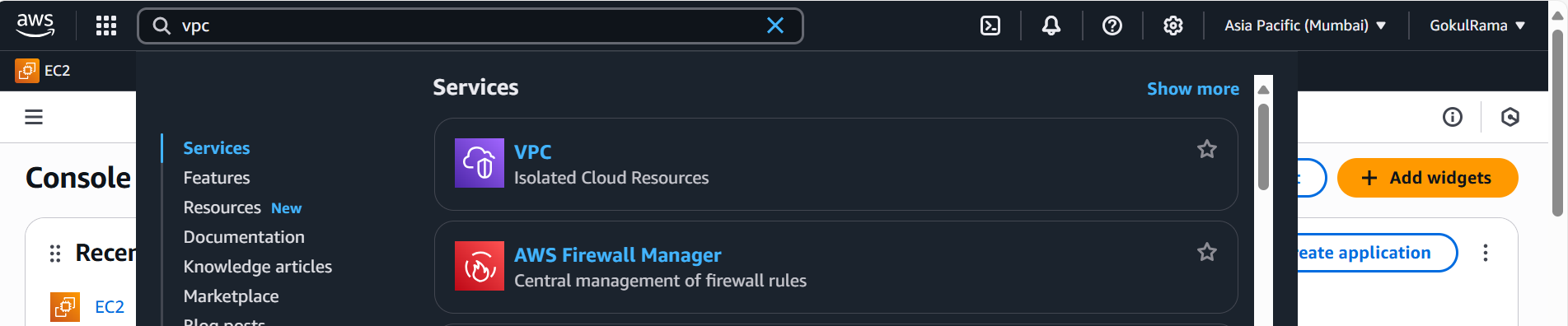
**Task Description:**

Set up a VPC with an Internet gateway, create a public subnet with 256 IP addresses, a private subnet with 256 IP addresses, make a route table connecting the Internet gateway and the subnets, and launch a Linux EC2 instance by using the above VPC and public subnet.

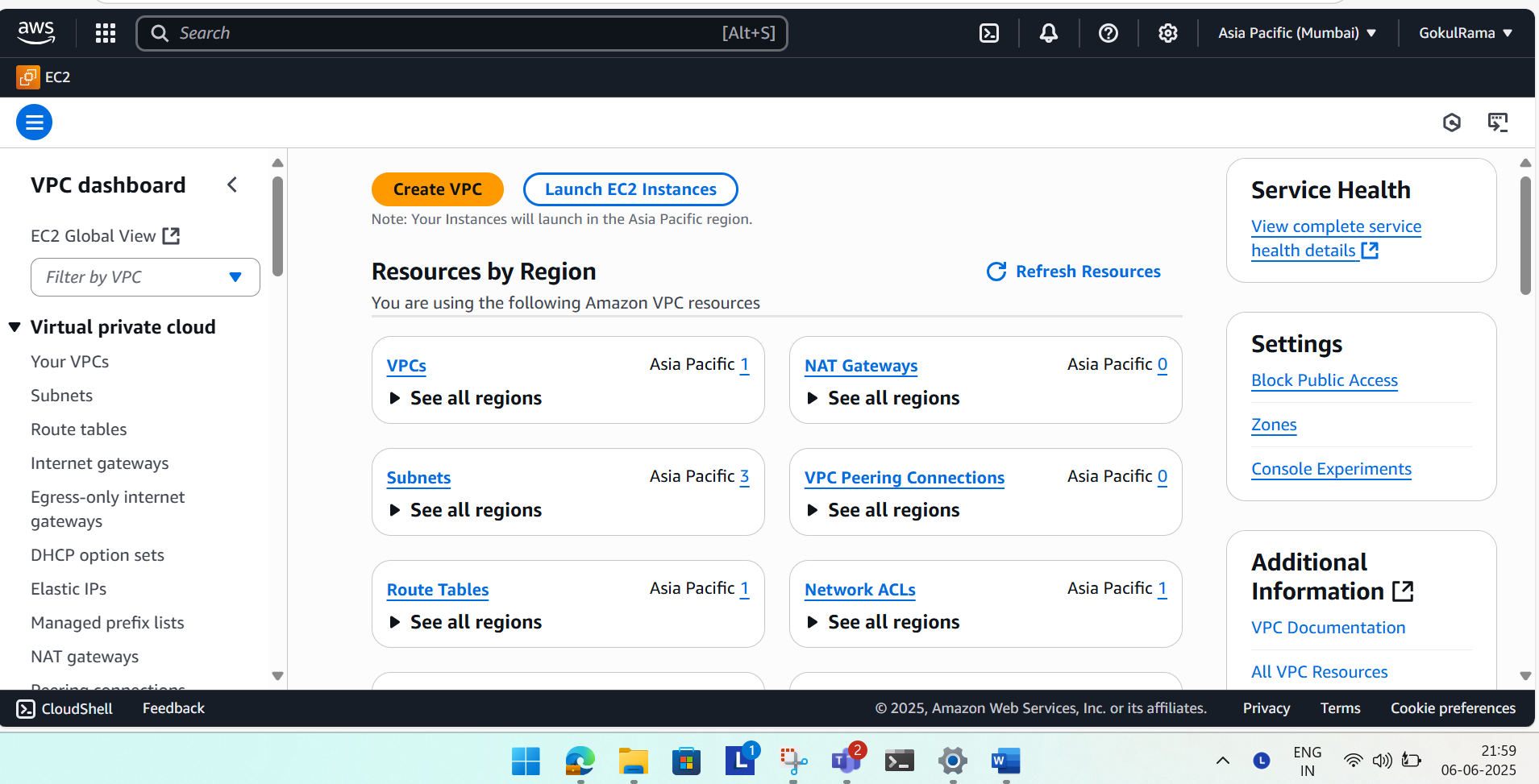
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**Steps**: -

1. Login to AWS account using root user.
2. **Creating VPC** :-
   1. Search “**VPC**“ in search box.



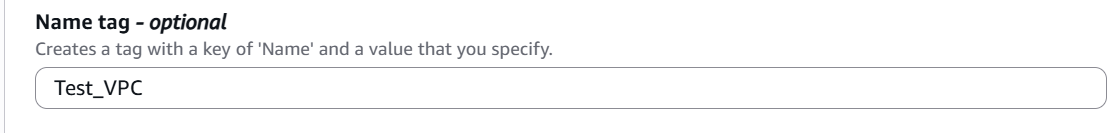
* 1. Click “**Create VPC**“ option.



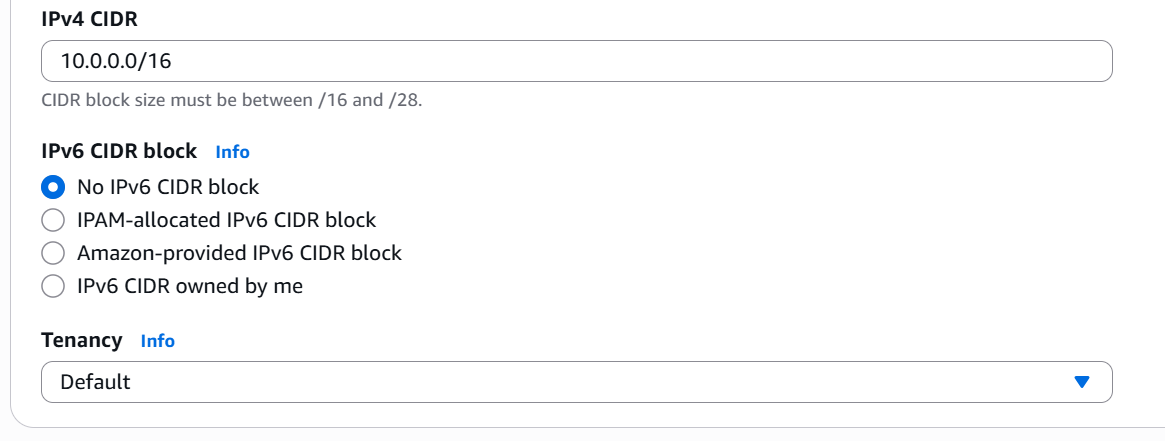
* 1. Below are the VPC settings,
     1. Select “**VPC only**“



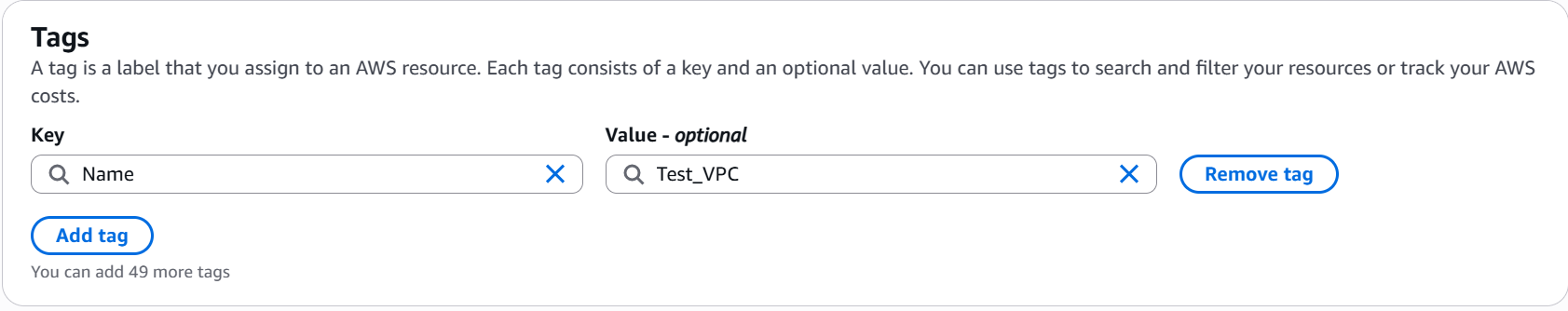
* + 1. **VPC Name - Test\_VPC**



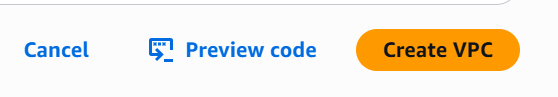
* + 1. **IPv4 CIDR block [ Private IP] is 10.0.0.0/16.**
    2. **IPv6 CIDR block [ Public IP] is No IPv6 CIDR block**
    3. **Tenancy – Choose default.**



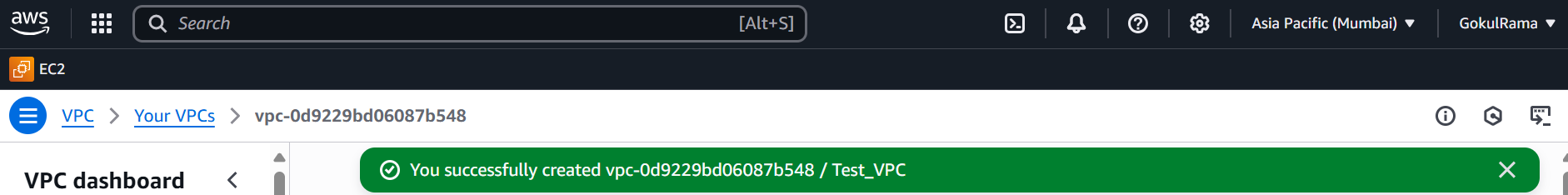
* + 1. **Tag Name is “Test\_VPC**“ (i.e.) VPC name for identification.

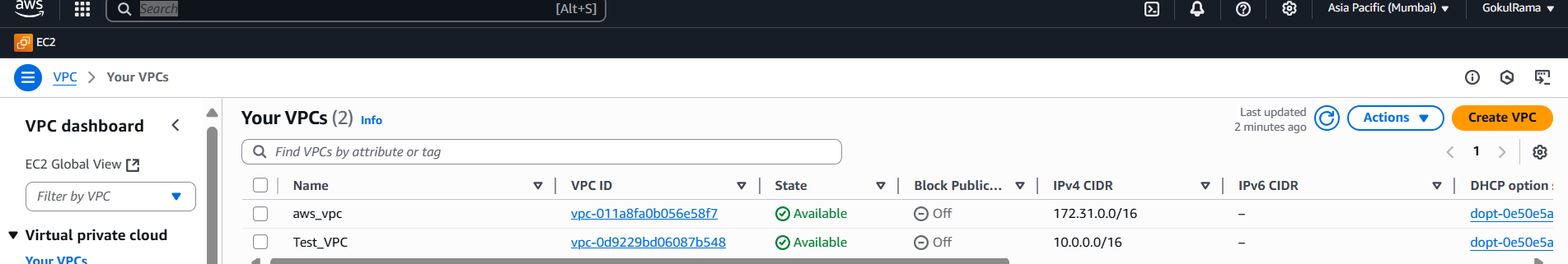


* + 1. Click “**Create VPC**“ option.

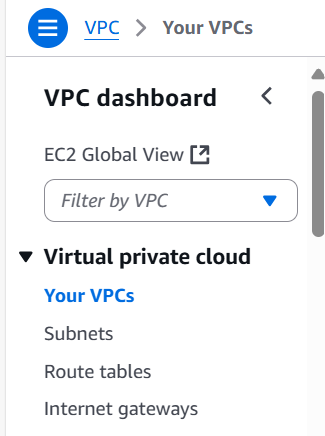


2.3.8 Once **VPC created successfully** it shows like below,





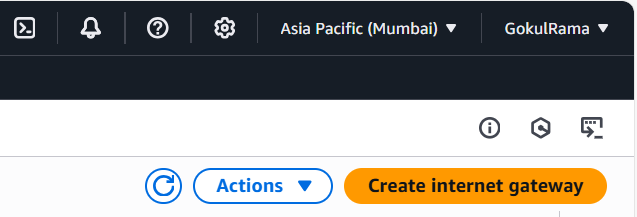
1. **Create Internet Gateway: -**
   1. Go to **VPC dashboard.**
   2. Select the option as **Internet Gateways** in left side.



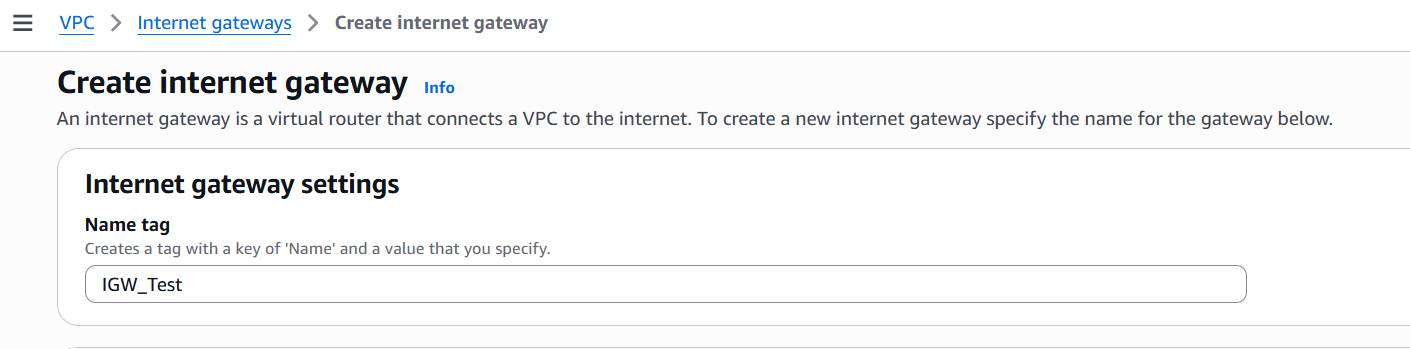
* 1. Already one default internet gateway created by AWS and i renamed it “**aws\_IG**”

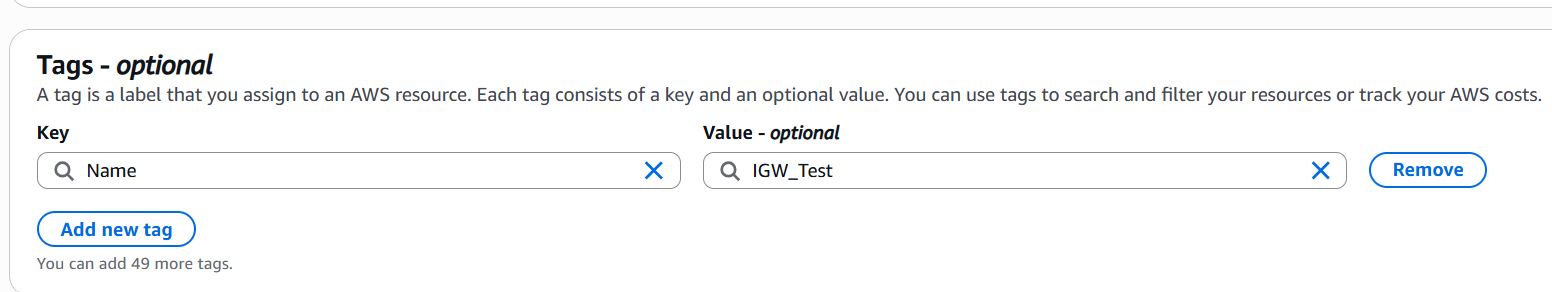


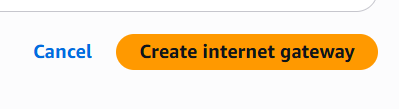
* 1. Select the “**Create Internet Gateway**” option.



