Lab 180

Configuring a VPC

Objectives

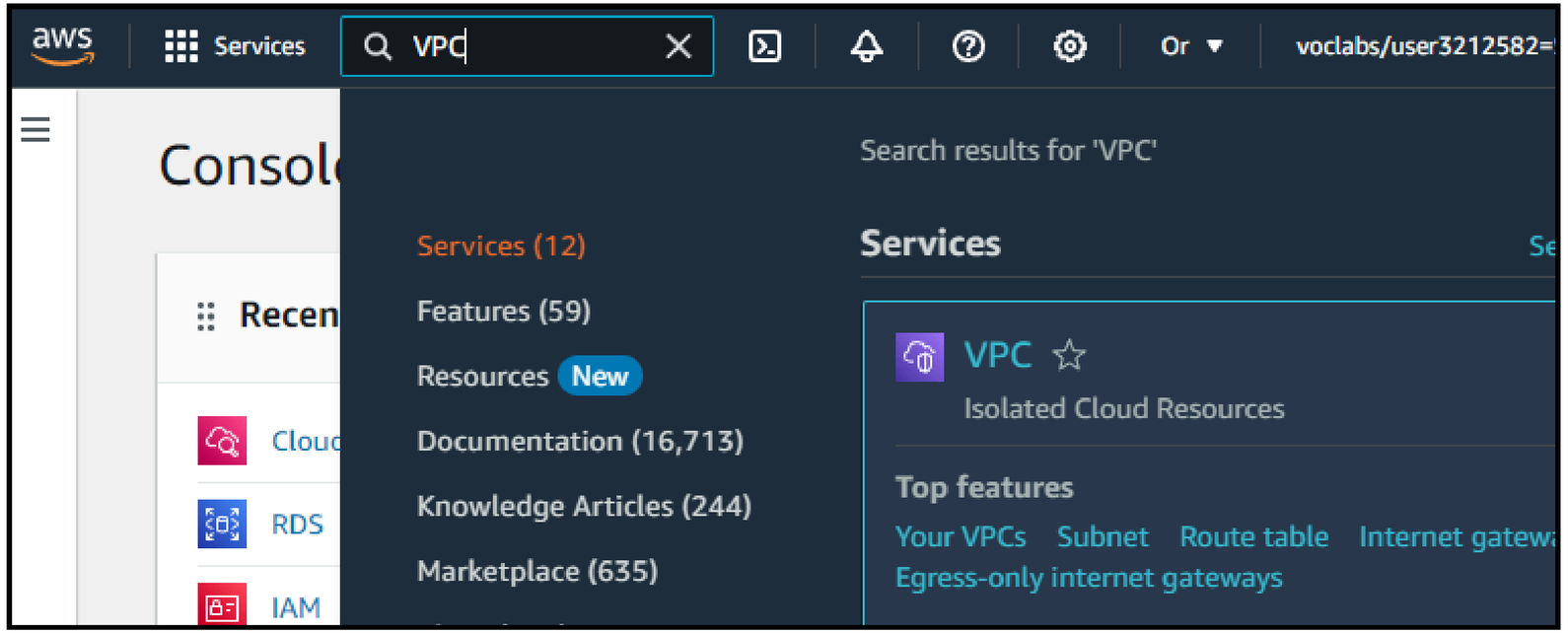
- Create a VPC with a private and public subnet, an internet gateway, and a NAT gateway.
- Configure route tables associated with subnets to local and internet-bound traffic by using an internet gateway and a NAT gateway.
- Launch a bastion server in a public subnet.
- Use a bastion server to log in to an instance in a private subnet.

Task 1

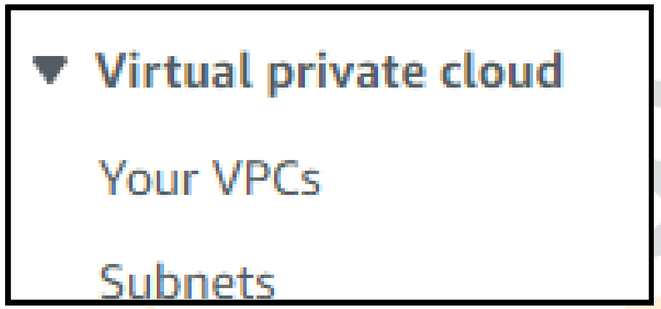
Creating a VPC

Step 1. Create VPC

On the AWS Management Console, in the Search bar, enter and choose VPC to go to the VPC Management Console



In the left navigation pane, for Virtual private cloud, choose Your VPCs.



Choose VPC only.

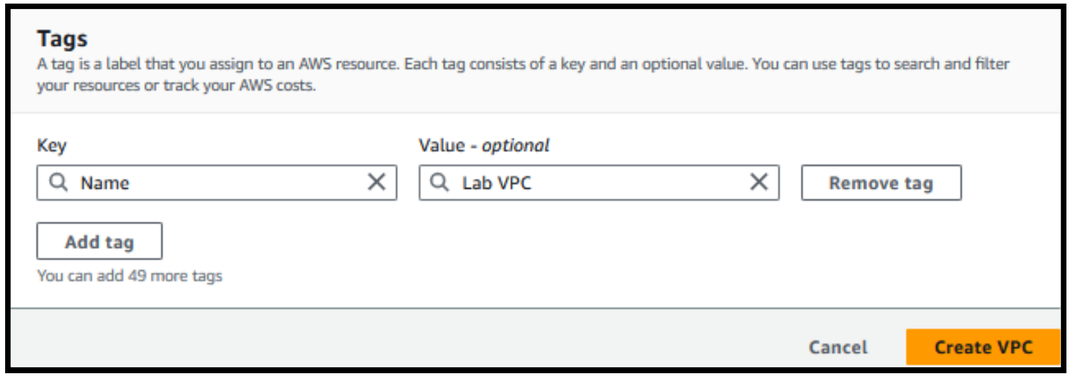
Name tag: Enter Lab VPC.

