Assignment 2 – VPC

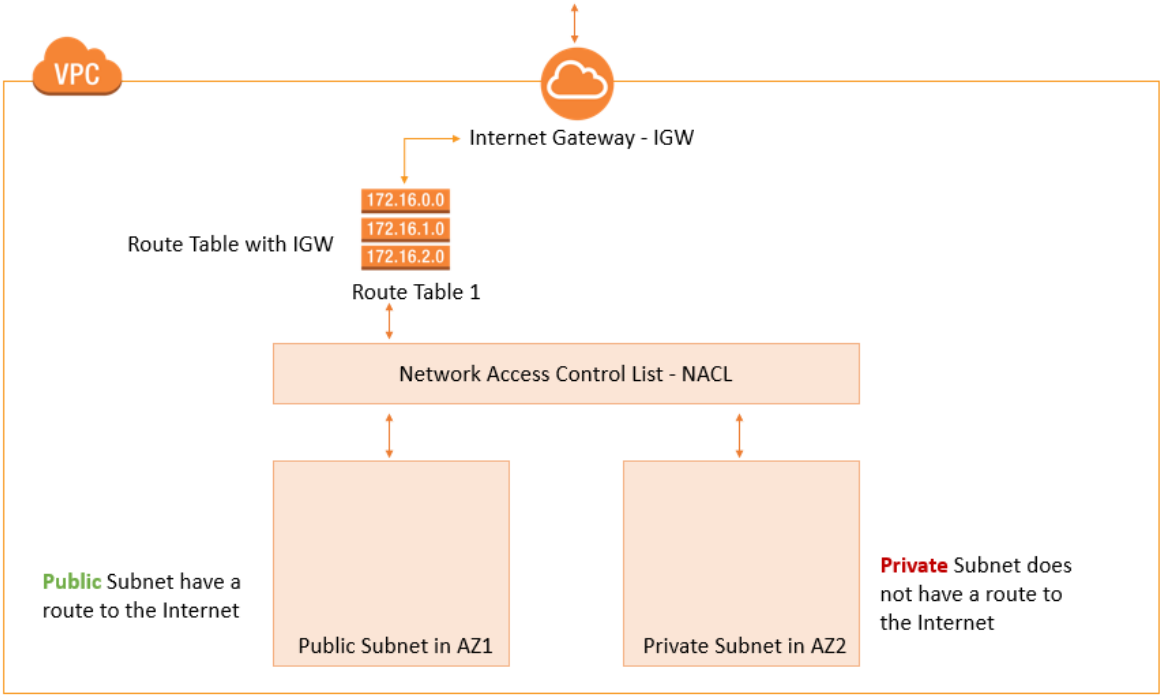
Today's task:

1. Create a VPC and create, configure its components
    a. Internet Gateway
    b. Update Route Table
    c. Check NACL
    d. Create subnets
    e. Make some subnets public

Submit items below in one pdf file:

1. Screenshot of VPC
2. Screenshot of Subnets
3. Screenshot of Route table

Below is the architecture of what we will build today.



For your reference, use the following to create the VPC and defining subnet CIDRs:

Creating subnets in VPC

CIDR range for the VPC – 10.0.0.0/16 – 65,536 IPs

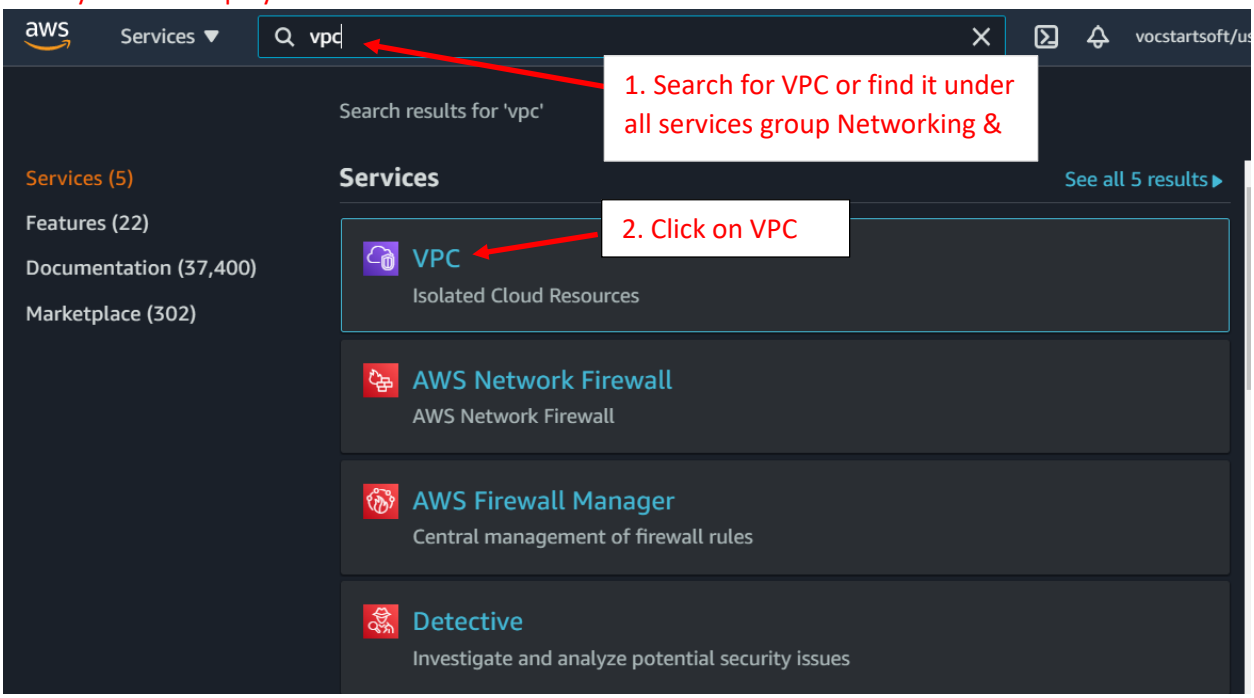
Subnets	CIDR	Available IPs	Total number of IPs
public-subnet-1a	10.0.0.0/24	10.0.0.0 – 10.0.0.255	256
public-subnet-1b	10.0.1.0/24	10.0.1.0 – 10.0.1.255	256
public-subnet-1c	10.0.2.0/24	10.0.2.0 – 10.0.2.255	256
private-subnet-1a	10.0.3.0/24	10.0.3.0 – 10.0.3.255	256
private-subnet-1b	10.0.4.0/24	10.0.4.0 – 10.0.4.255	256
private-subnet-1c	10.0.5.0/24	10.0.5.0 – 10.0.5.255	256

Note: The first (network) and the last (broadcast) IPs cannot be used. When you create resources on AWS, some of them implicitly gets an IP from the subnet.

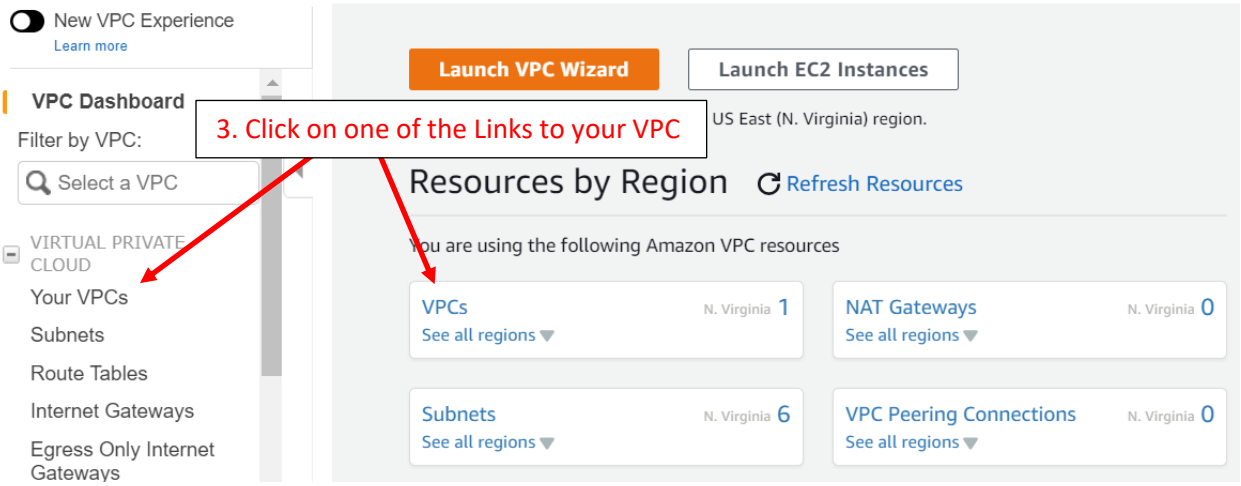
Instruction 1. Create a VPC and required network components