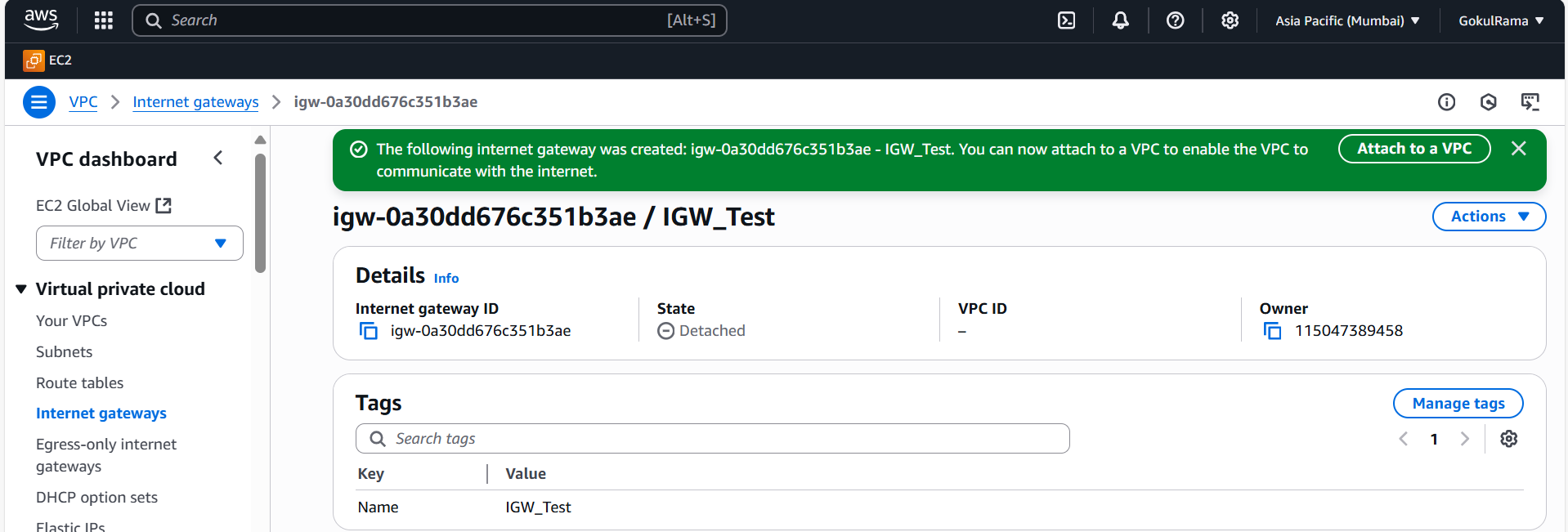
* 1. Name of the **Internet Gateway – IGW\_Test** in Name tag.
  2. Give the Tag name as **IGW\_Test**
  3. Click “**Internet Gateway**”

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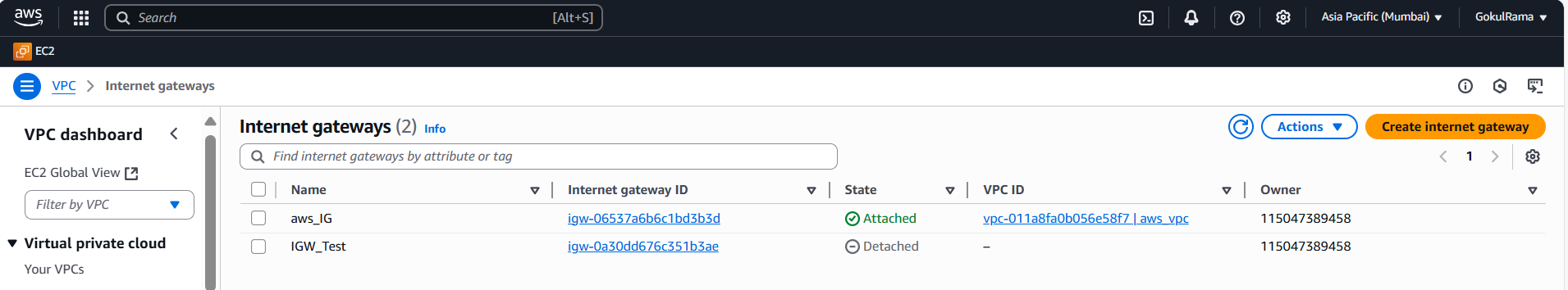
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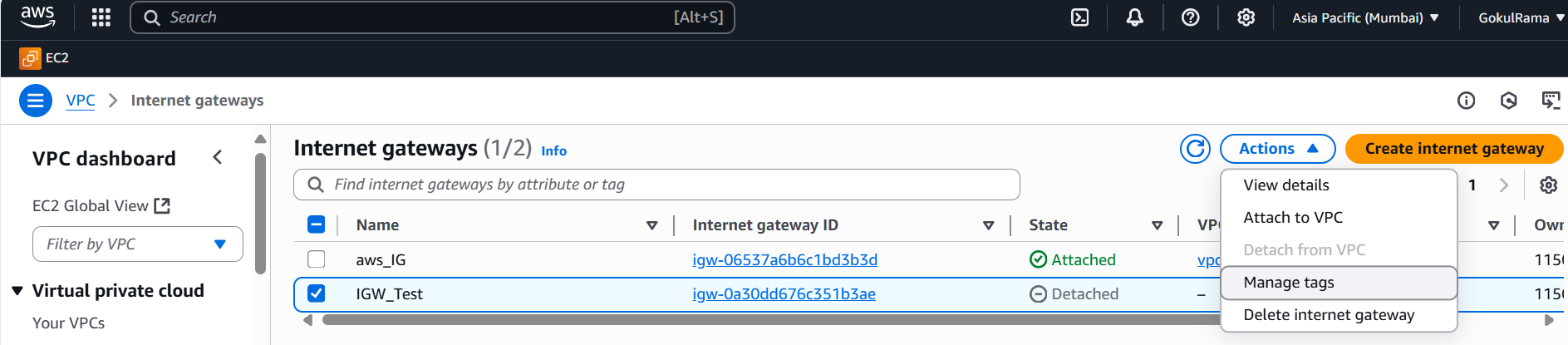
* 1. Once **internet gateway successfully created** it shows like below,

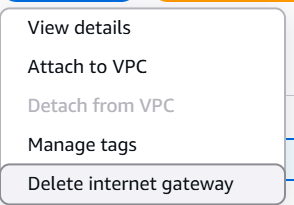
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* 1. After created Internet Gateway the “**State**” column is showing as “**Detached**” (i.e.) **Need to attach VPC to internet gateway.**

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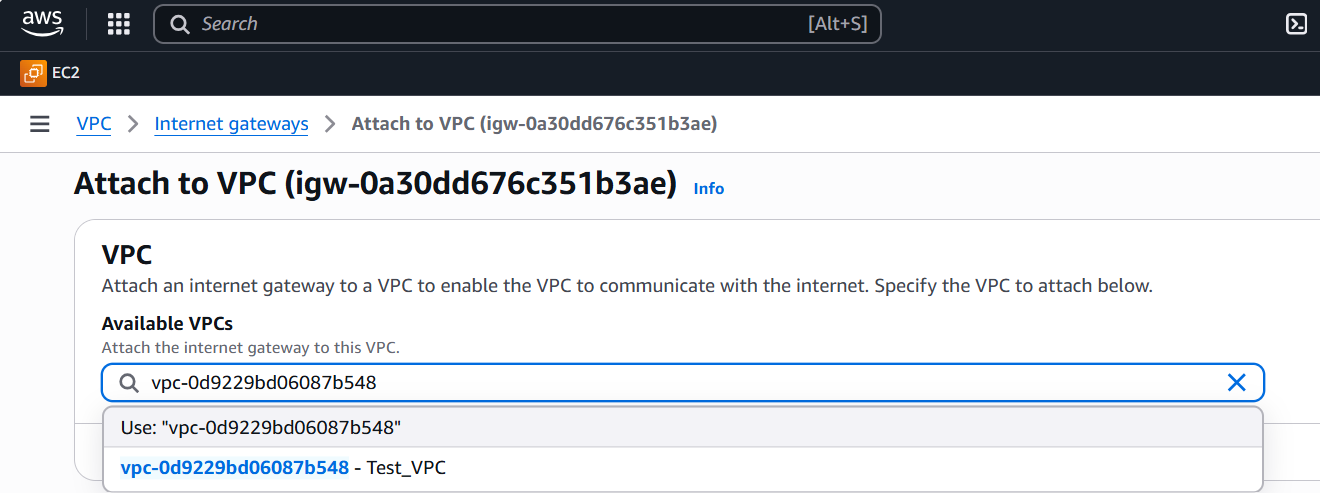
3.10 **Need to attach VPC** to internet gateway, then go to **Actions -> Choose Attach to VPC** option.

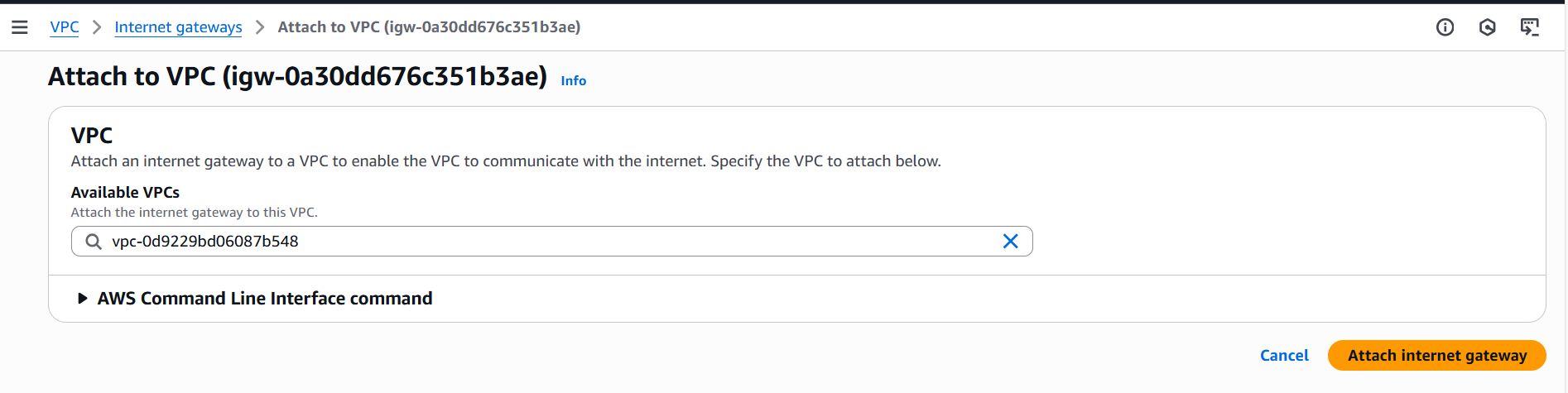
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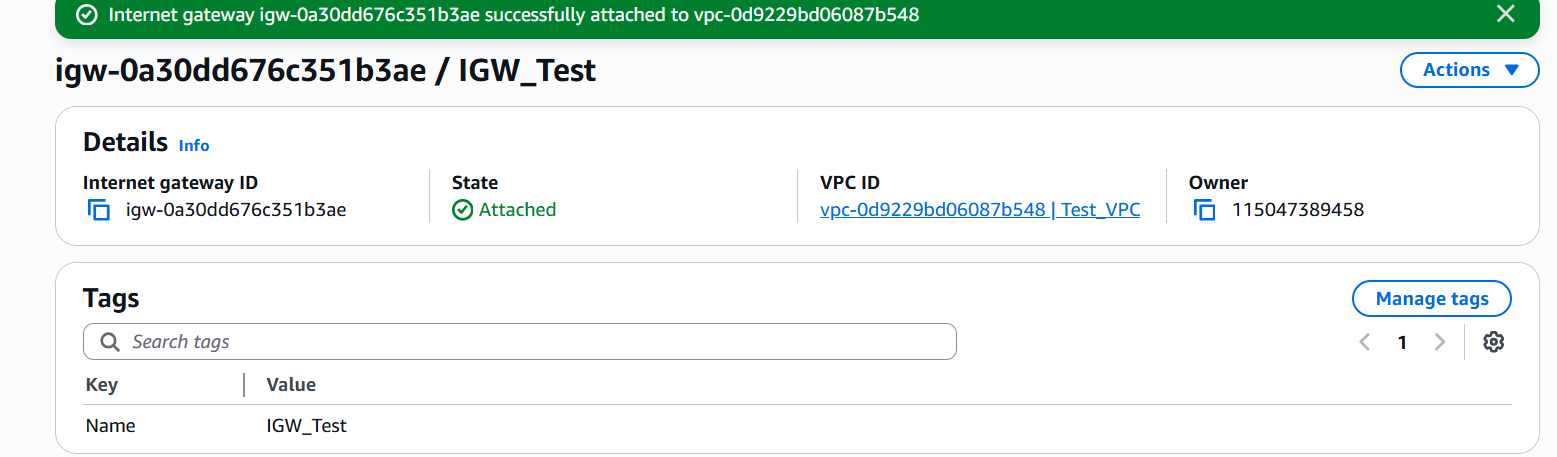
* 1. Available VPCs -> select respective VPC that created above (**VPC Name – Test\_VPC**).

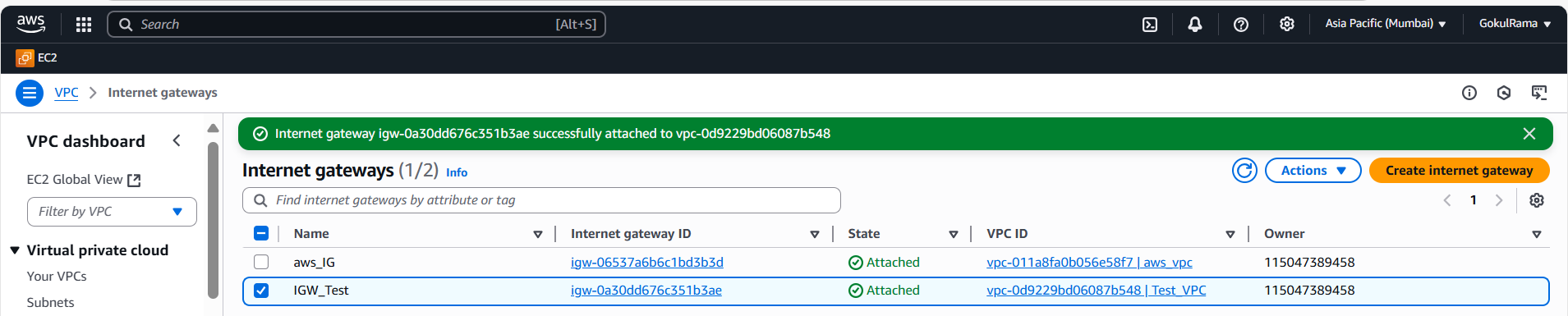
Click **Attach Internet gateway.**

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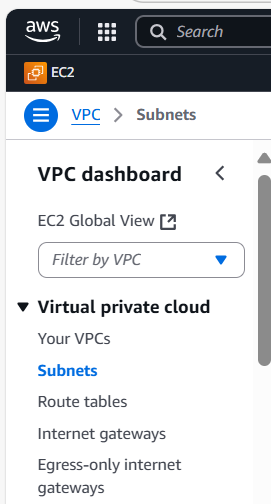
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* 1. Once **Internet gateway attached to VPC successfully** then the **status** is showing as **Attached** instead of **Detached** [ Refer the below picture].

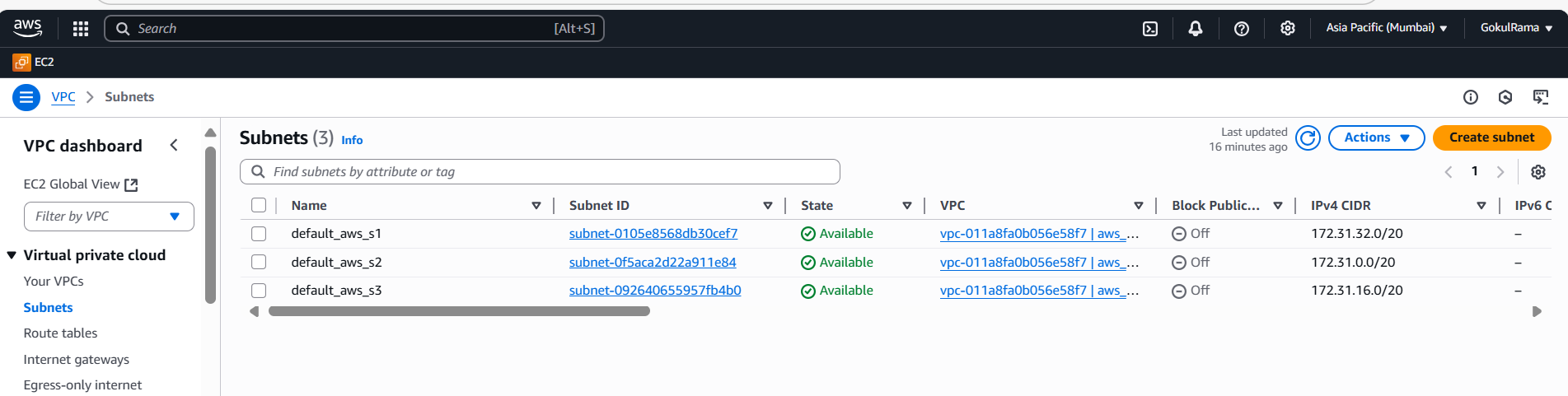
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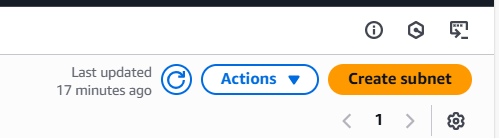
1. **Creating Subnets: -**
   1. Go to **VPC Dashboard** on left side
   2. Click **Subnet** option
   3. We need to create **both Public subnet and Private subnet.**

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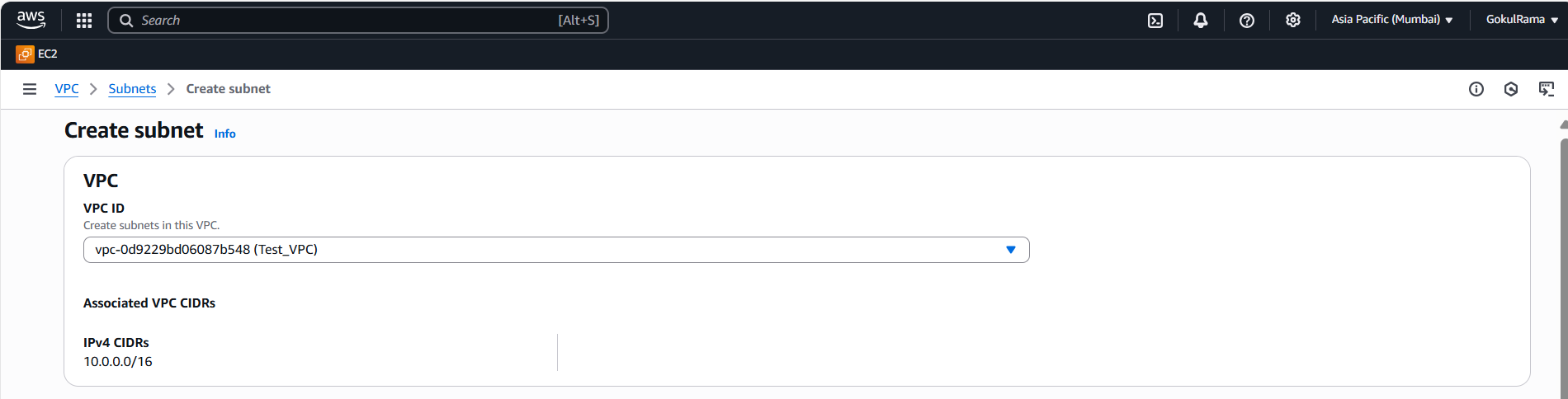
* 1. Already some default subnets available and it’s created by AWS. I renamed it “**default\_aws\_s1, default\_aws\_s2 and default\_aws\_s3” like that. Refer the below snapshot.**