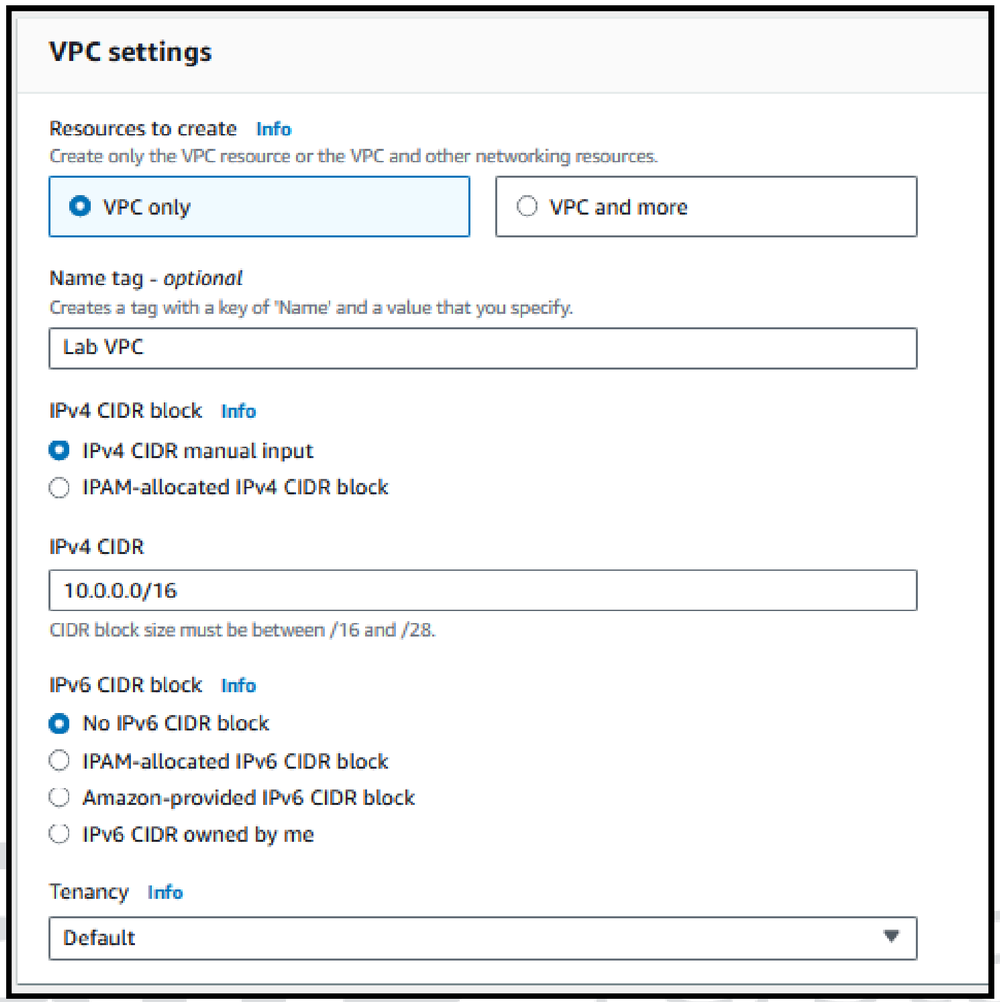
IPv4 CIDR block: Choose IPv4 CIDR manual input.

IPv4 CIDR: Enter 10.0.0.0/16.

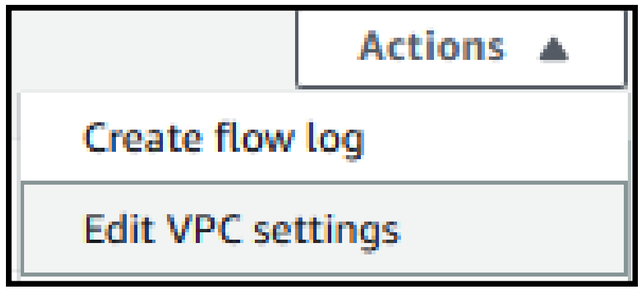
IPv6 CIDR block: Choose No IPv6 CIDR block.

Tenancy: Choose Default.





- Choose “Create VPC”

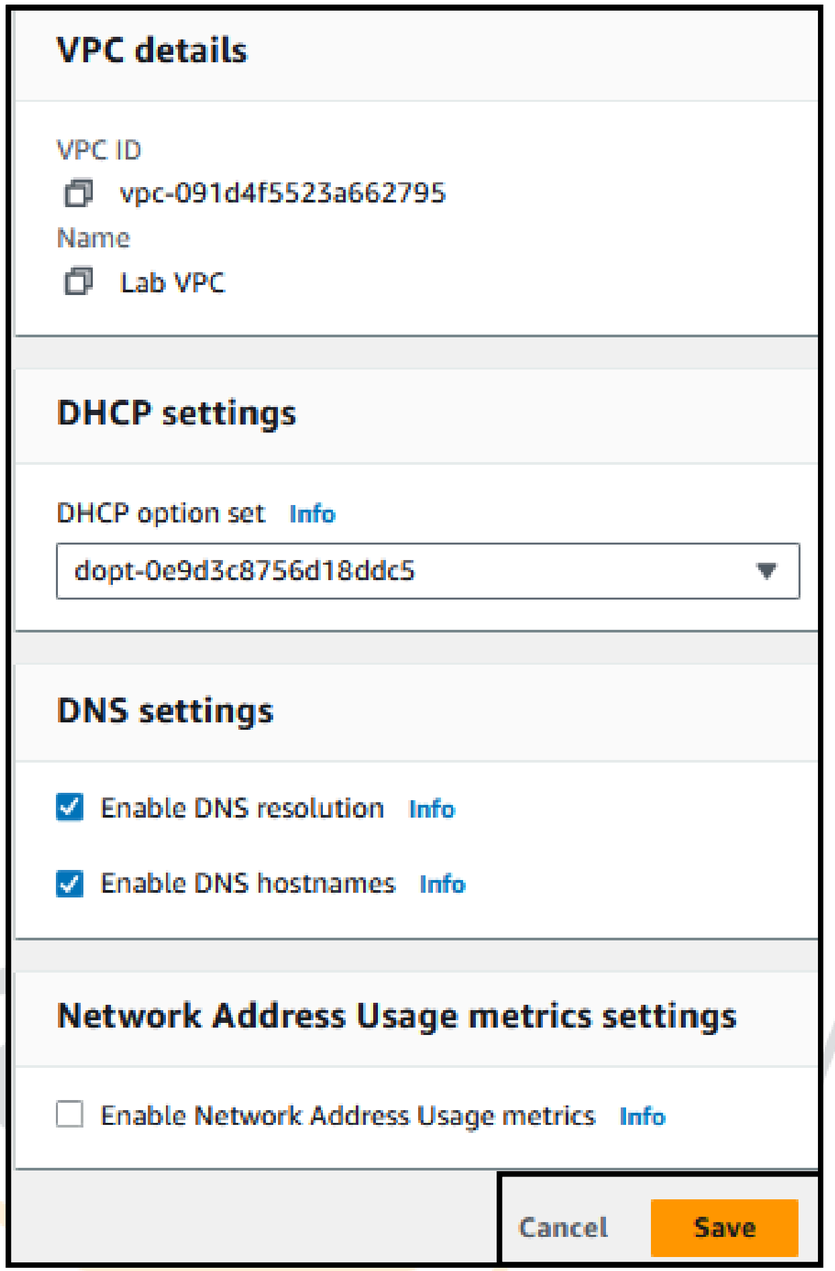


Choose Edit VPC settings.

In the DNS settings section, select Enable DNS hostnames.

EC2 instances launched into the VPC now automatically receive a public IPv4 Domain Name System (DNS) hostname.

Choose Save.