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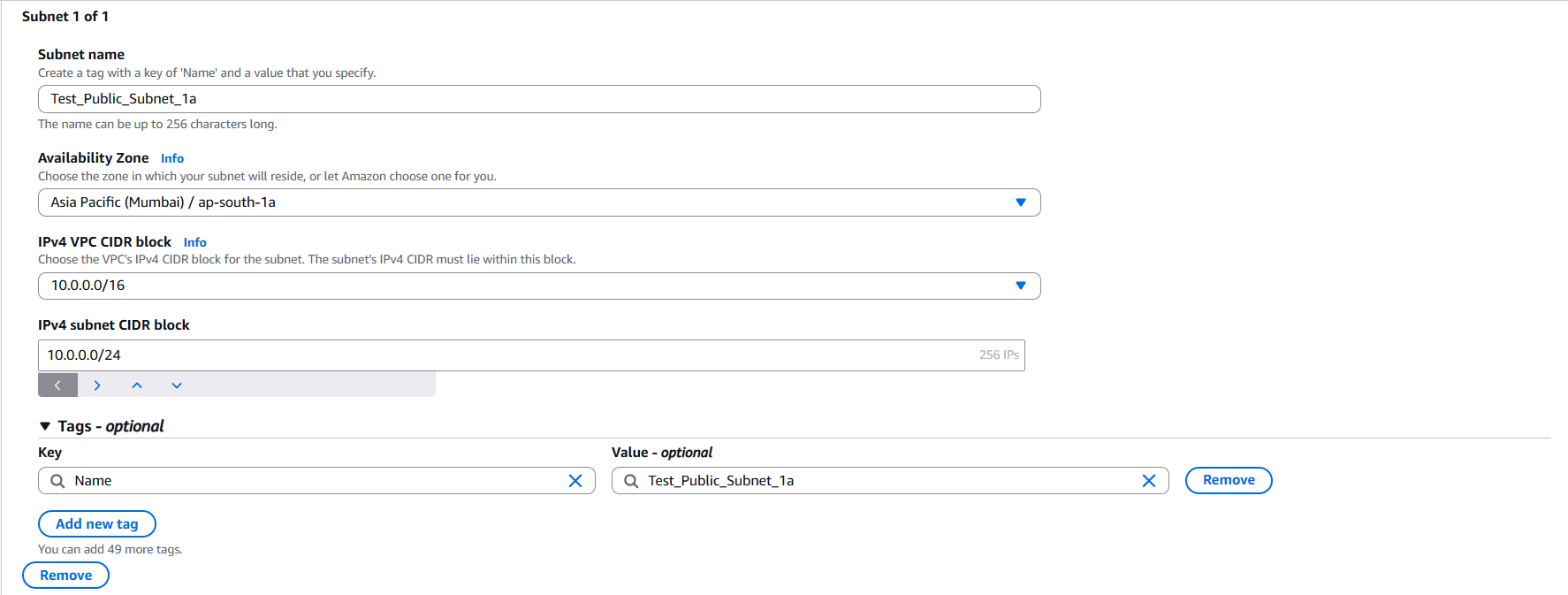
* 1. Select **Create subnet** option.

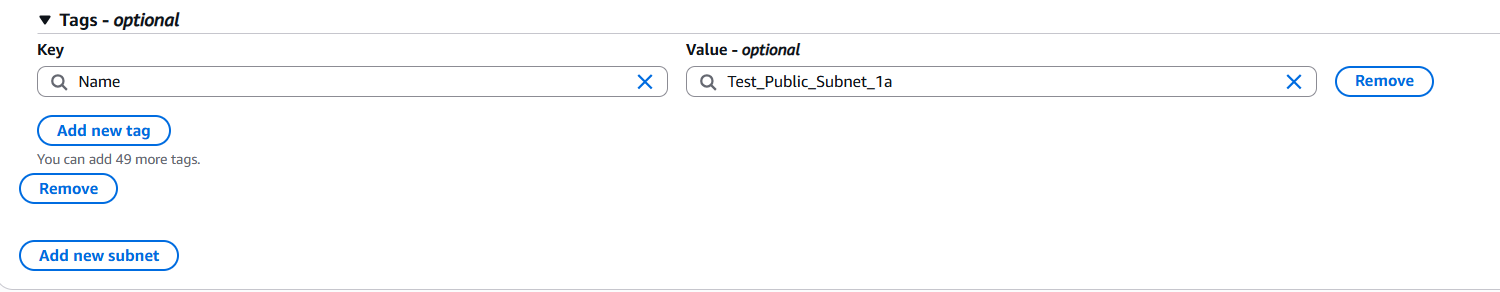
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4.6 In **Create Subnet** settings, Choose **VPC** already created above [ VPC Name is **Test\_VPC**]

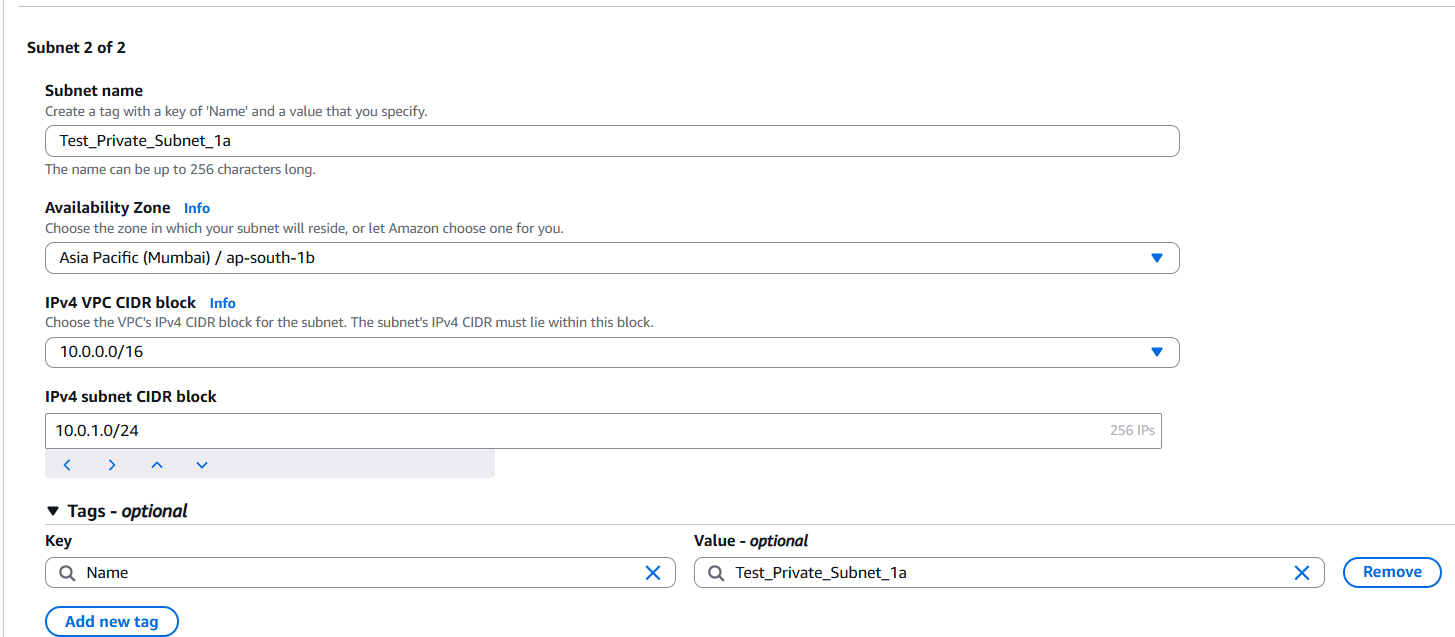
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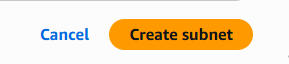
* 1. **Create Public Subnet like below,**
     1. **Subnet Name is Test\_Public\_Subnet\_1a**
     2. **Availability Zone – Based on region we selected and created VPC and it list all availability zones.**
     3. **IPv4 CIDR block – 10.0.0.0/16**
     4. **IPv4 subnet CIDR block – 10.0.0.0/24 [ For 256 IP’s].**
     5. **Give Tag Name is Test\_Public\_Subnet\_1a**

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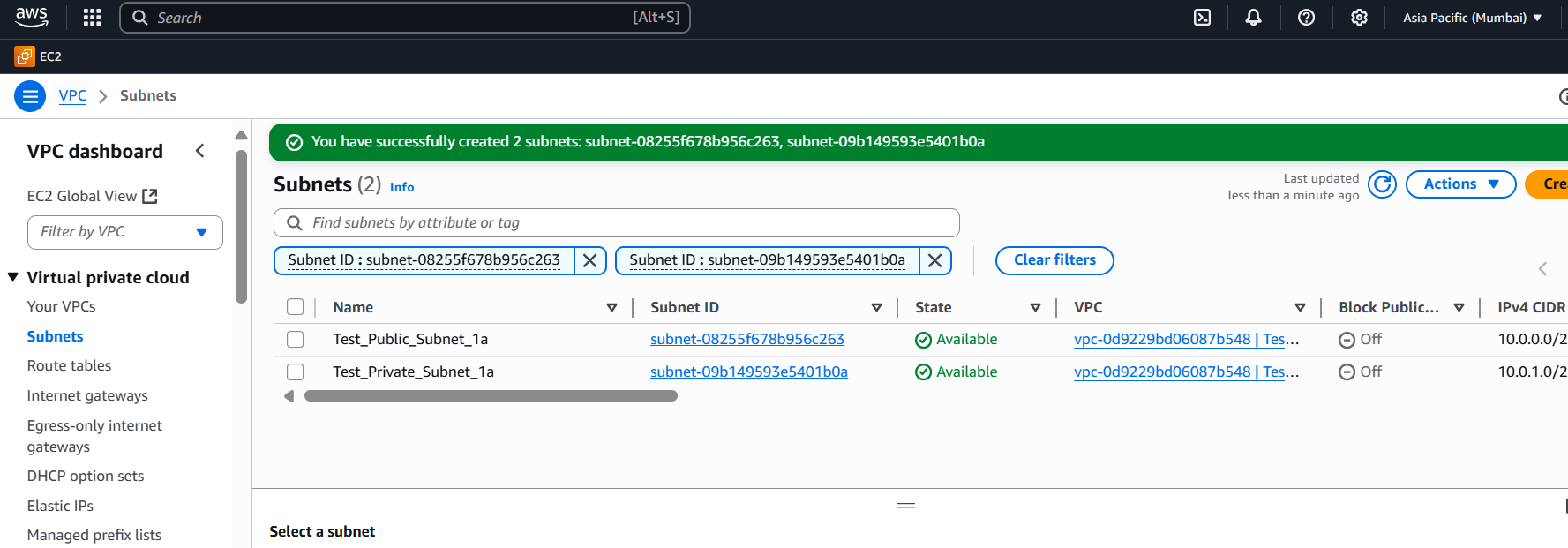
* 1. **Create Private Subnet like below,**
     1. **Subnet Name is Test\_Private\_Subnet\_1a**
     2. **Availability Zone – Based on region we selected and created VPC and it list all availability zones.**
     3. **IPv4 CIDR block – 10.0.0.0/16**
     4. **IPv4 subnet CIDR block – 10.0.1.0/24 [ For 256 IP’s].**
     5. Give **Tag Name is Test\_Private\_Subnet\_1b** and Click **“Create subnet”**

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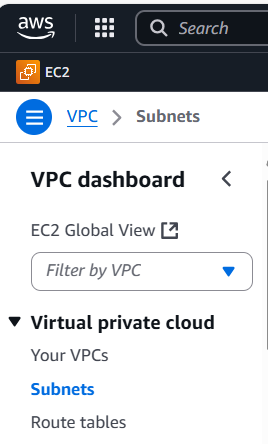
* + 1. Once both public and private subnet created successfully, it looks like

below,

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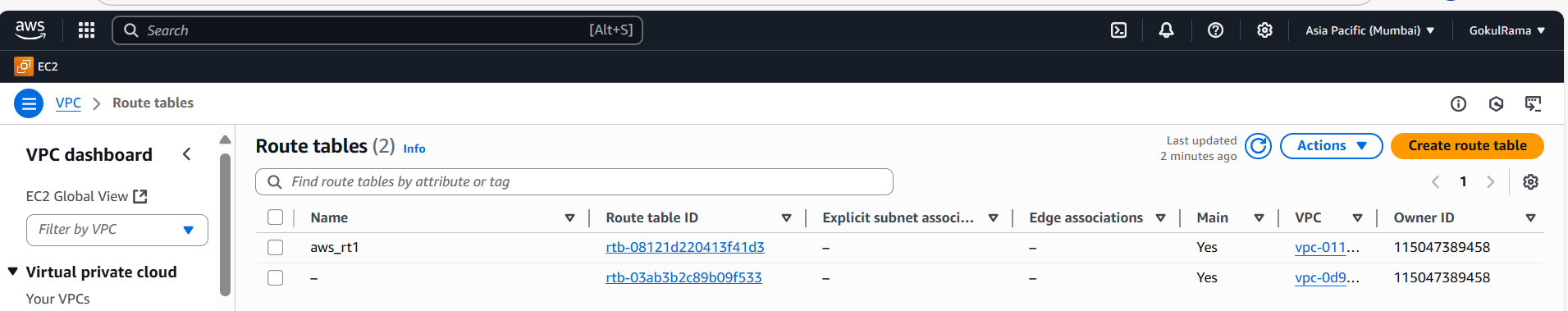
1. **Creating Route Table For Both Public and Private Subnet: -**

5.1 Go to VPC Dashboard

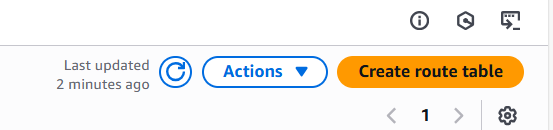
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**5.2** In Route table already one default routing table is there its created by

AWS and I renamed it as “**aws\_rt1**”

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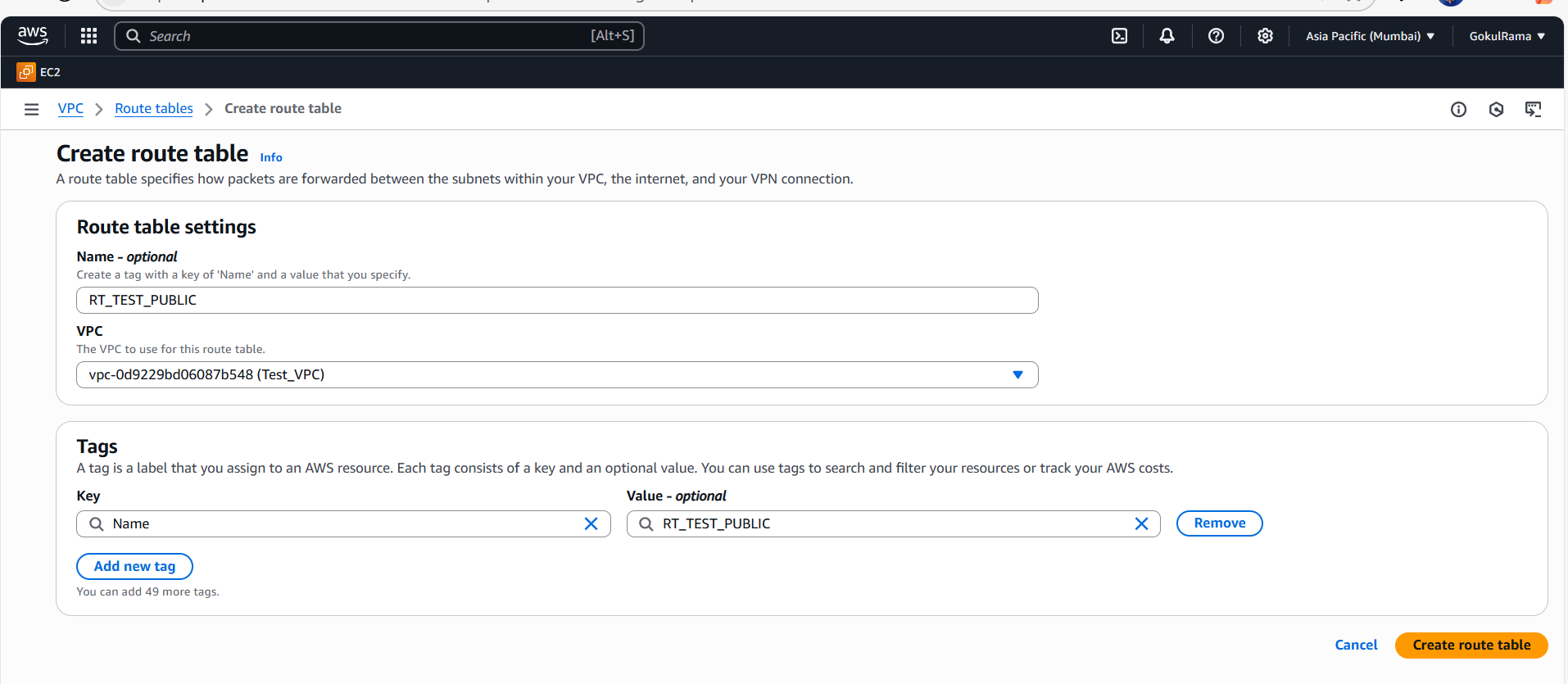
**5.3** Click **“Create route table”**

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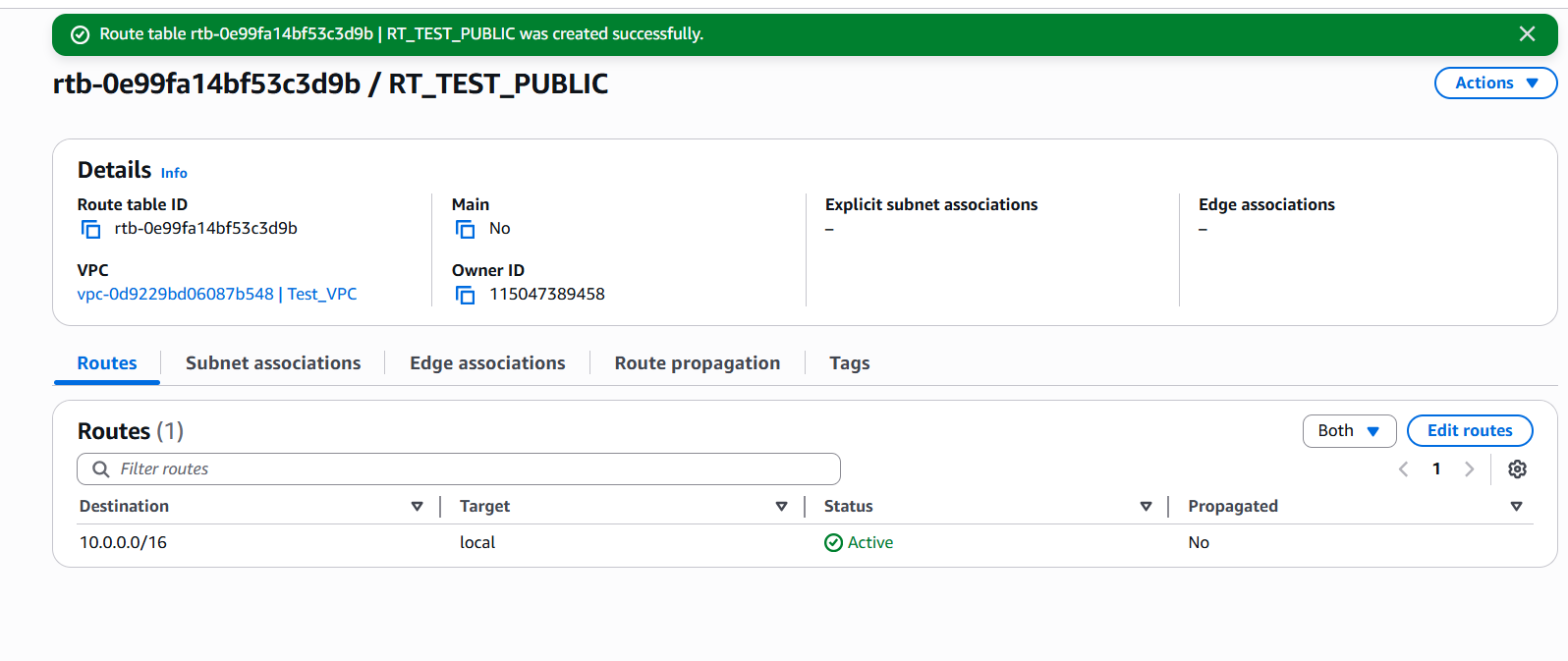
**5.4** Once clicked “**Create route table**” and do the below “**Create route table”**

**Settings for public route**,

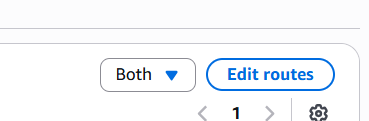
* + 1. Name of the route table – **RT\_TEST\_PUBLIC** in **“Name-optional”**
    2. VPC – **Select VPC (Test\_VPC)** already created above.
    3. Tags – Give “Route table” name (Name of the route table is **RT\_TEST\_PUBLIC**
    4. Click **Create route table.**

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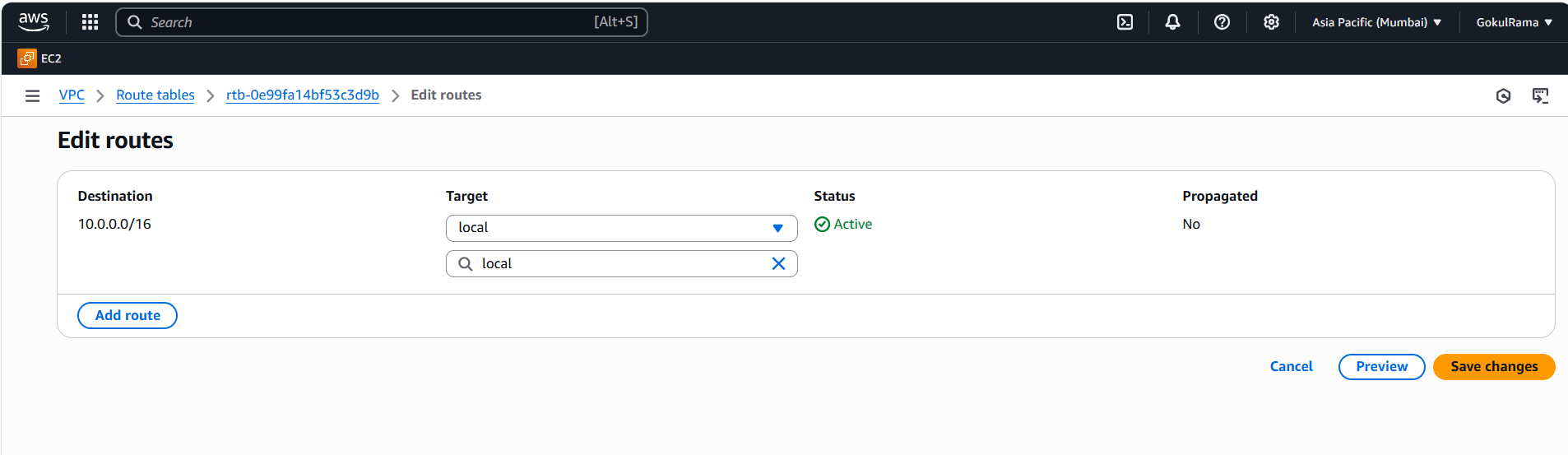
5.4.5 Once public route table created successfully it shown like below,

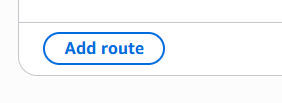
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5.4.6 Now add routes to public route table-> Click **Edit routes**

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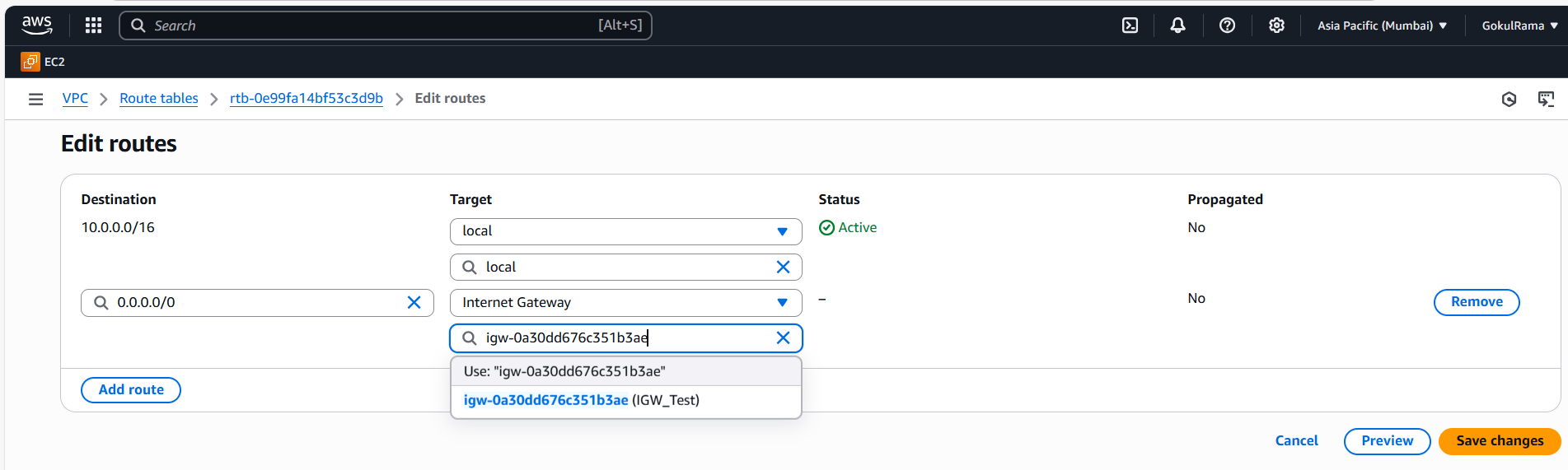
**5.4.7 Click Add route**

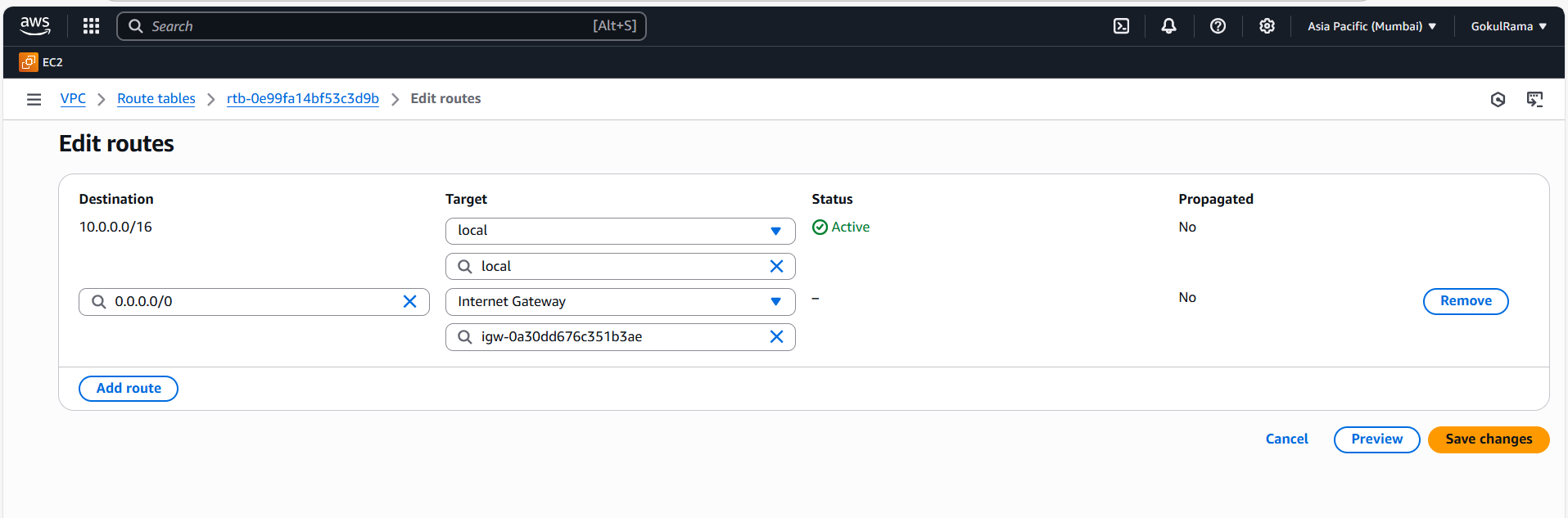
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**5.4.8** Enter **0.0.0.0/0** IP to access to the internet and chosen already created

Internet Gateway (**IGW\_Test**) -> Click save changes.

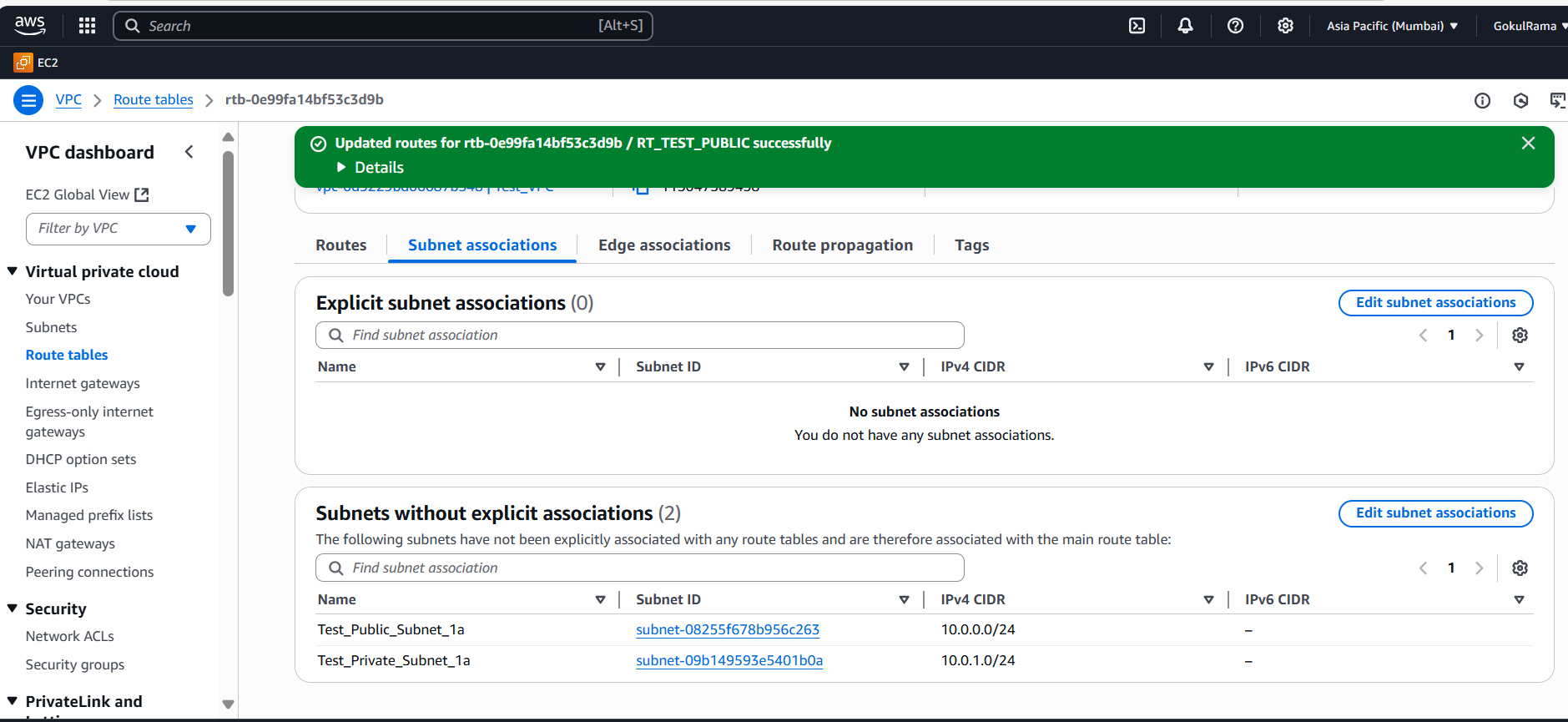
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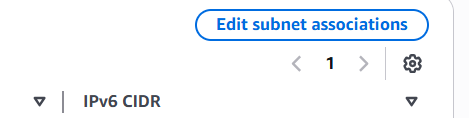
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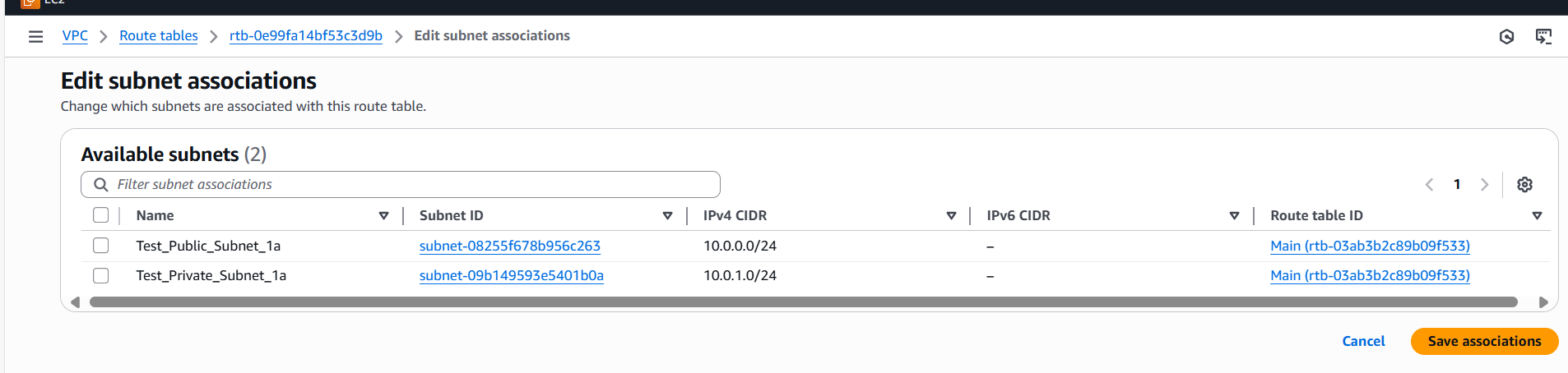
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5.4.9 **Once created route, we need to add subnet associations-> Click**