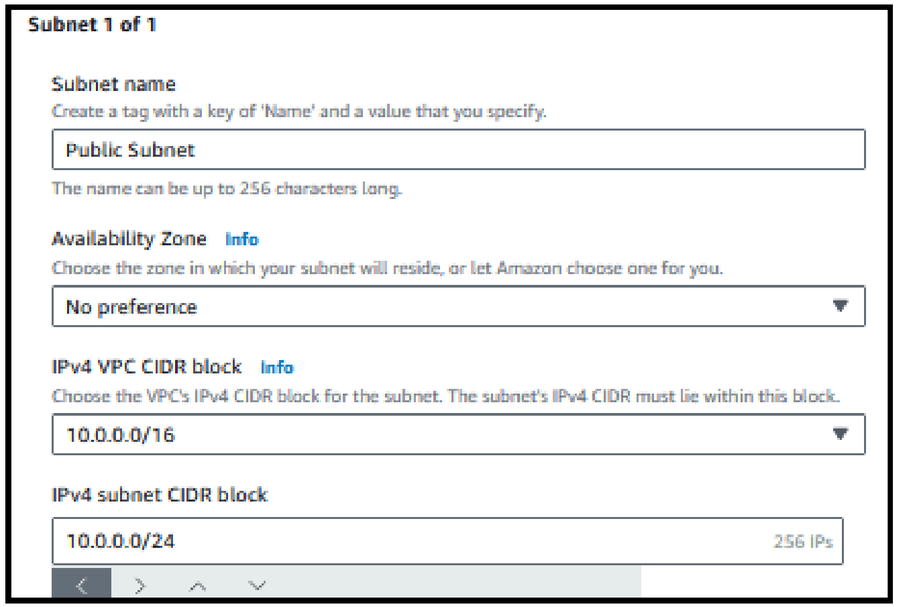


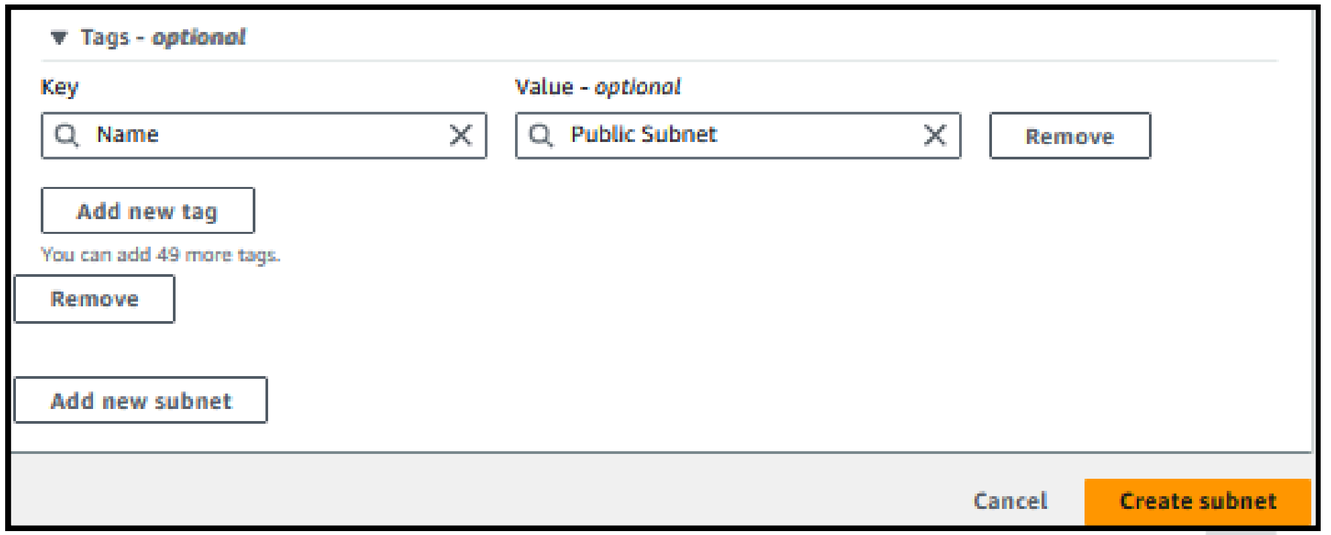
Task 2

Creating subnets

2.1 Creating a public subnet

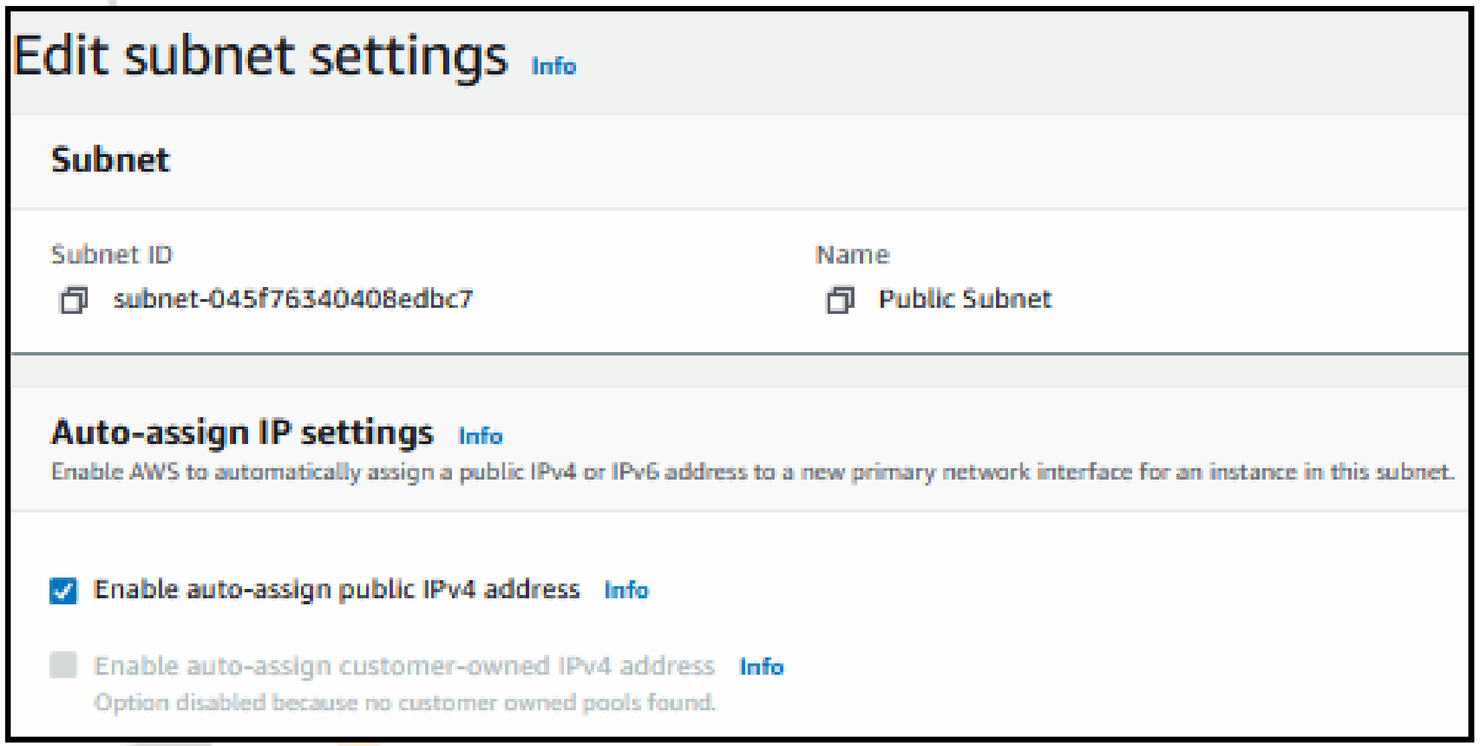
In the left navigation pane, for Virtual private cloud, choose Subnets.