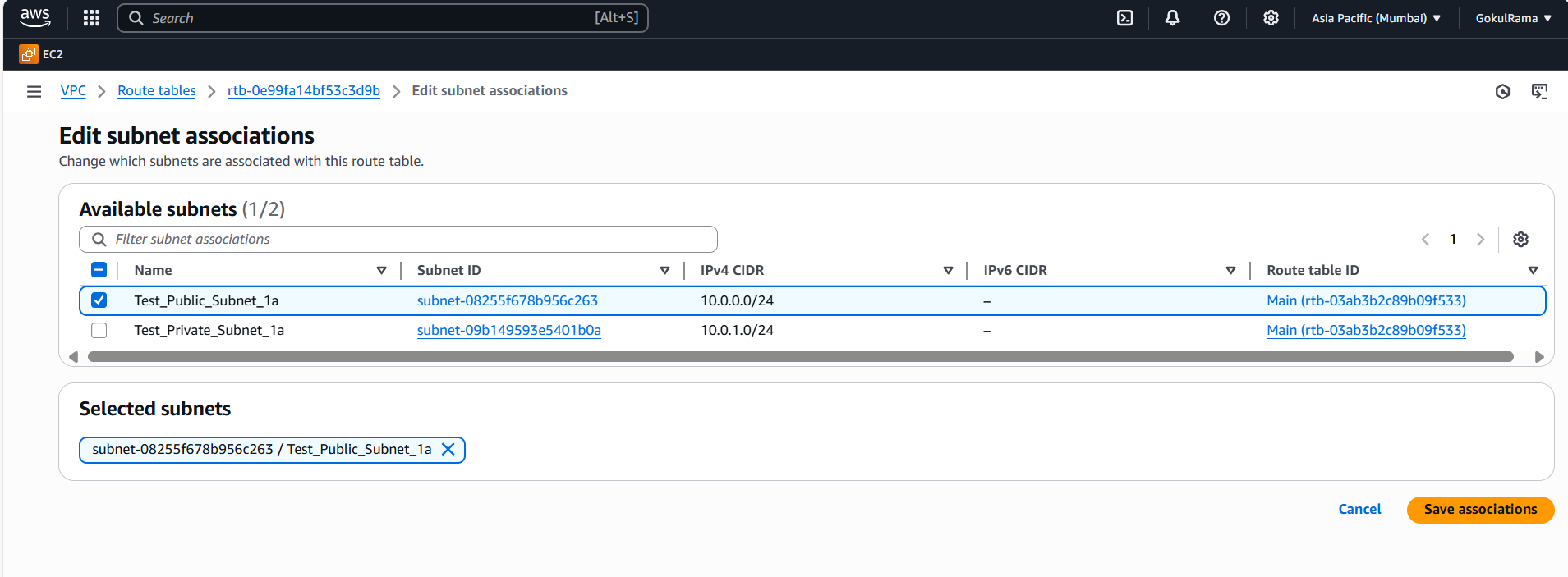
**Edit subnet associations.**

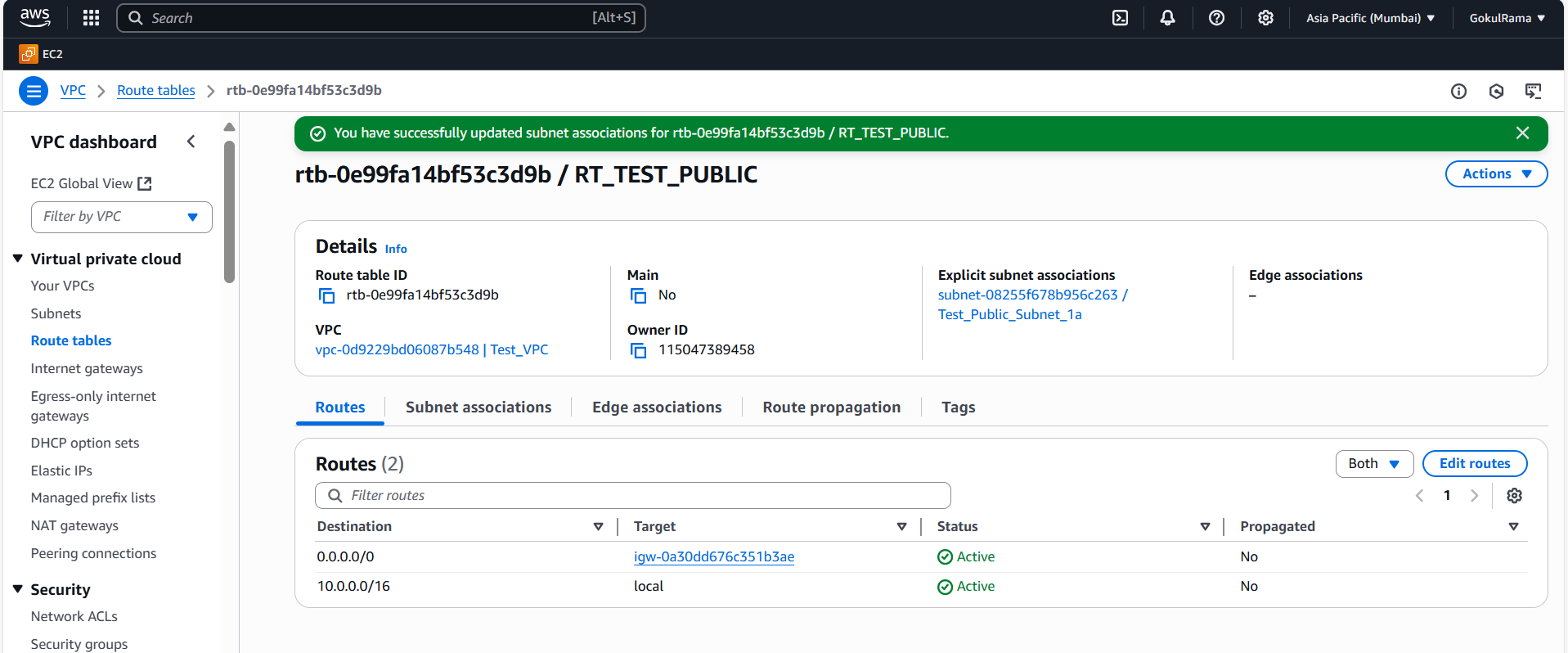
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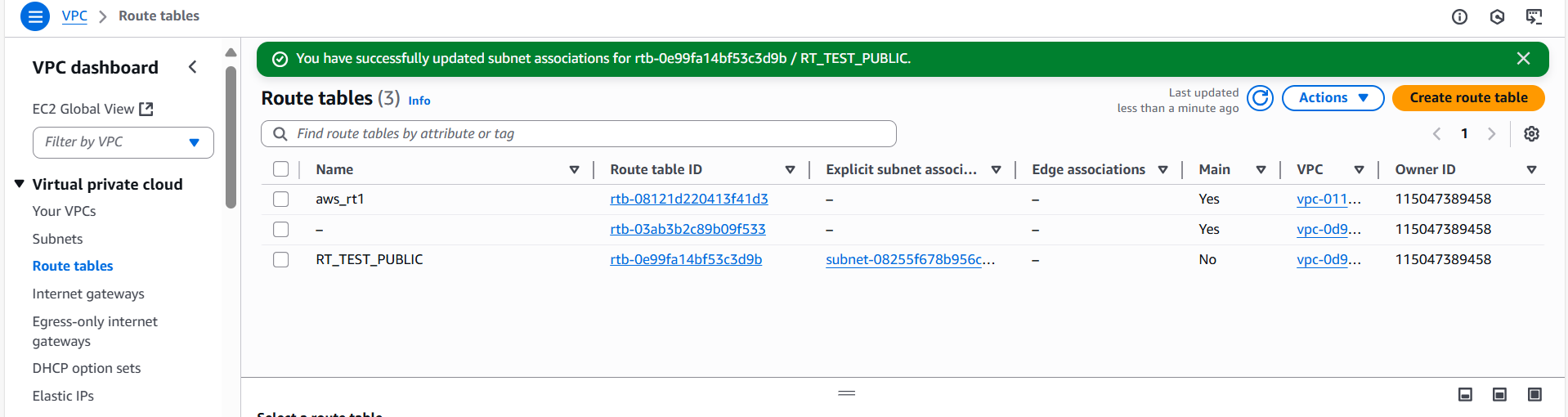
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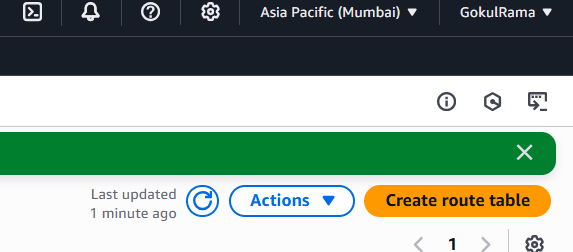
**5.4.10** Select **Public Subnet** andclick **Save associations.**

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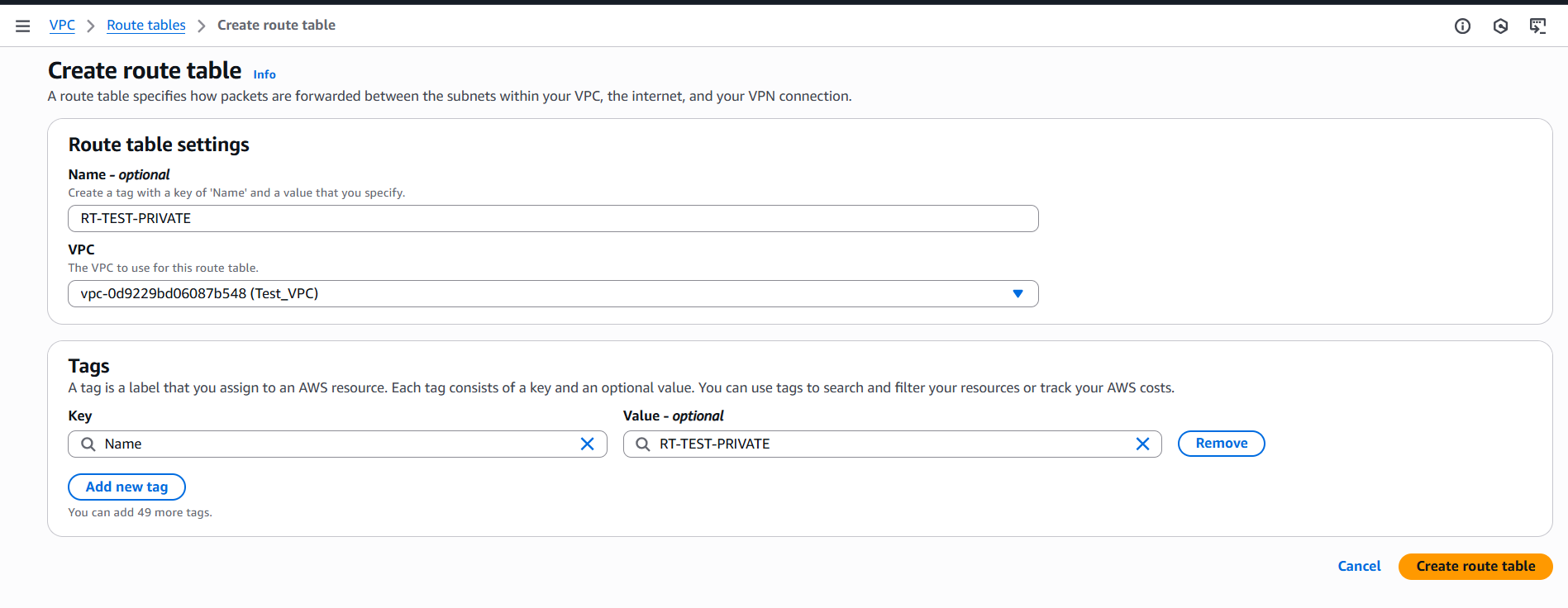
**5.5** Click **Create route table.**

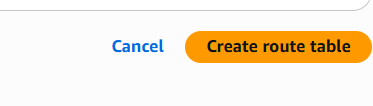
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5.6 Once clicked “**Create route table**” and do the below “**Create route table”**

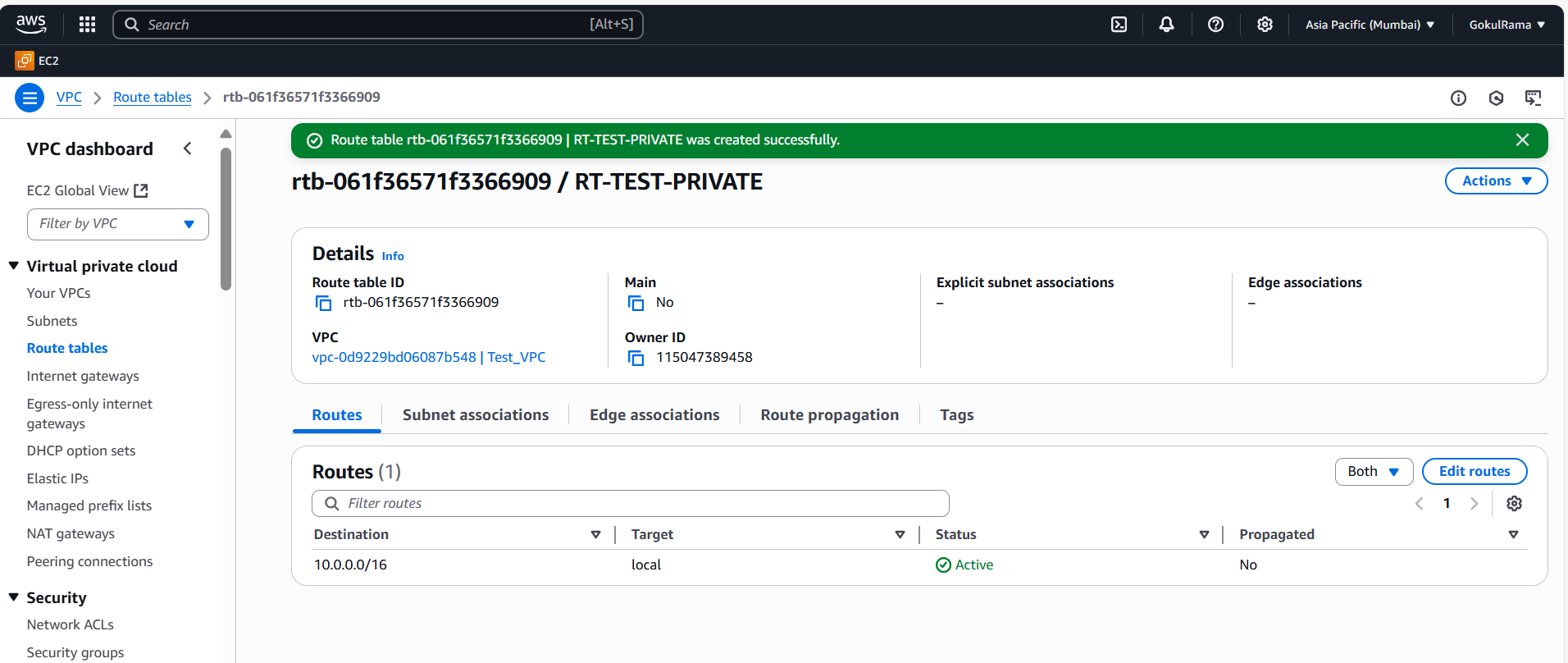
**Settings for private route**,

* + 1. Name of the route table – **RT\_TEST\_PRIVATE** in **“Name-optional”**
    2. VPC – **Select VPC (Test\_VPC)** already created above.
    3. Tags – Give “Route table” name (Name of the route table is **RT\_TEST\_PRIVATE.**
    4. Click **Create route table.**

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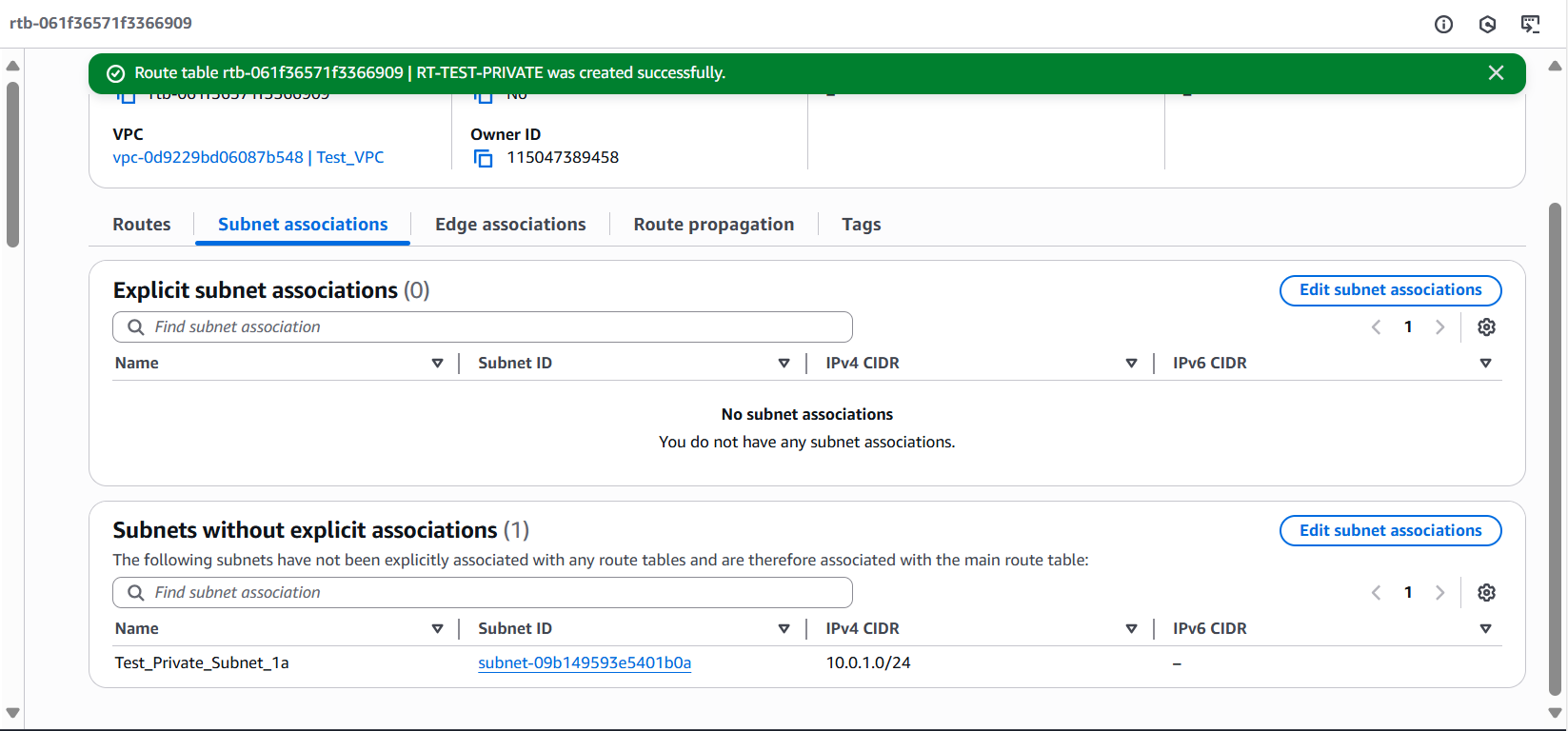
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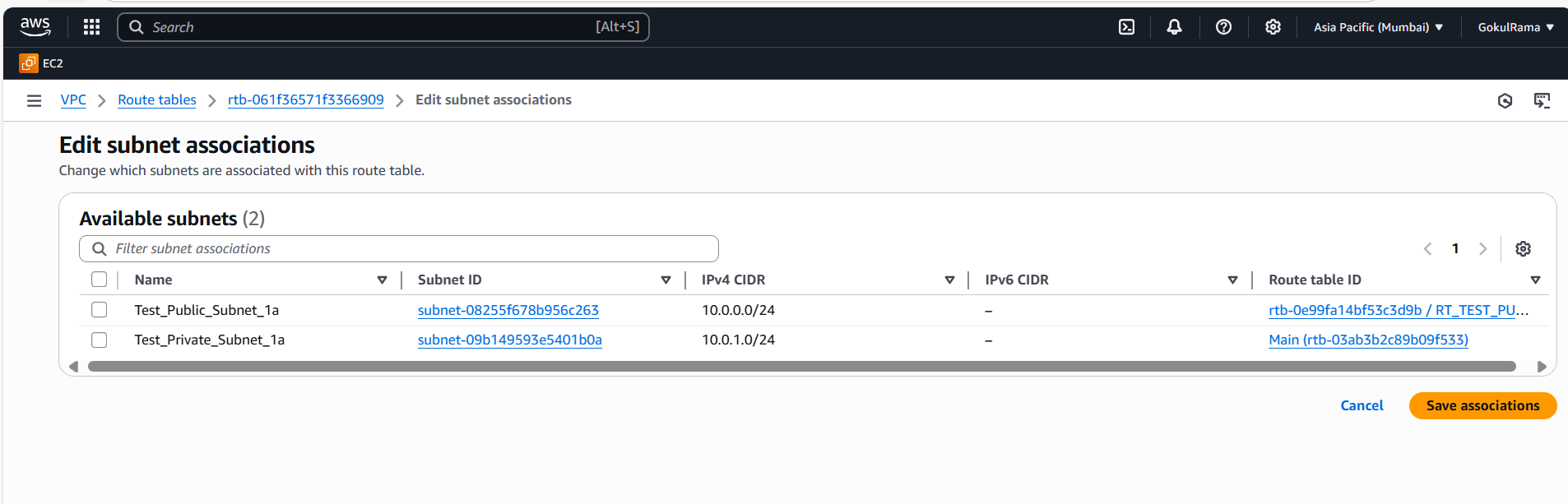
5.6.5 Once private route table created successfully it shown like below,

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**5.6.6 Once created route, we need to add subnet associations-> Click**

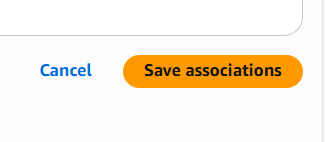
**Edit subnet associations.**

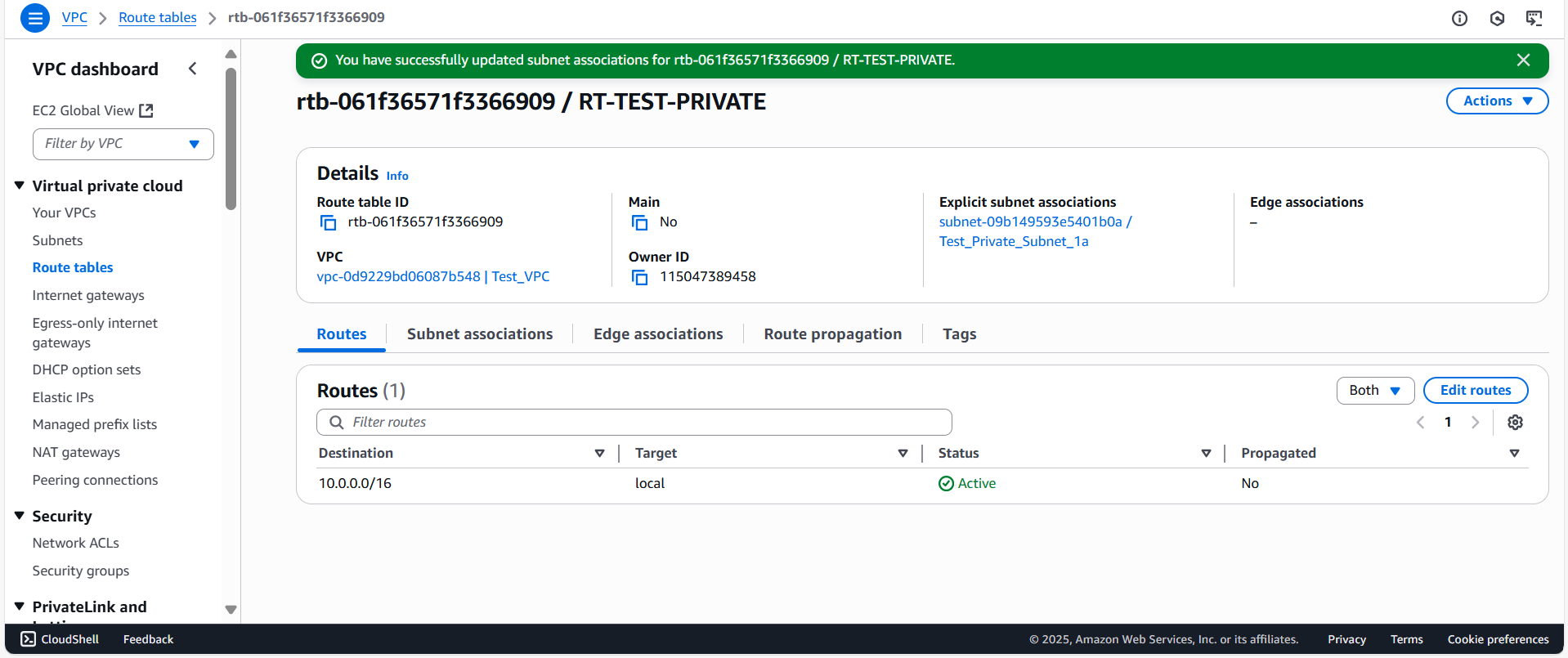
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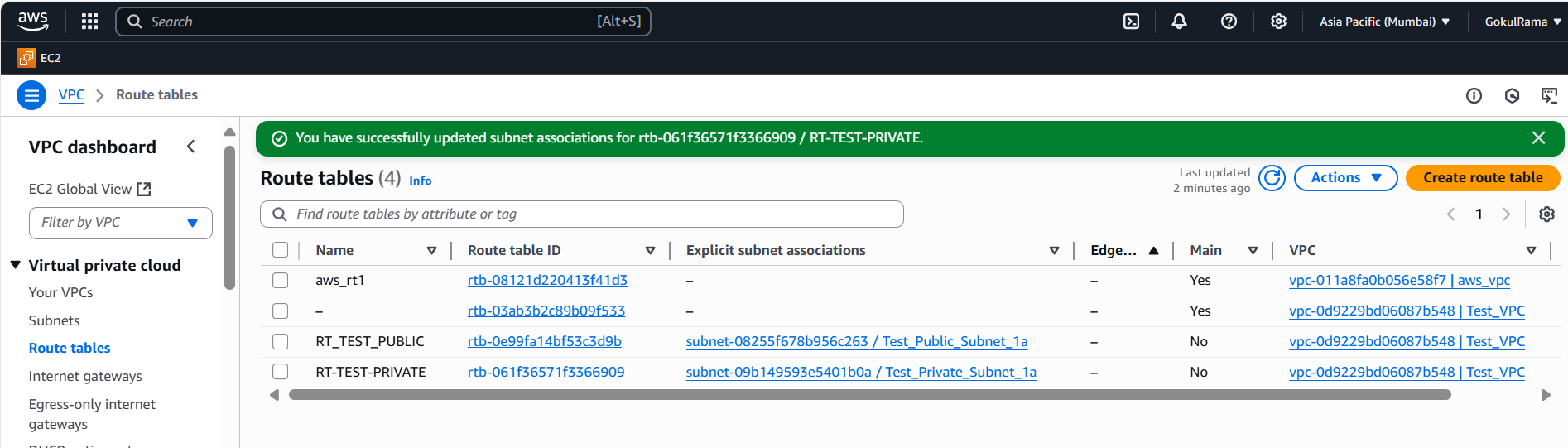
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5.6.7 Select **Public Subnet** andclick **Save associations.**

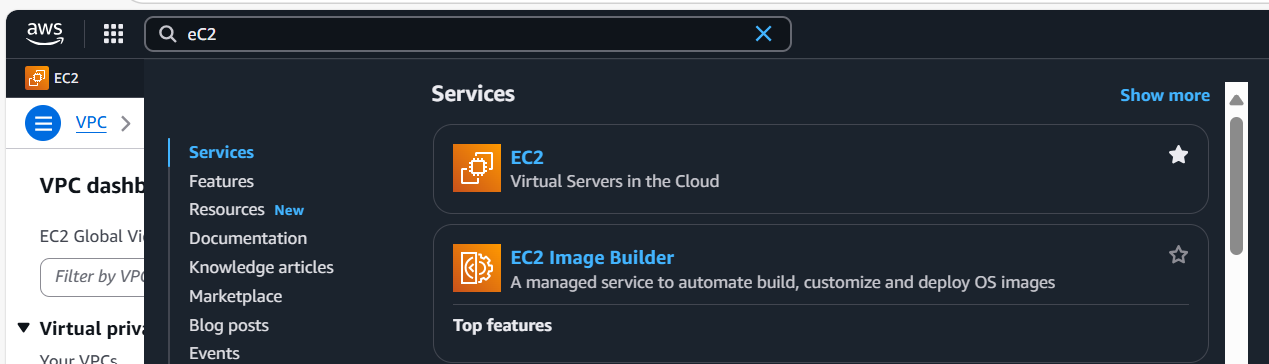
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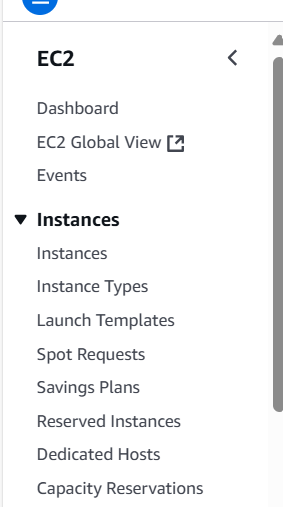
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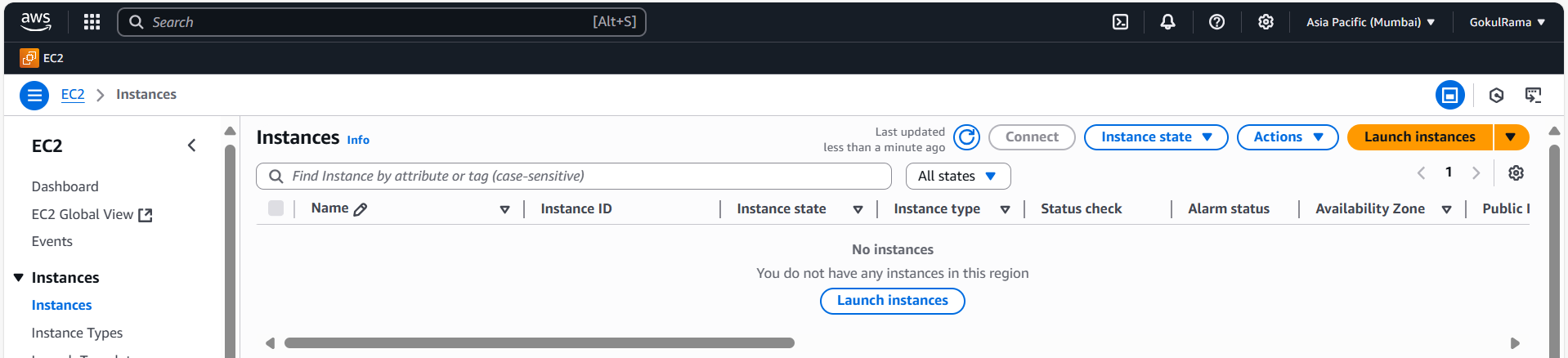
1. **Launching EC2 Instance For Both Public & Private: -**
   1. Search EC2 in search box

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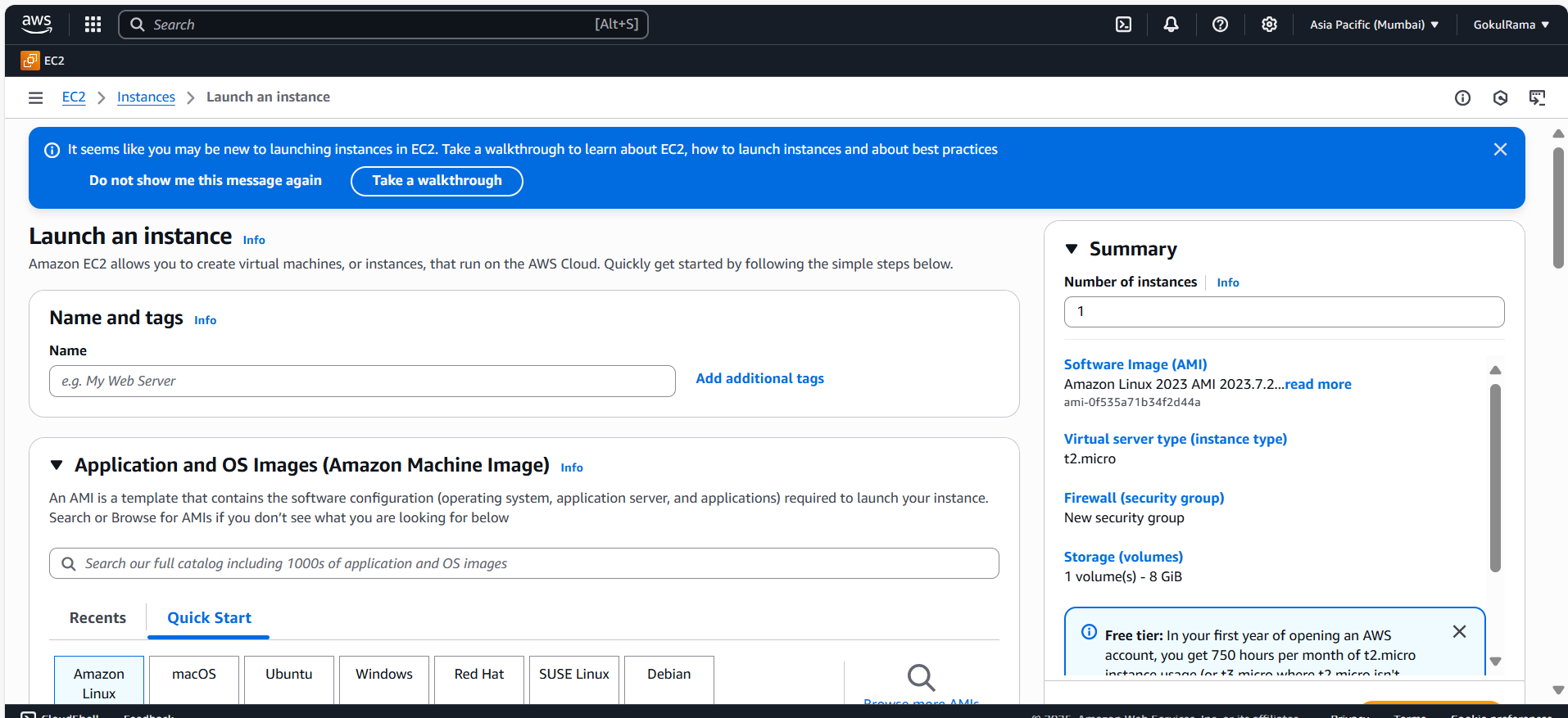
**6.2** Click **Instances** on left side.

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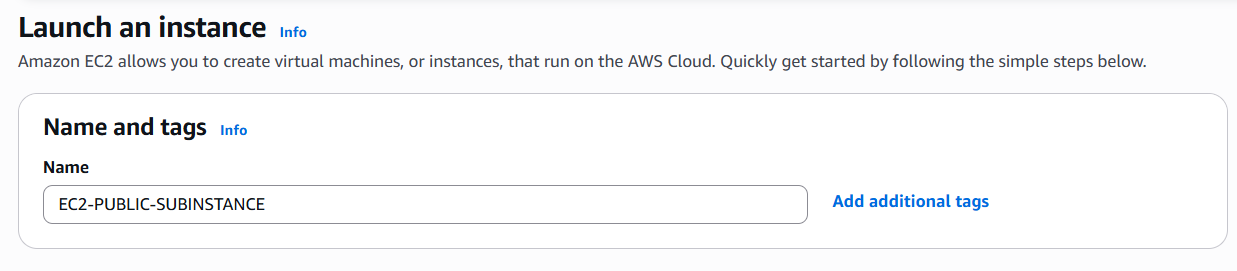
6.3 Select **Launch Instances** option

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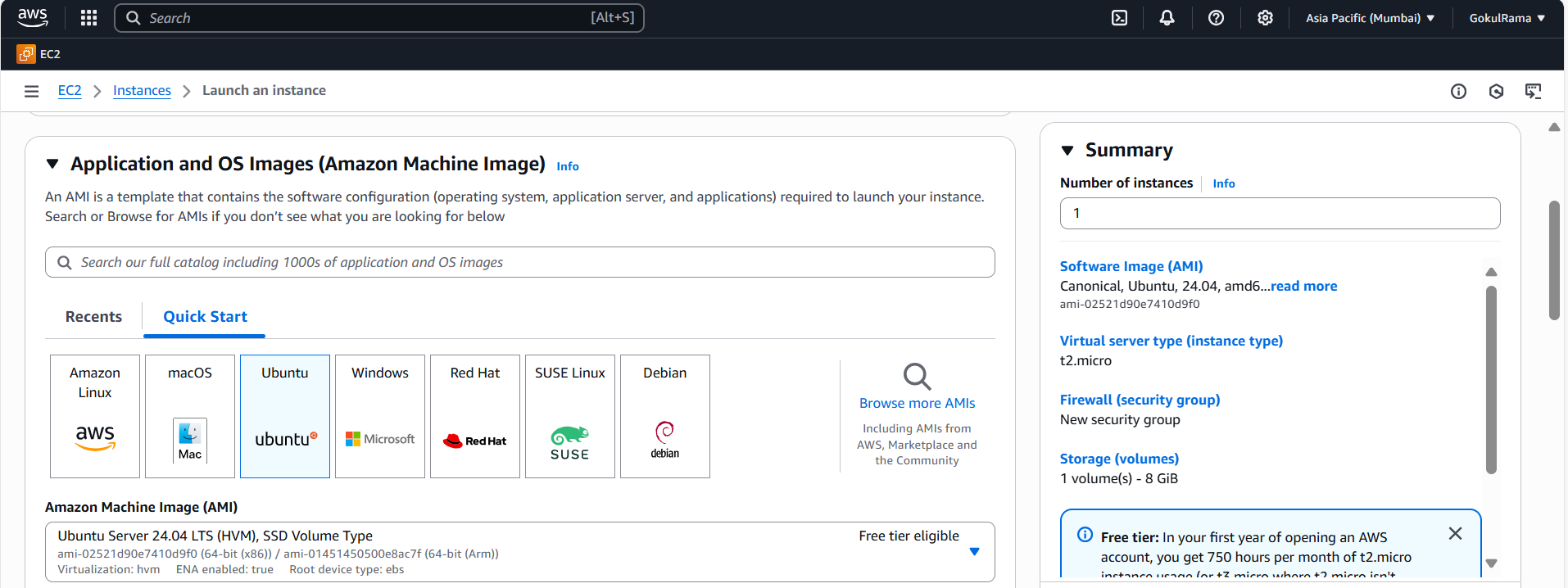
**6.4** Do the below configuration in **Launch an instance** screen