Choose Create subnet and configure the following options:

- **VPC ID: Choose Lab VPC.**
- **Subnet name: Enter Public Subnet.**
- **Availability Zone: First Availability Zone in the list.**
- **IPv4 CIDR block: Enter 10.0.0.0/24.**



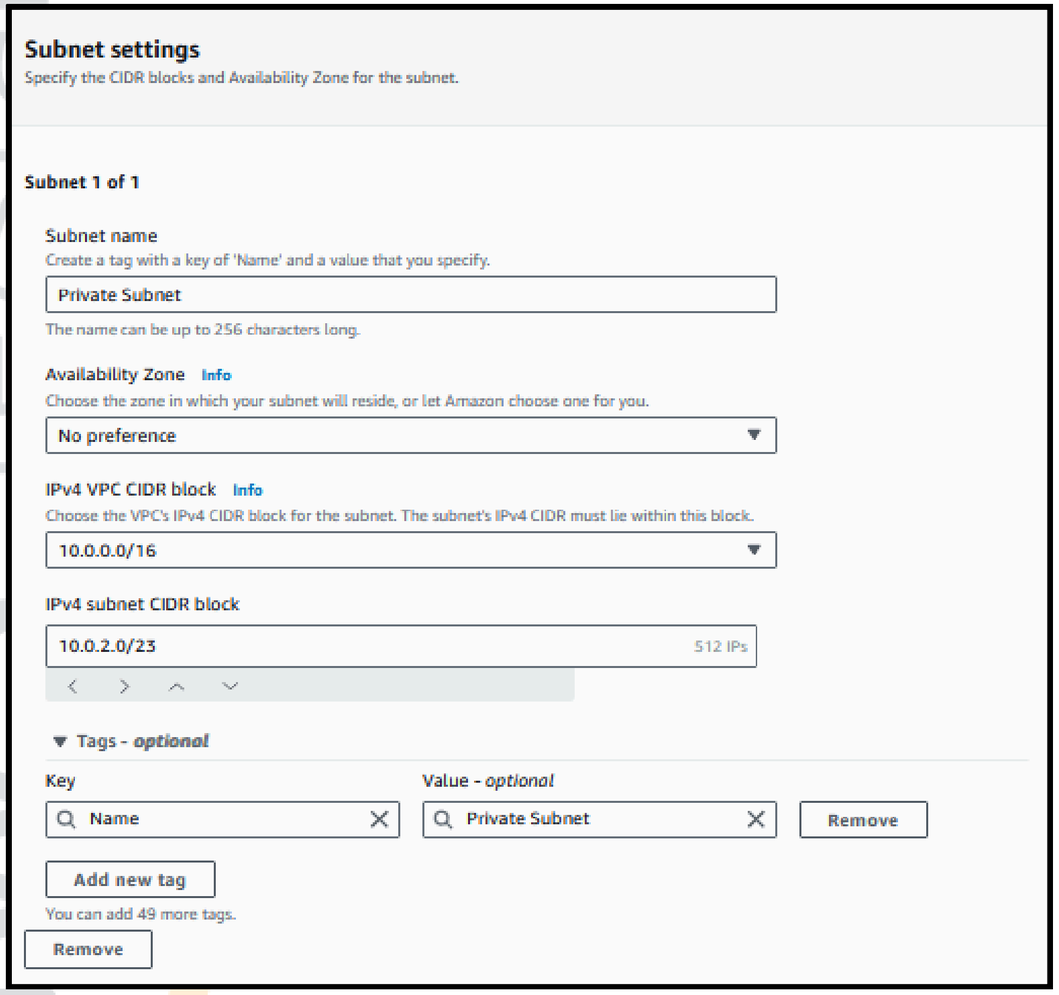
Select Public Subnet.

Choose Actions, and then choose Edit subnet settings.

In the Auto-assign IP settings section, select Enable auto-assign public IPv4 address.

Choose Save.

Task 2.2: Creating a private subnet



To create the private subnet, repeat the steps from the previous task, and choose the following options:

VPC ID: Choose Lab VPC.

Subnet name: Enter Private Subnet.

Availability Zone: Choose the first Availability Zone on the list.

IPv4 CIDR block: Enter 10.0.2.0/23.

☐	Public Subnet	subnet-045f76340408edbc7	Available	vpc-091d4f5523a662795 | Lab ...	10.0.0.0/24	-
☐	Private Subnet	subnet-0239acb4ccc42aa9e	Available	vpc-091d4f5523a662795 | Lab ...	10.0.2.0/23	-