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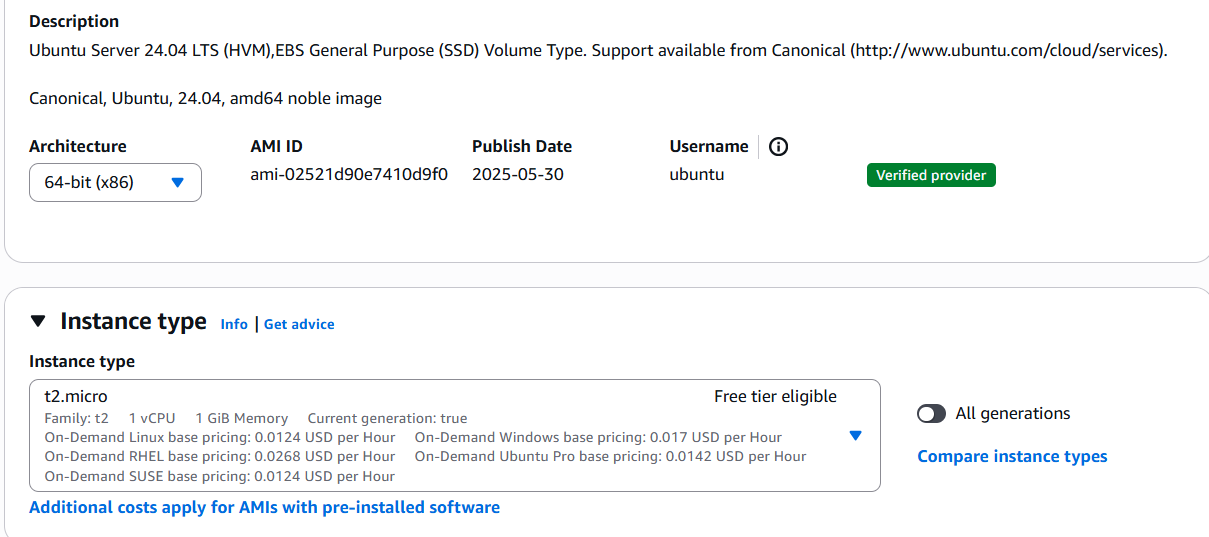
**6.4.1 Name of the instance – EC2-PUBLIC-SUBINSTANCE**

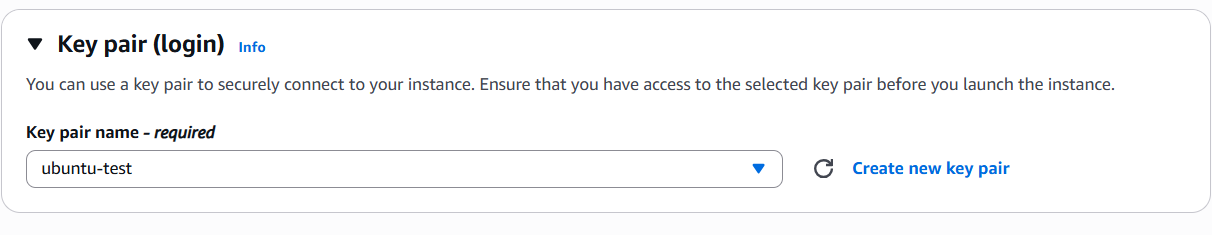
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**Select OS – Ubuntu and choose AMI: Ubuntu Server 24.04 LTS (Free tier eligible)**

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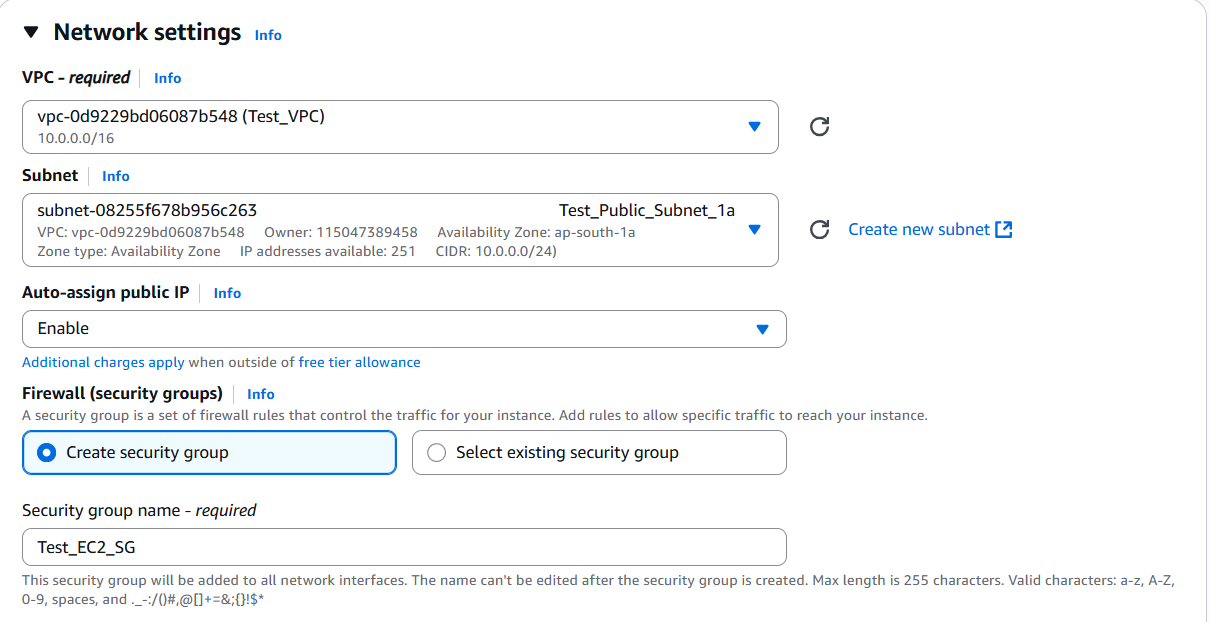
**Choose Instance Type – t2.micro**

**  
Choose Keypair (Already generated)**

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**In Network settings do the below,**

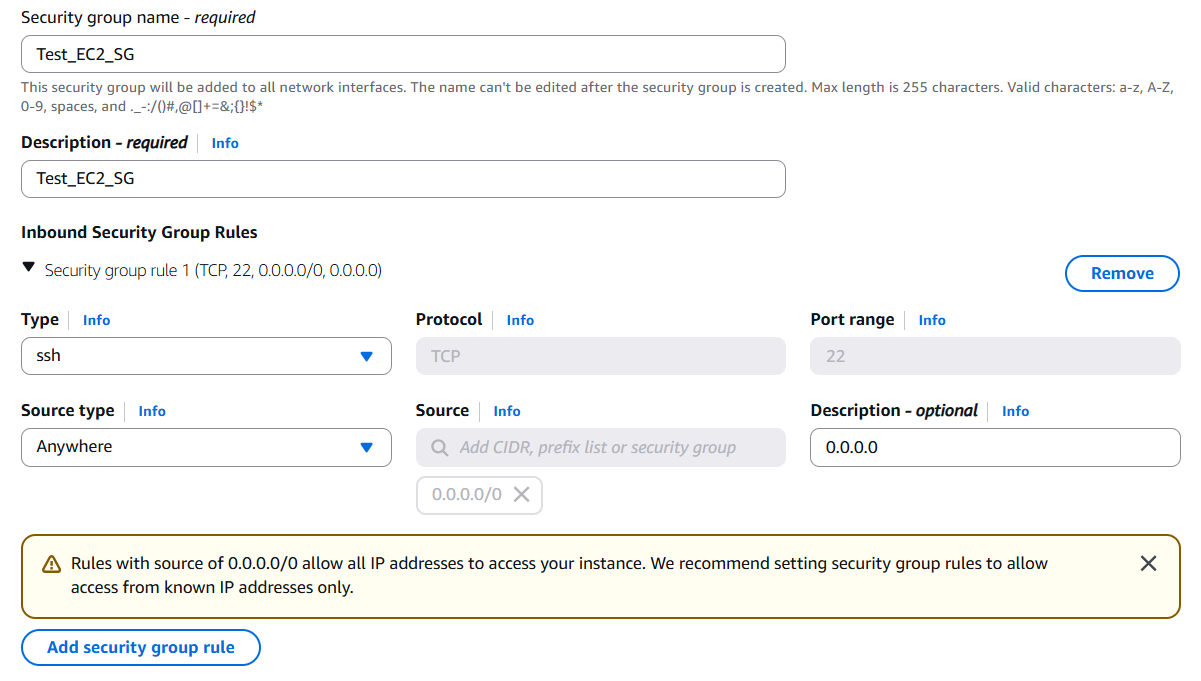
* VPC – required: **Choose VPC (Test\_VPC)** that I created above.
* Subnet: Choose **Public Subnet (Test\_Public\_Subnet\_1a)**
* Auto-assign public IP – **Enable**
* Firewall (Security groups) – Choose **Create new security group** option.
* Security group name – required: **Test\_EC2\_SG**

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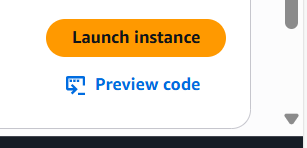
* **Description – required: Give Security group name**
* **Inbound Security Group Rules:**

**Type (SSH) – Protocol (TCP) and Port is 22**

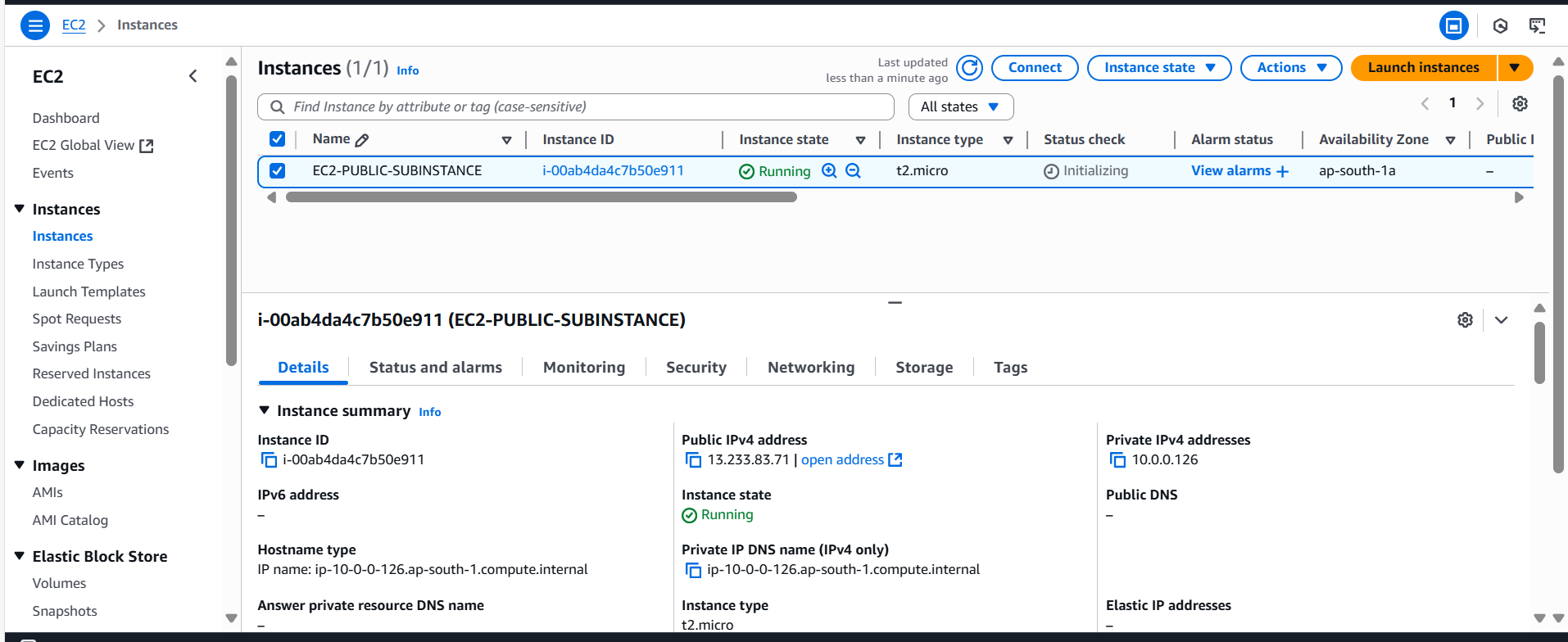
**Source type (Anywhere) – Source (0.0.0.0/0) and Descript**

****

Click **“Launch Instance”** option**.**

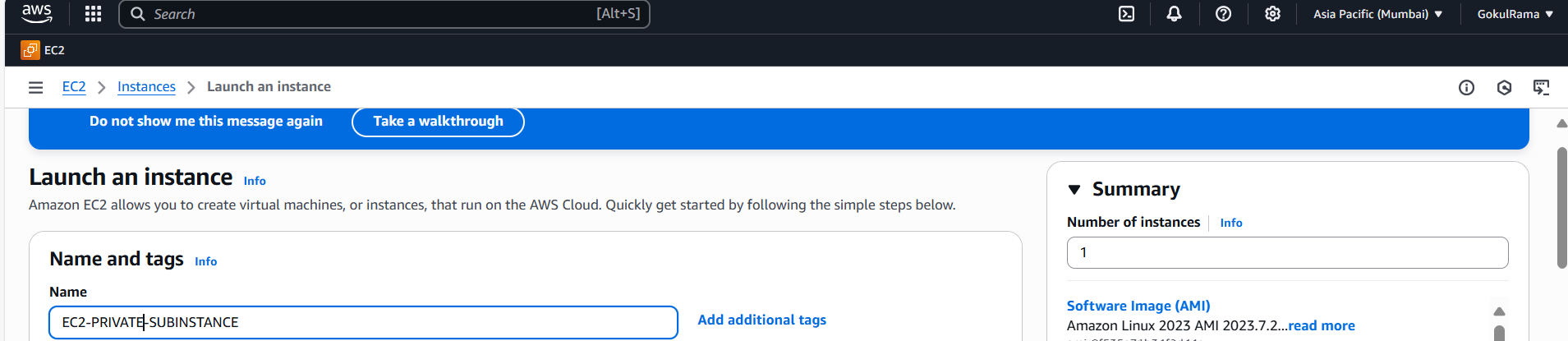
****

**Once EC2 Public instance launched successfully like below,**

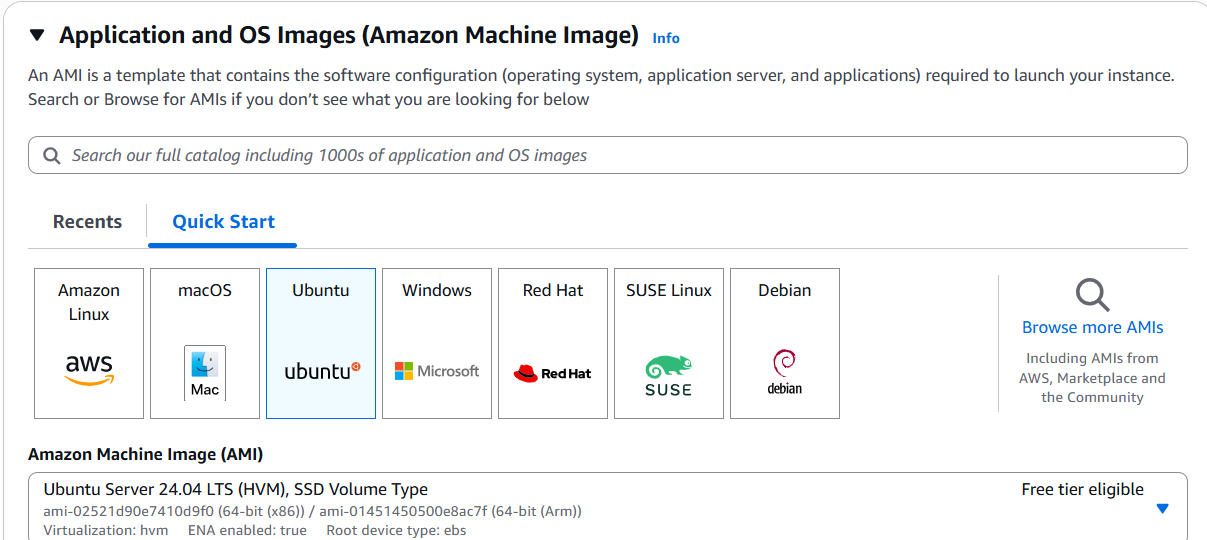
****

**6.4.2 Launch EC2 instance for Private,**

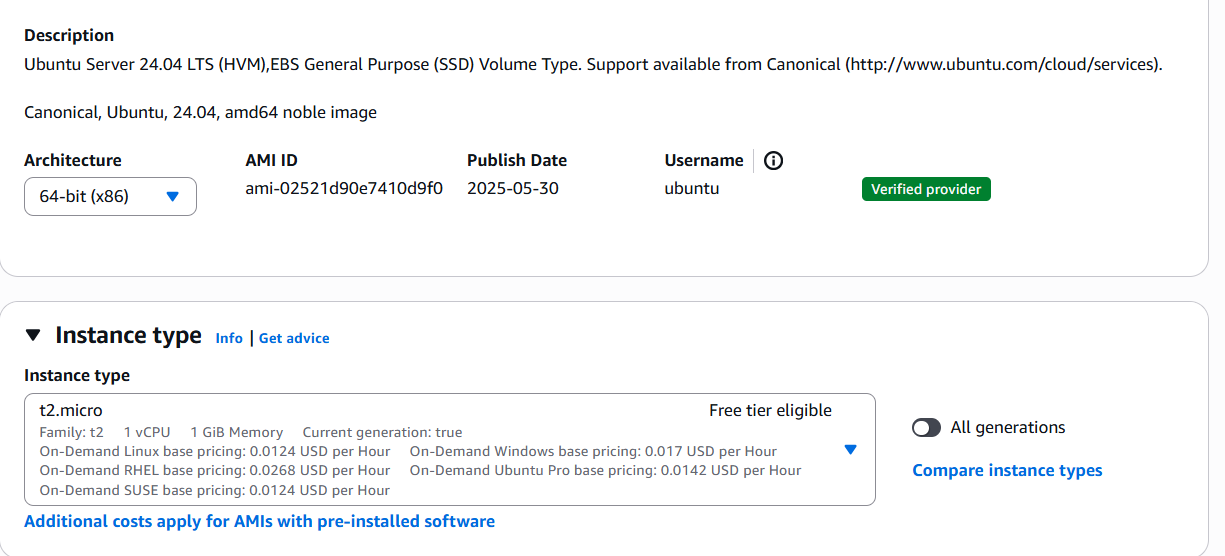
Name of the instance – EC2-PRIVATE-SUBINSTANCE

****

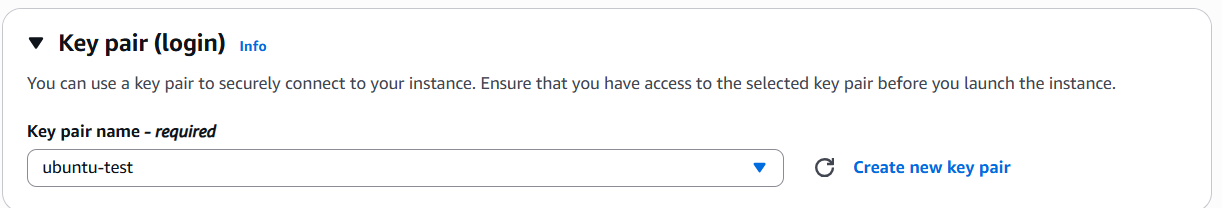
**Select OS – Ubuntu and choose AMI: Ubuntu Server 24.04 LTS (Free tier eligible)**

****

**Choose Instance Type – t2.micro (Free tier eligible)**

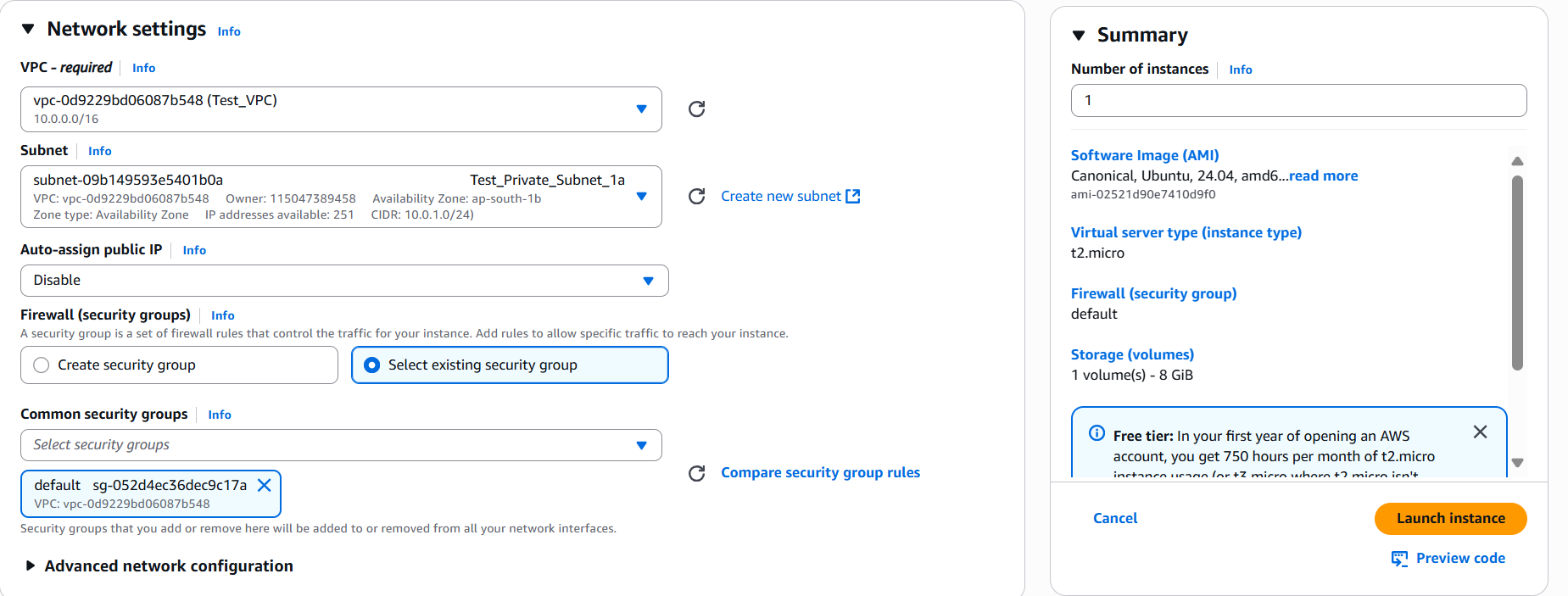
****

**Choose Keypair (Already generated)**

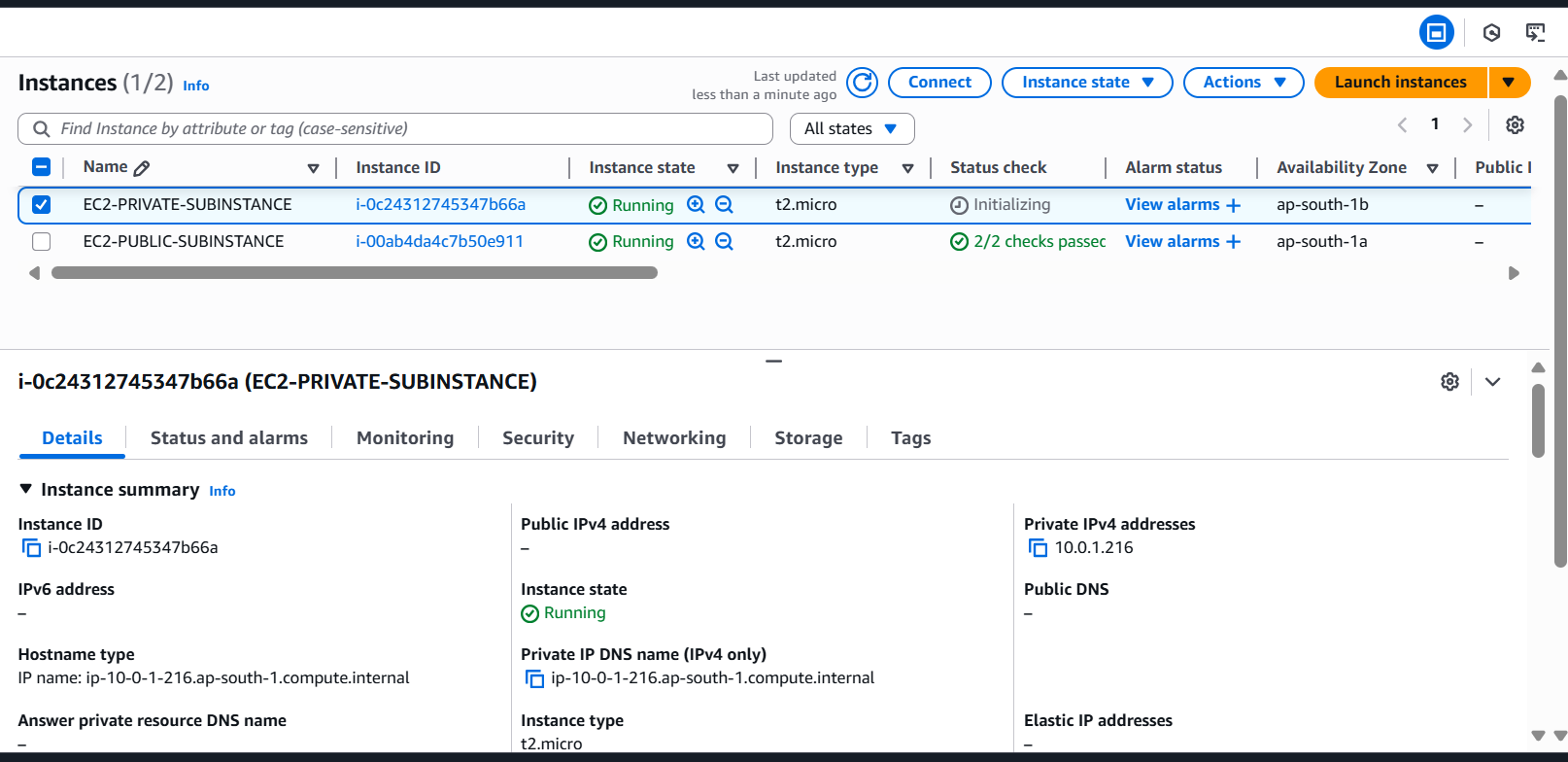
****

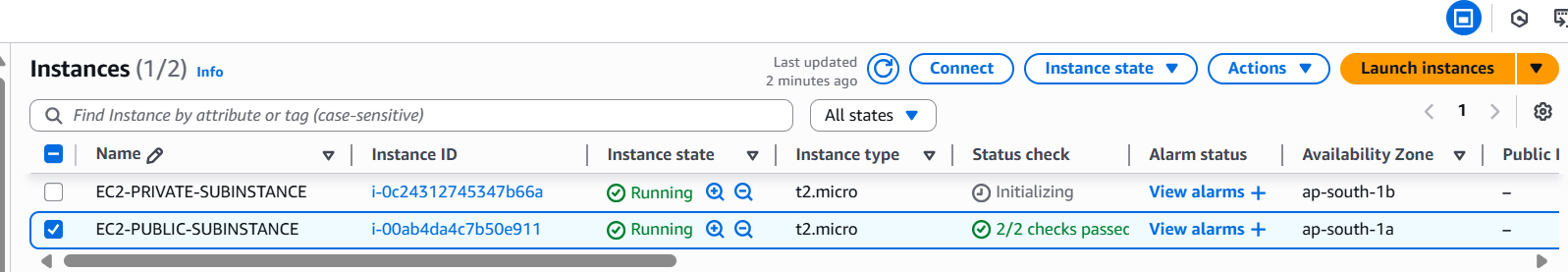
**In Network settings do the below,**

* **VPC – required: Choose VPC (Test\_VPC) that I created above.**
* **Subnet: Choose Private Subnet (Test\_Private\_Subnet\_1a)**
* **Auto-assign public IP – Disable**
* **Firewall (Security groups) – Choose select existing security group option.**
* **Common security groups: Choose default security group**
* **Click Launch Instance**

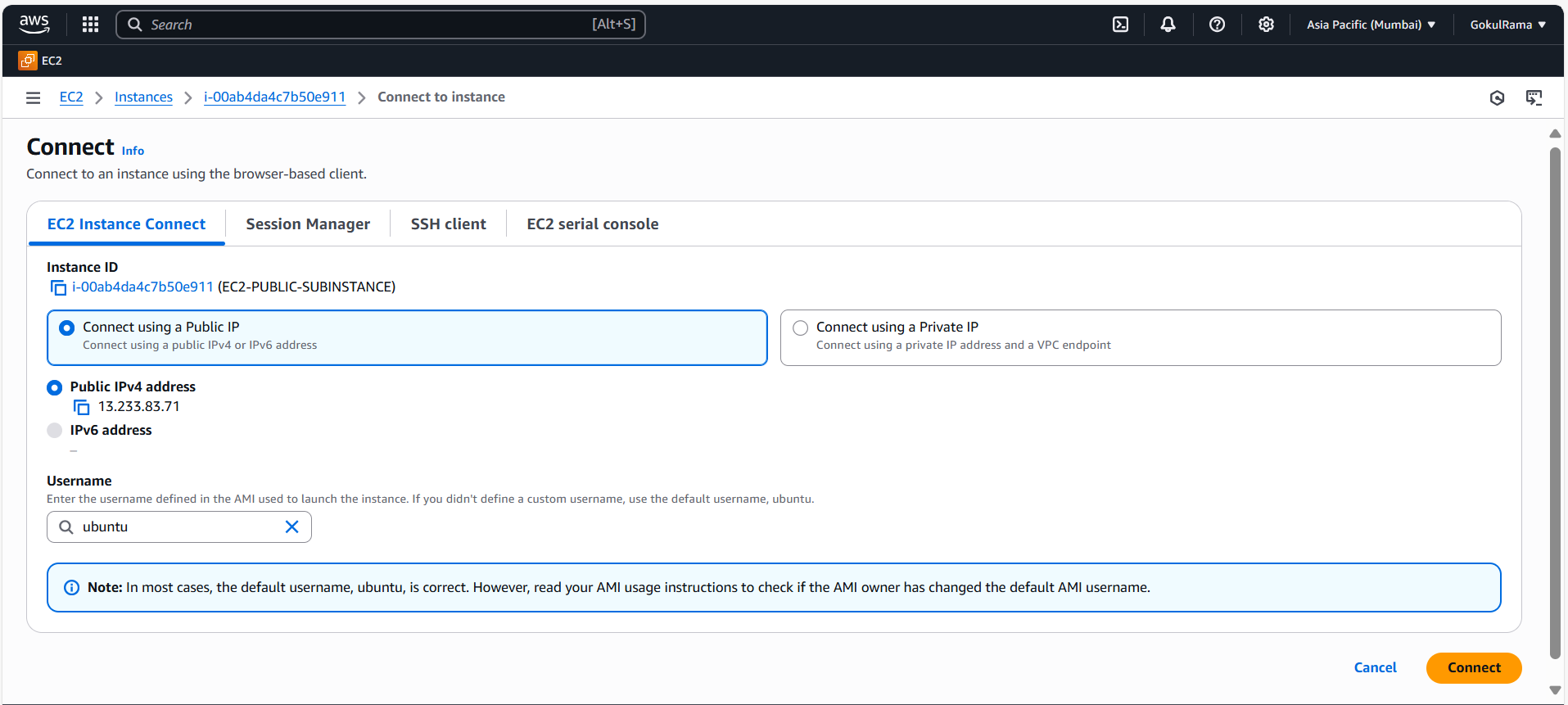
****

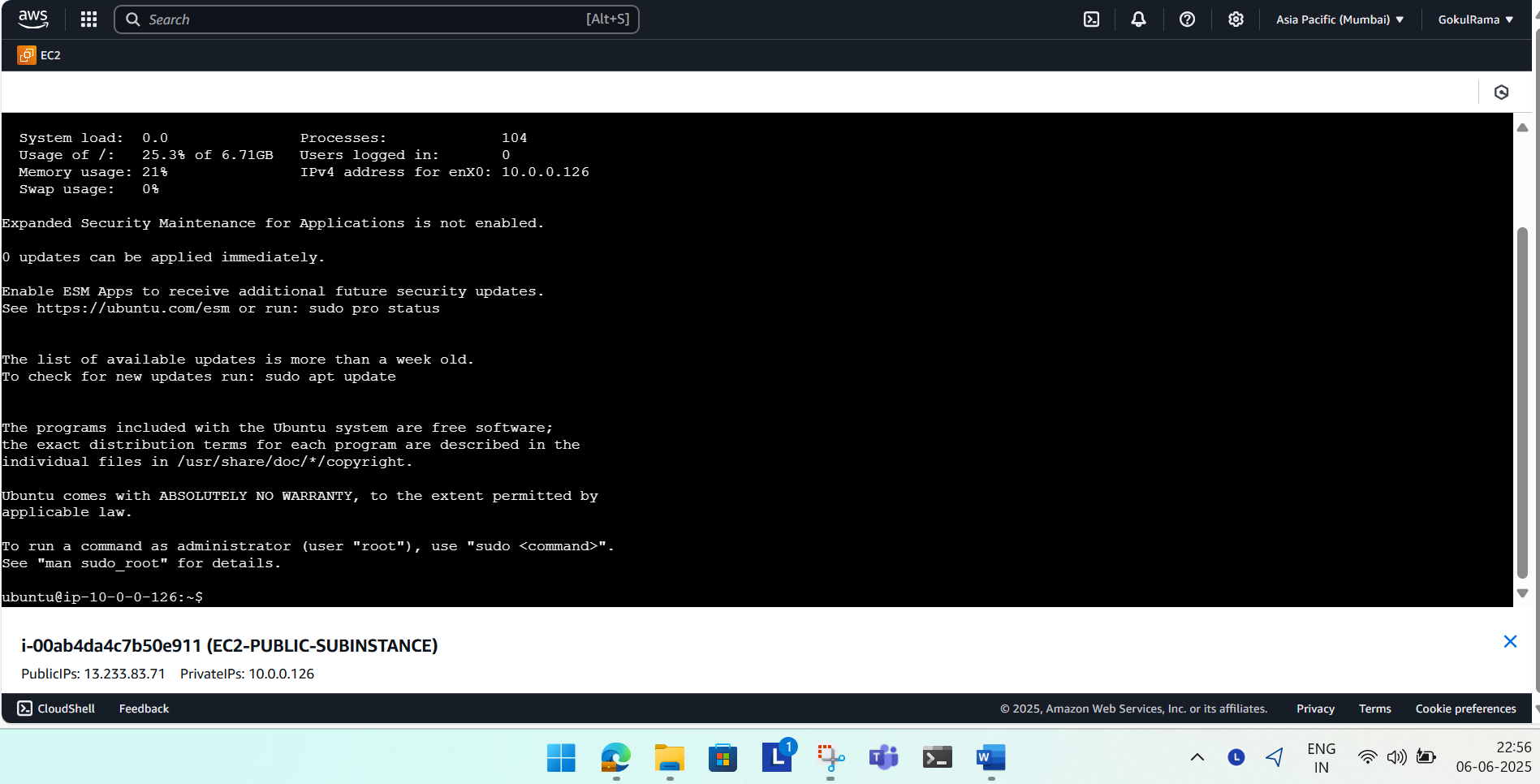
Once Private instance launched successfully (Refer the below snapshot).



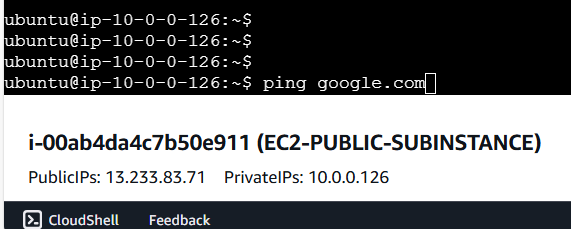
****

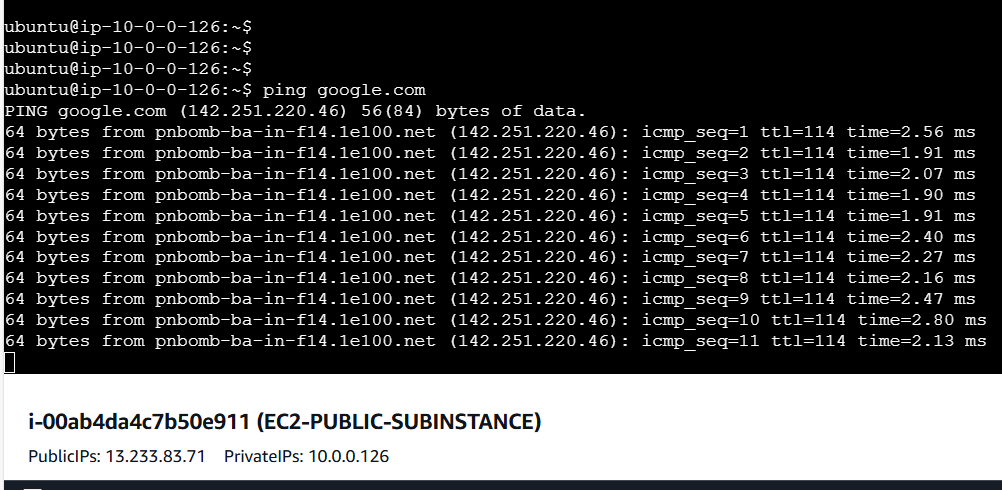
1. **Connect EC2 instance by using above VPC: -**
   1. Select Public EC2 instance -> Click Connect.
   2. Connect by using public IP.

****

****

**7.3 Now able to access “google.com” using VPC.**

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