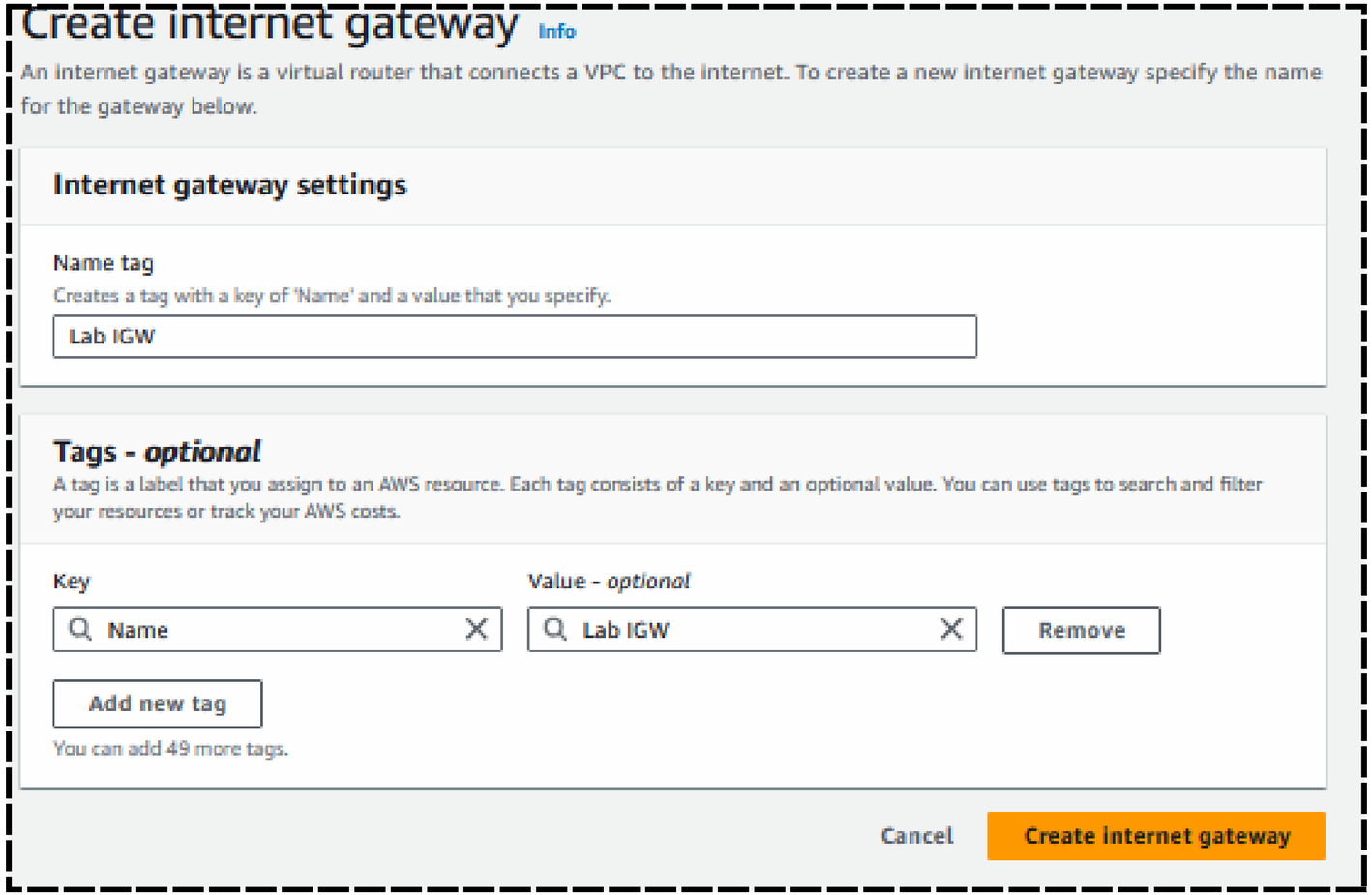
Task 3

Creating an internet gateway

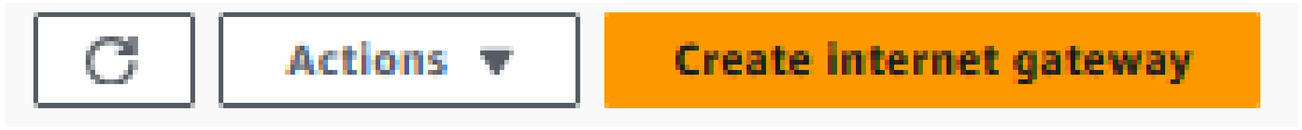
1.- In the left navigation pane, for Virtual private cloud, choose Internet gateways.

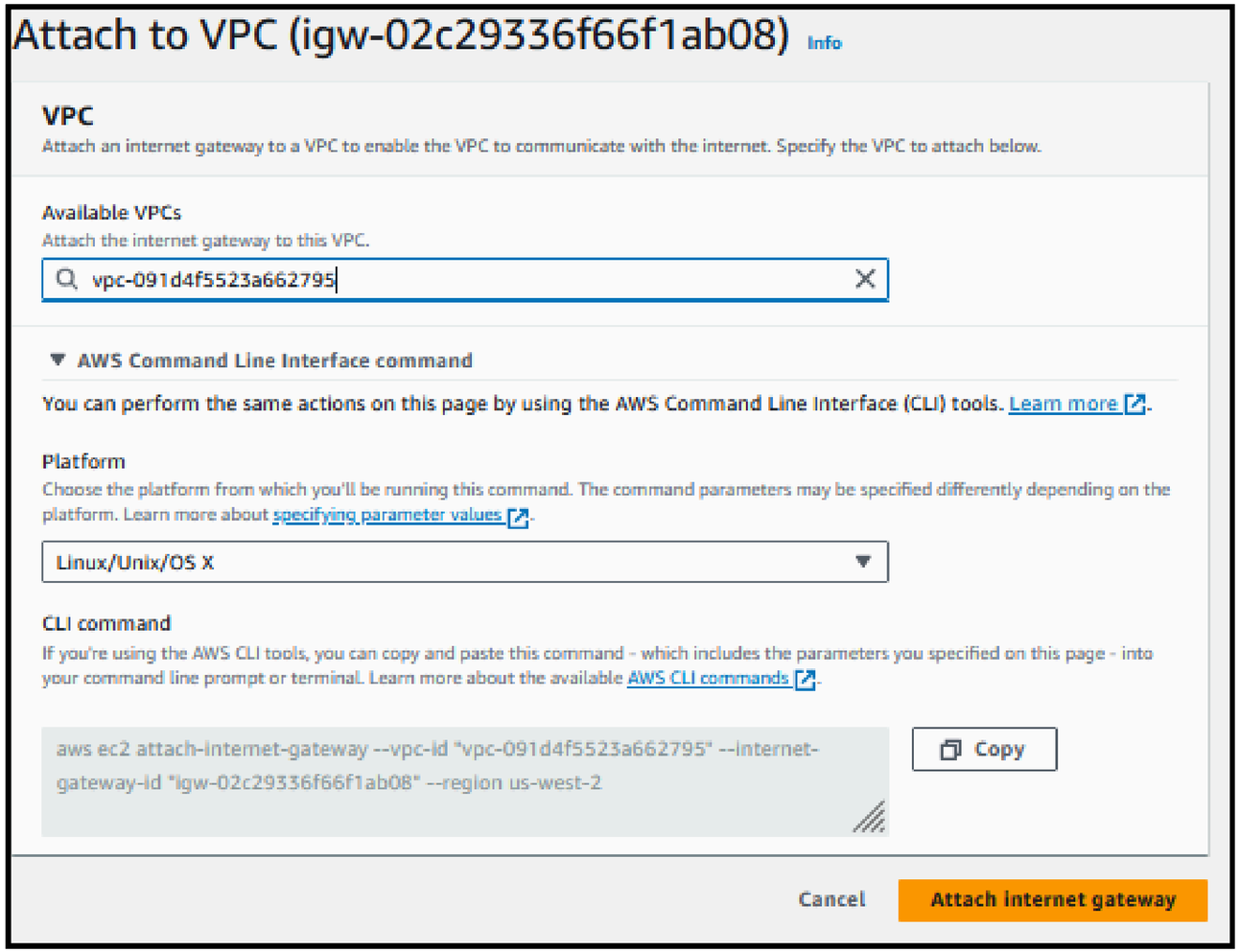
2.- Choose Create internet gateway, and then for Name tag, enter Lab IGW

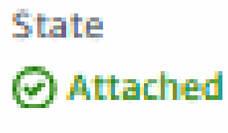
3.- Choose Create internet gateway.



4.- Choose Actions, then choose Attach to a VPC.





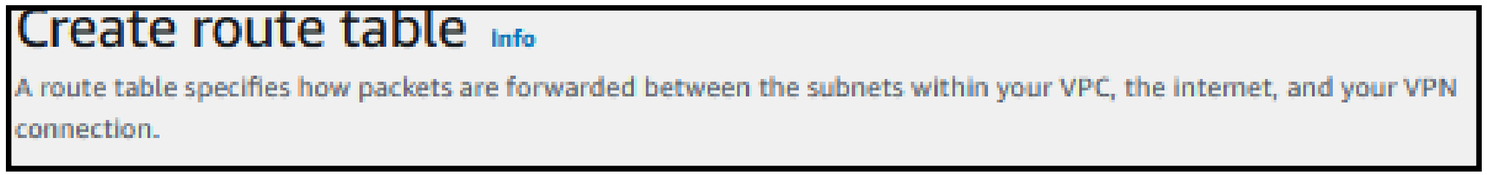


Task 4

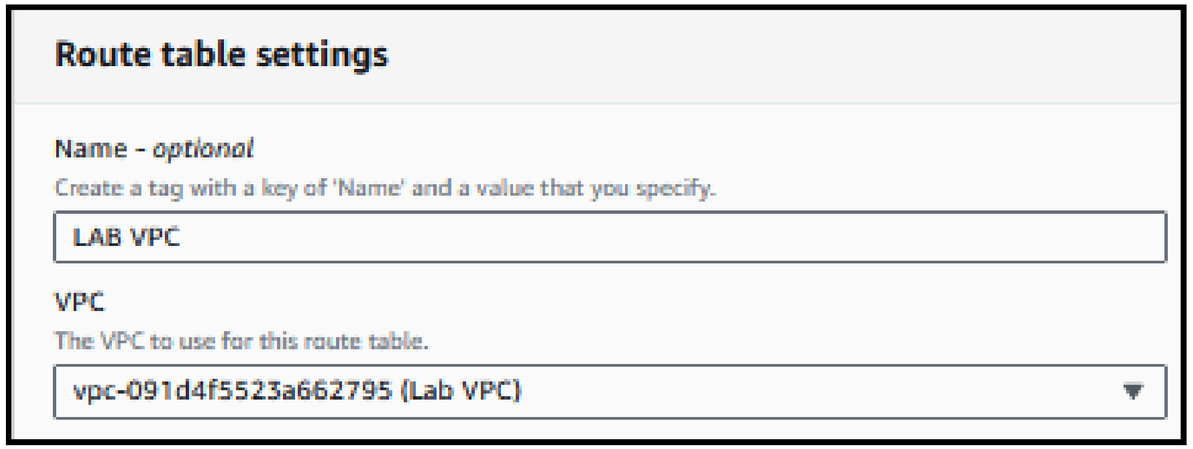
Configuring route tables

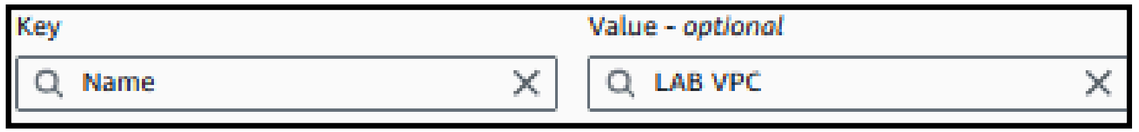
In the left navigation pane, for Virtual private cloud, choose Route tables.

Select the route table that includes Lab VPC in the VPC column.



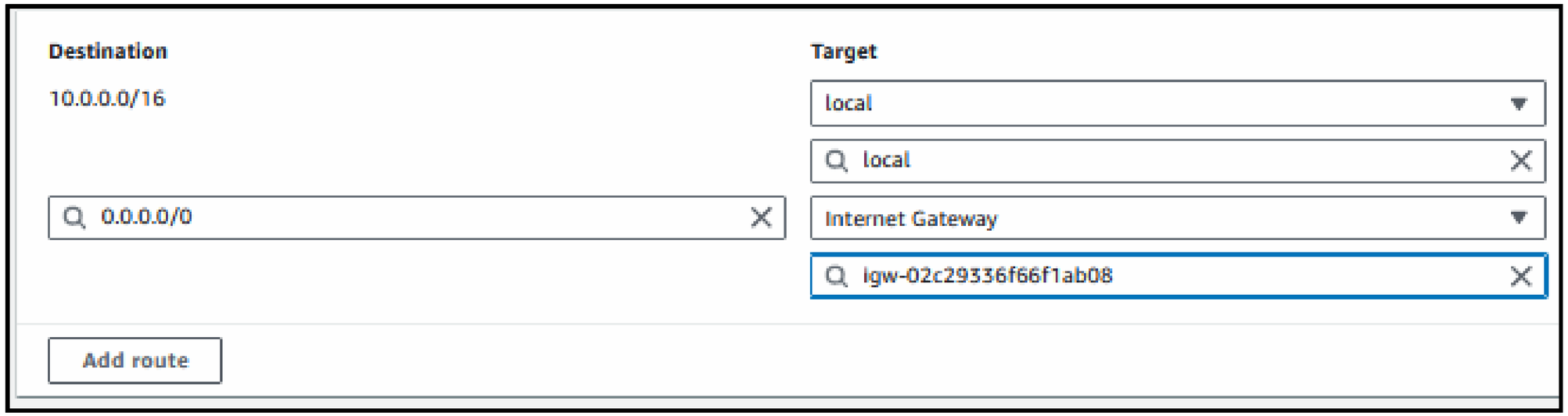
Choose Create route table and configure the following options:





- Choose “Create Route Table”

After the route table is created, in the Routes tab, choose Edit routes

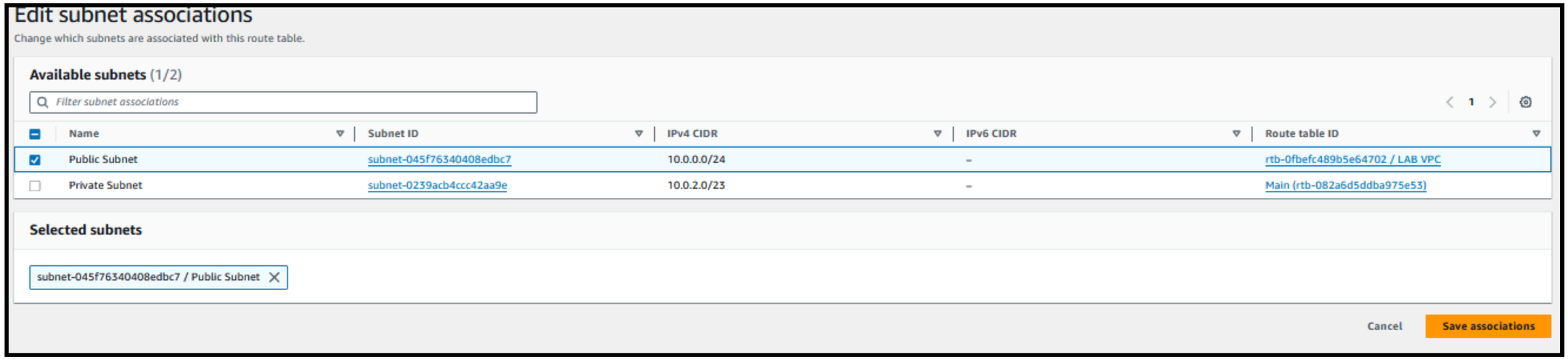


Choose Add route and then configure the following options:

Destination: Enter 0.0.0.0/0.

Target: Choose Internet Gateway, and then choose Lab IGW from the list

Choose the Subnet associations tab and choose Edit subnet associations.

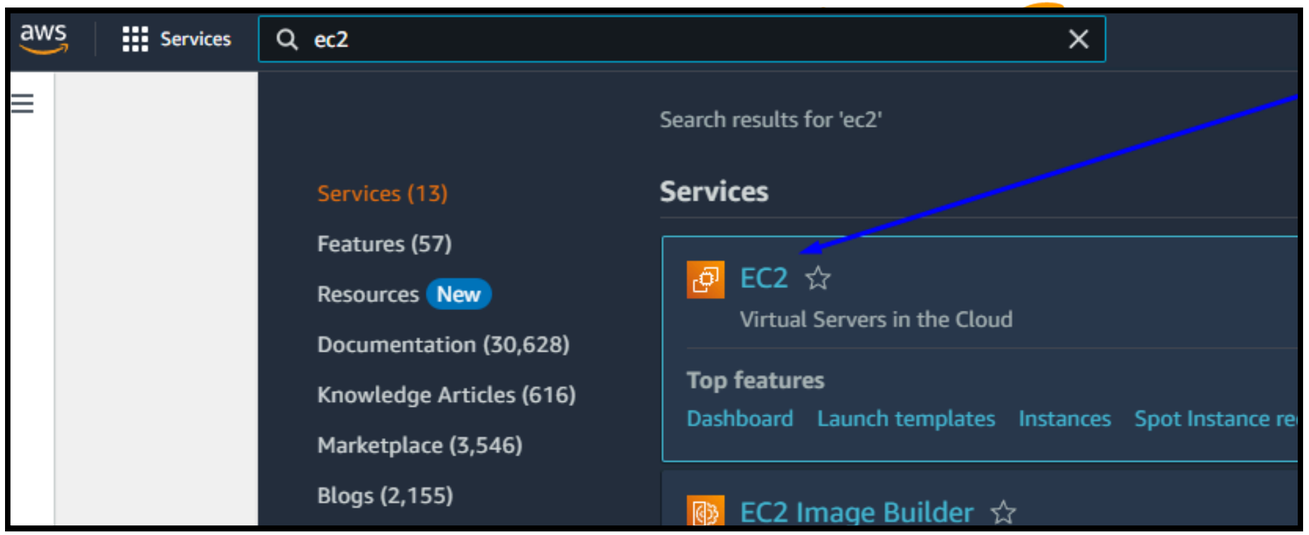


Select Public Subnet.
Choose Save associations.

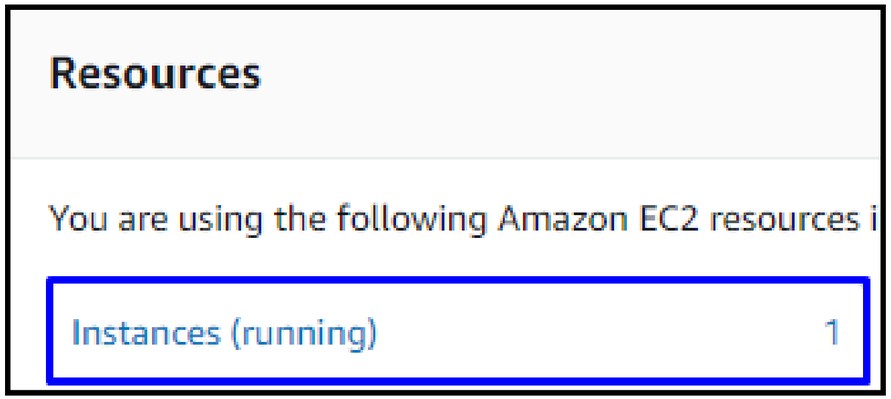
Task ๕

Launching a bastion server in the public subnet

- On the AWS Management Console, in the Search bar, enter and choose EC2 to go to the EC2 Management Console.



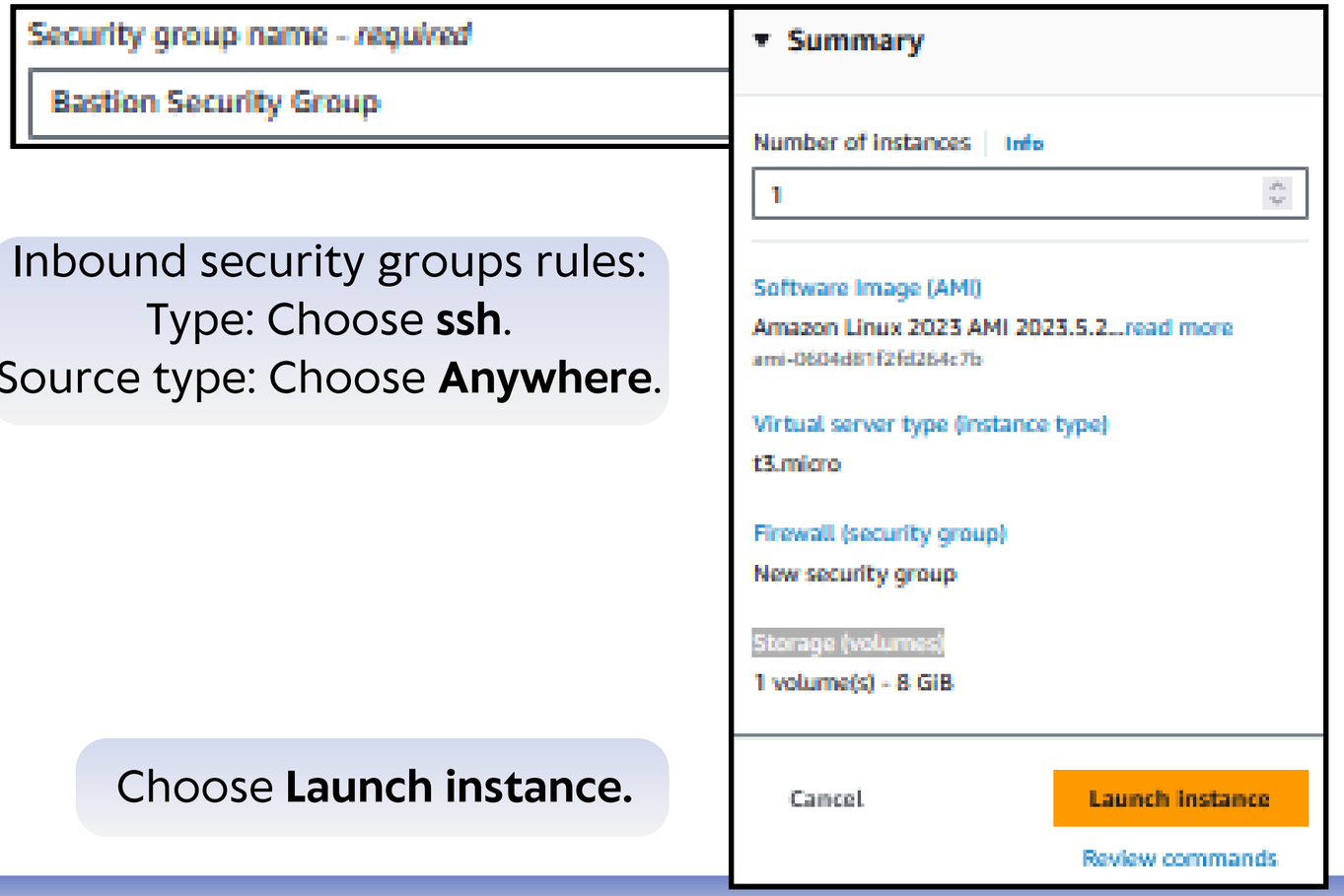
- In the left navigation pane, choose Instances.



Choose **Launch instances** and configure the following options:
-Choose **Amazon Linux 2023 AMI**.
-In the Instance type section, choose **t3.micro**.
-In the Name and tags section, enter **Bastion Server**.
-In the Key pair (login) section, choose **Proceed without a key pair**

In the Network settings section, choose Edit and configure the following options:
-VPC - required: Choose **Lab VPC**.
-Subnet: Choose **Public Subnet**.
-Auto-assign public IP: **Choose Enable**.

Firewall (security groups): Choose **Create security group**.
Security group name: Enter **Bastion Security Group**.
Description: **Enter Allow SSH.**



Inbound security groups rules:
Type: Choose **ssh**.
Source type: Choose **Anywhere**.

Choose **Launch instance.**

Task 6:

Creating a NAT gateway

On the AWS Management Console, in the Search bar, enter NAT gateways, choose the Features list, and choose NAT gateways.

Choose Create NAT gateway and configure the following options:

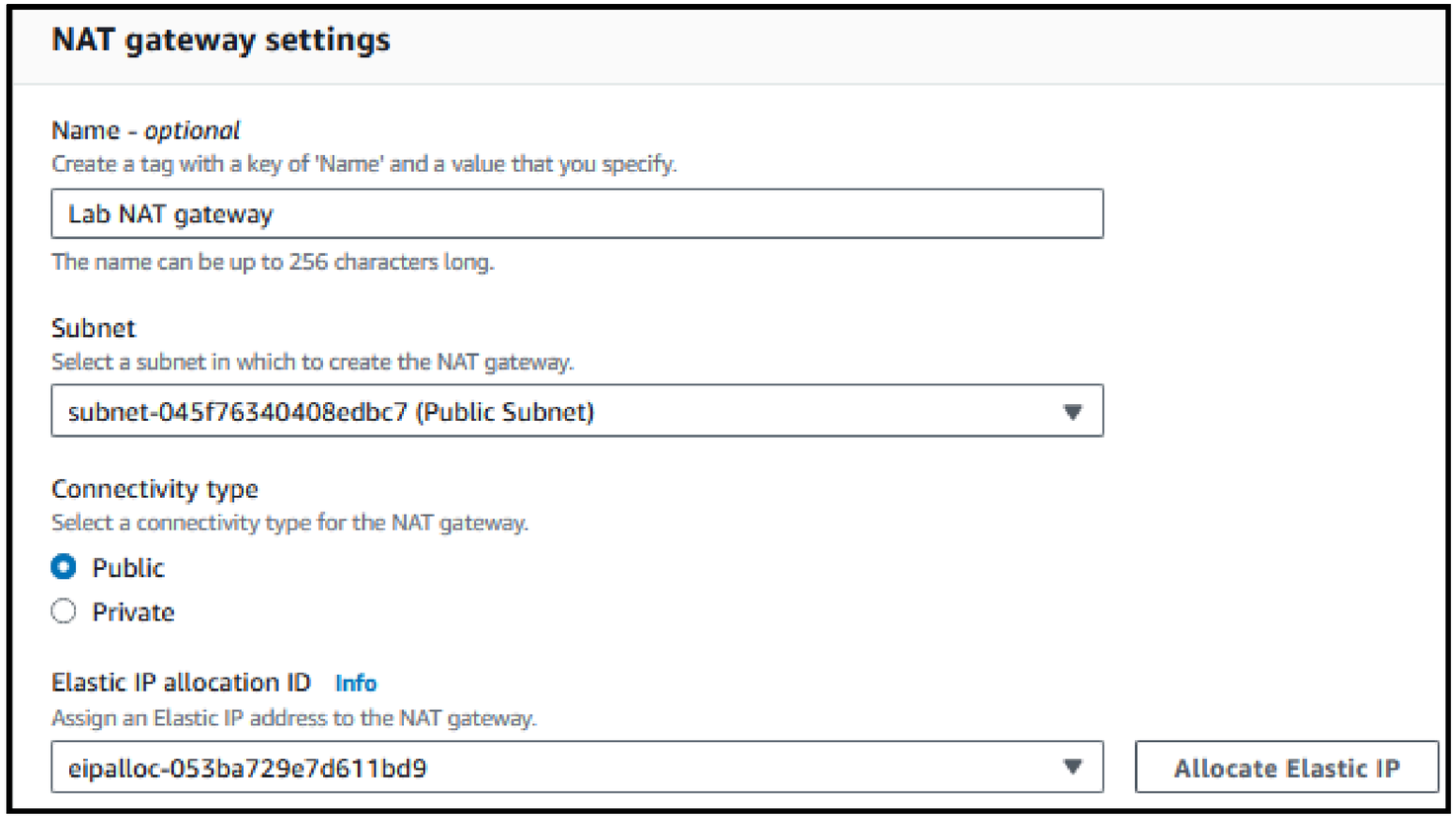
Name: Enter Lab NAT gateway.

Subnet: From the dropdown list, choose Public Subnet.

Choose Allocate Elastic IP.

Choose Create a NAT gateway.

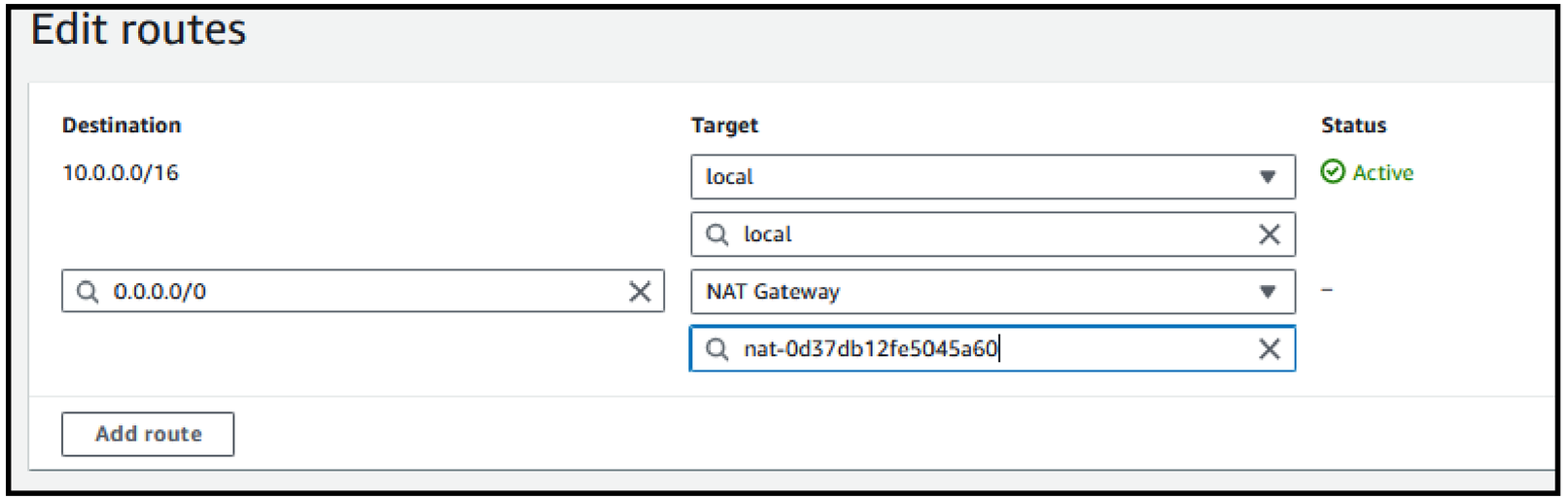
Choose Allocate Elastic IP and create the NAT Gateway



1. In the left navigation pane, choose Route tables, and then select Private Route Table.and choose Route Tables tab.

2. Choose “Edit Routes” and then “Add route” to configure the following options:

3. Choose “Save Changes”.



¡Muchas gracias!

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