1. Create a VPC (main Route table and NACL are automatically created with the VPC)

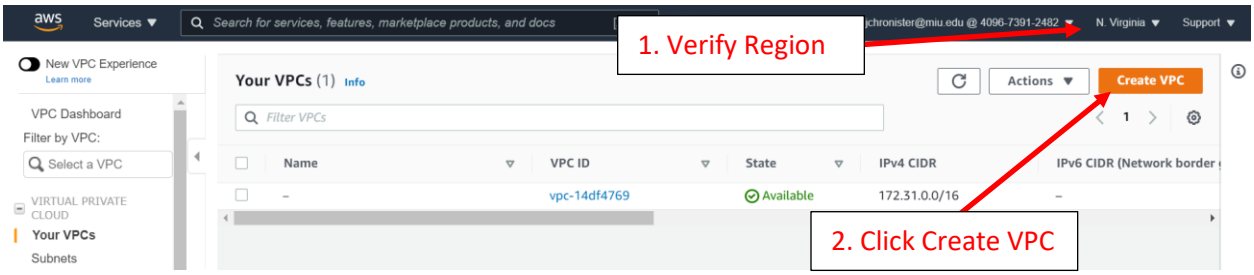
Go to your VPC display:



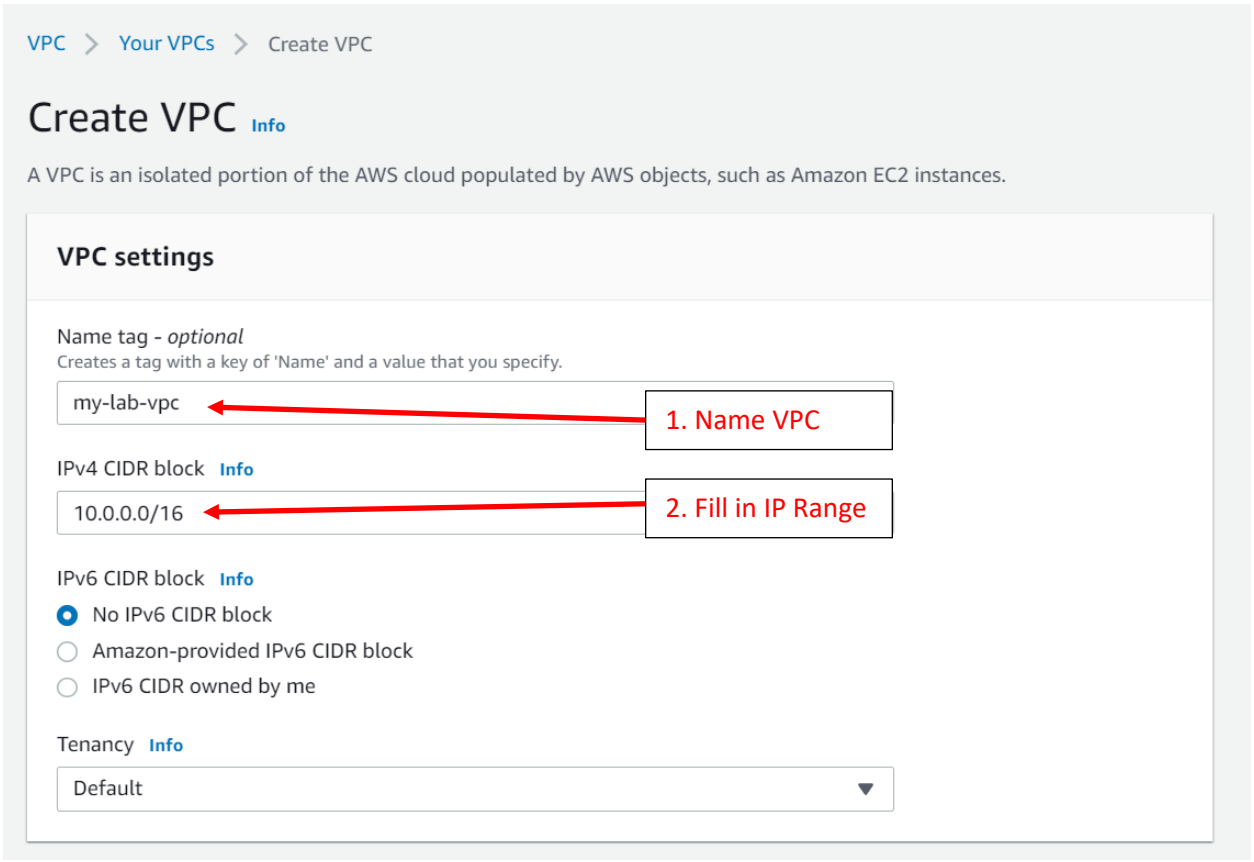
Your VPC Dashboard should be Displayed:

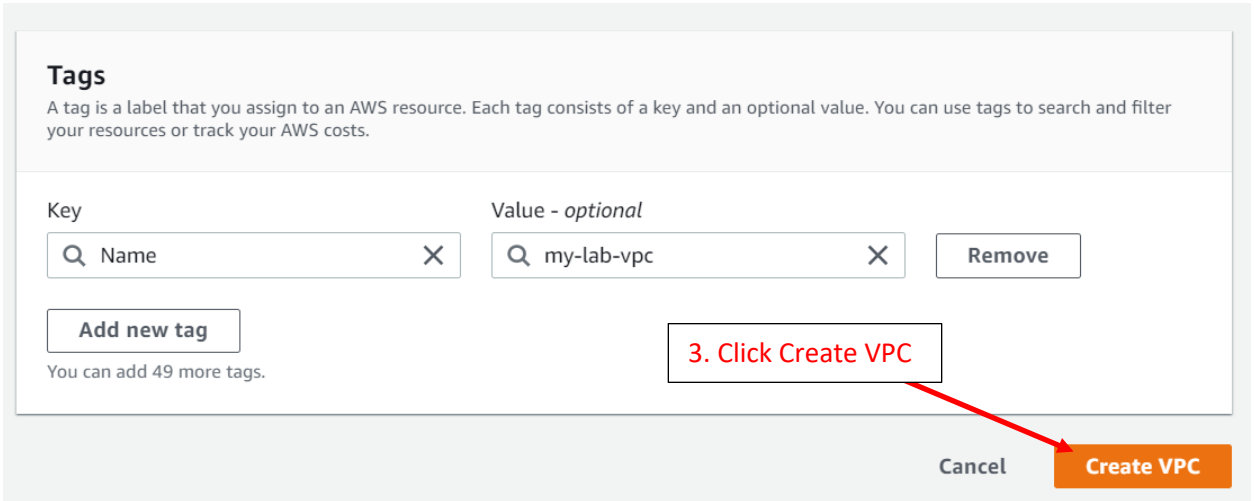

New VPC Experience
Learn more
VPC Dashboard
Filter by VPC:
Select a VPC
VIRTUAL PRIVATE CLOUD
Your VPCs
Subnets
Route Tables
Internet Gateways
Egress Only Internet Gateways
3. Click on one of the Links to your VPC
Launch VPC Wizard
Launch EC2 Instances
US East (N. Virginia) region.
Resources by Region
Refresh Resources
You are using the following Amazon VPC resources
VPCs
N. Virginia 1
See all regions
NAT Gateways
N. Virginia 0
See all regions
Subnets
N. Virginia 6
See all regions
VPC Peering Connections
N. Virginia 0
See all regions

Create a VPC:

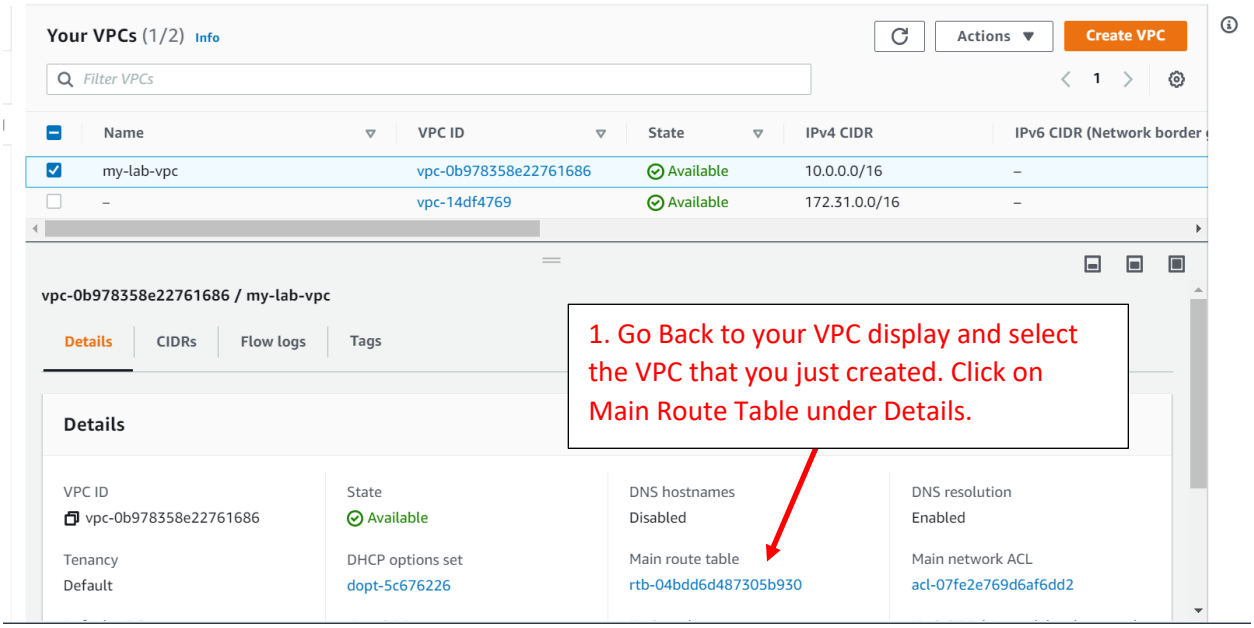


Edit VPC Details:

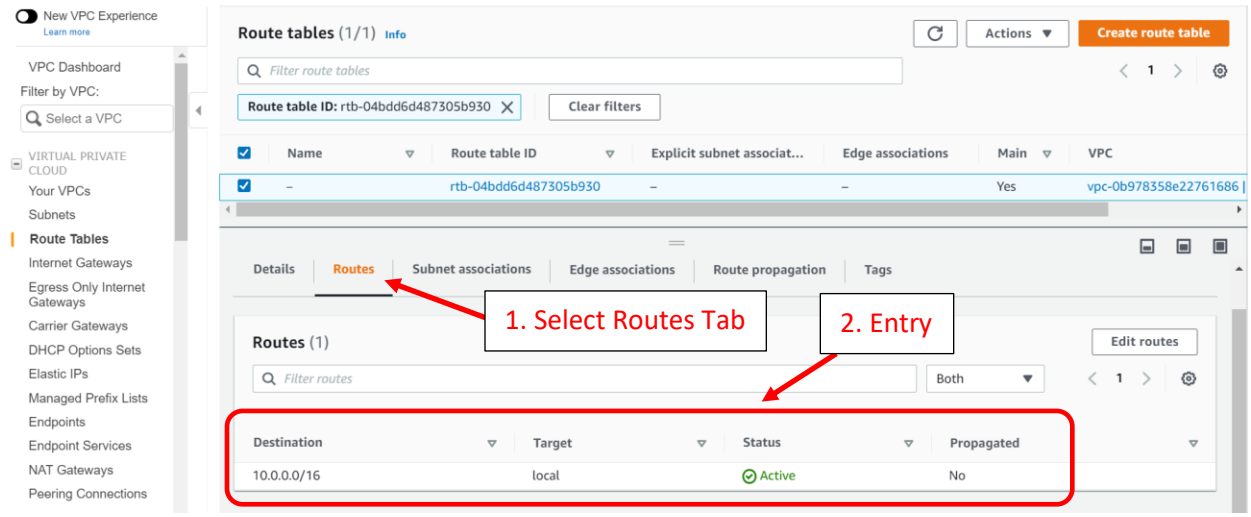




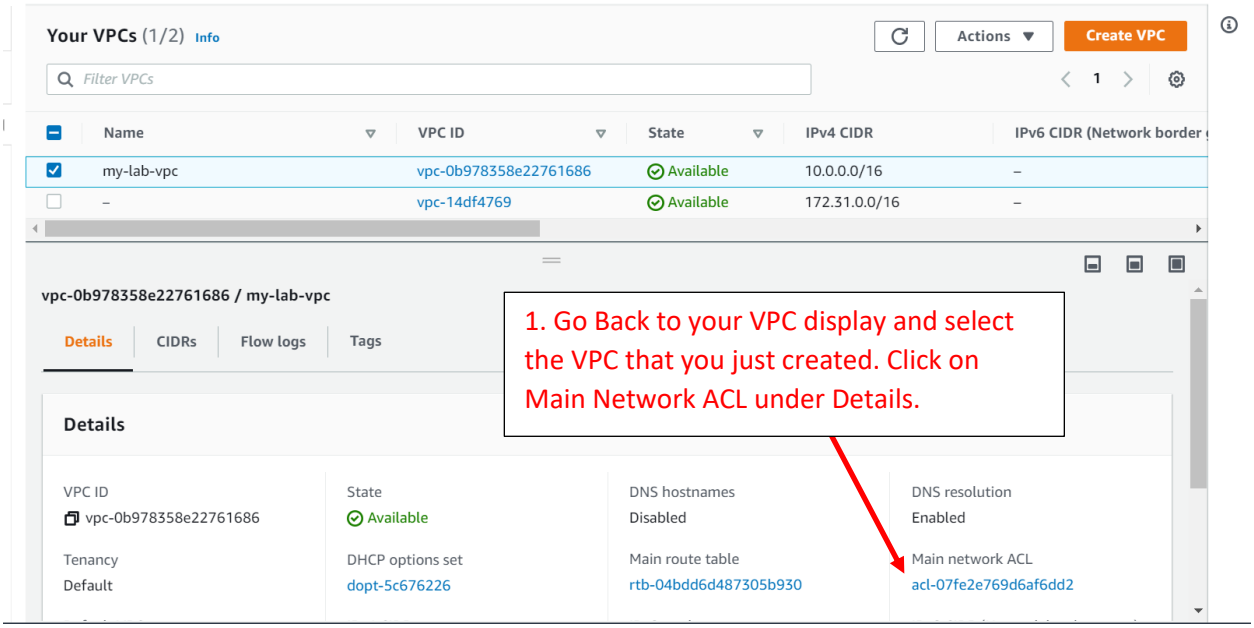
1A) Inspect the main route table. You should be able to see an entry 10.0.0.0/16 and local:



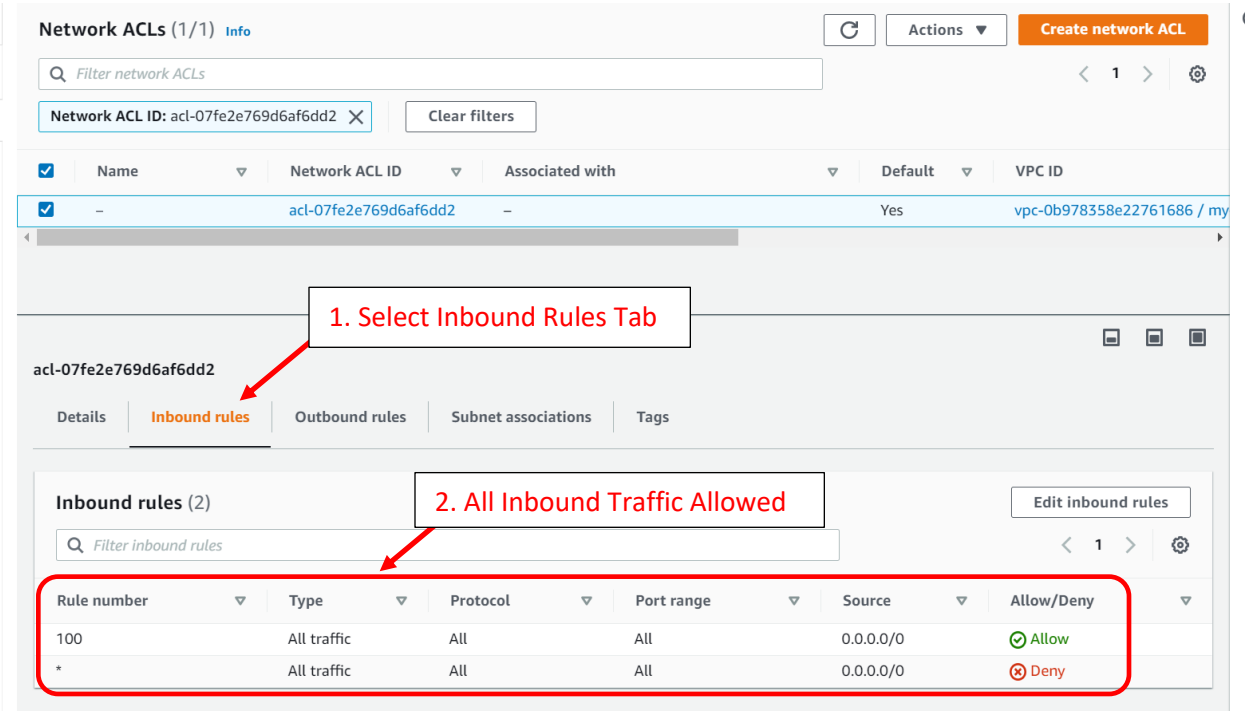
You should be able to see an entry Destination 10.0.0.0/16 and Target local under the Routes tab. That means all resources in this VPC can talk to one another through private IP.

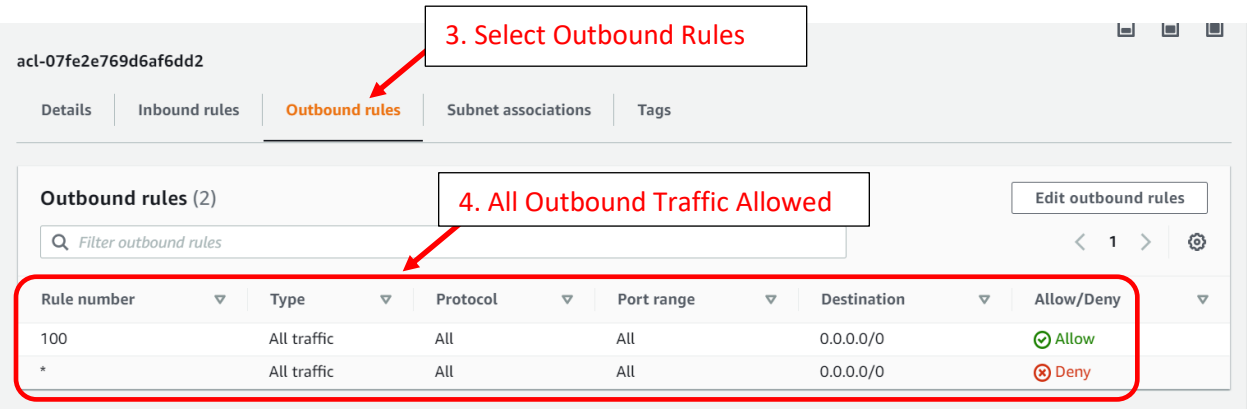


1B) Inspect NACL to Verifiy it allows all inbound and outbound traffic:



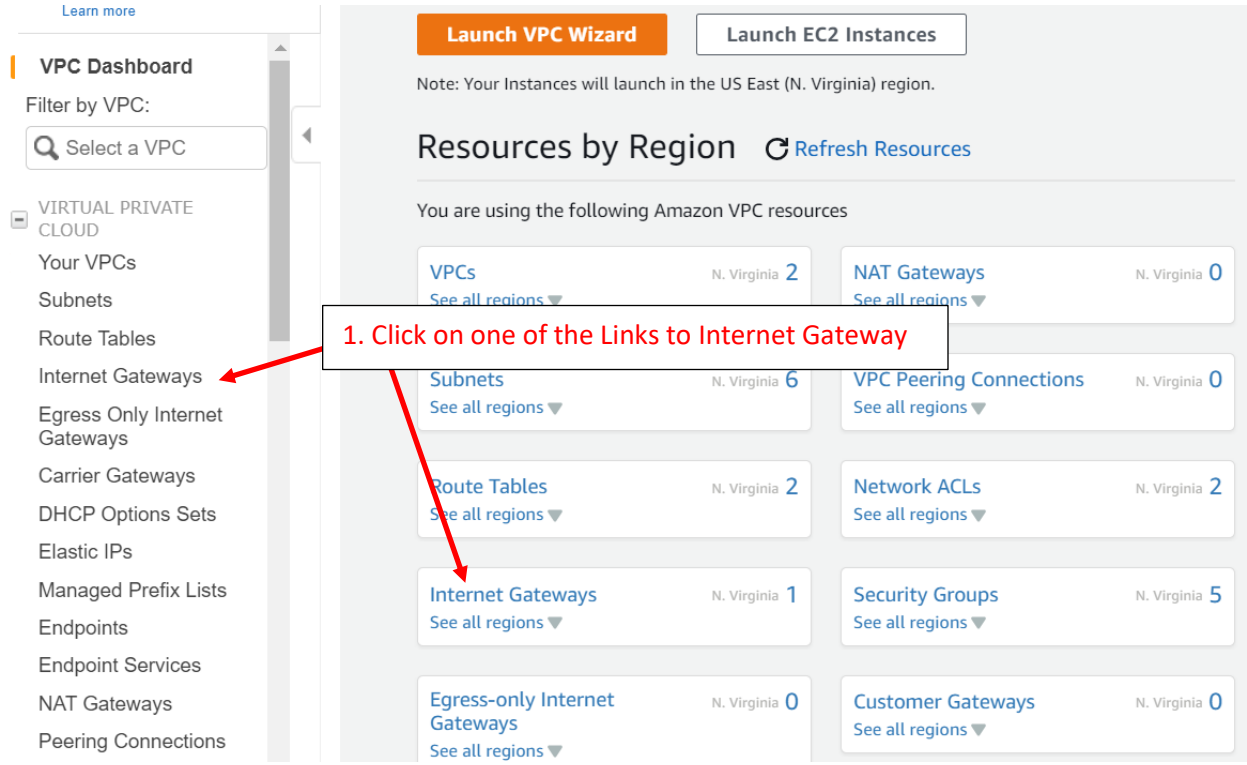
View Rules in NACL Display



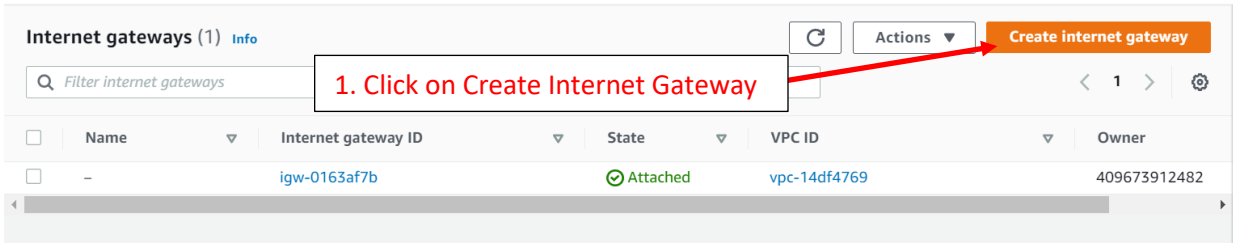


2. Create an Internet Gateway and attached it to the VPC.

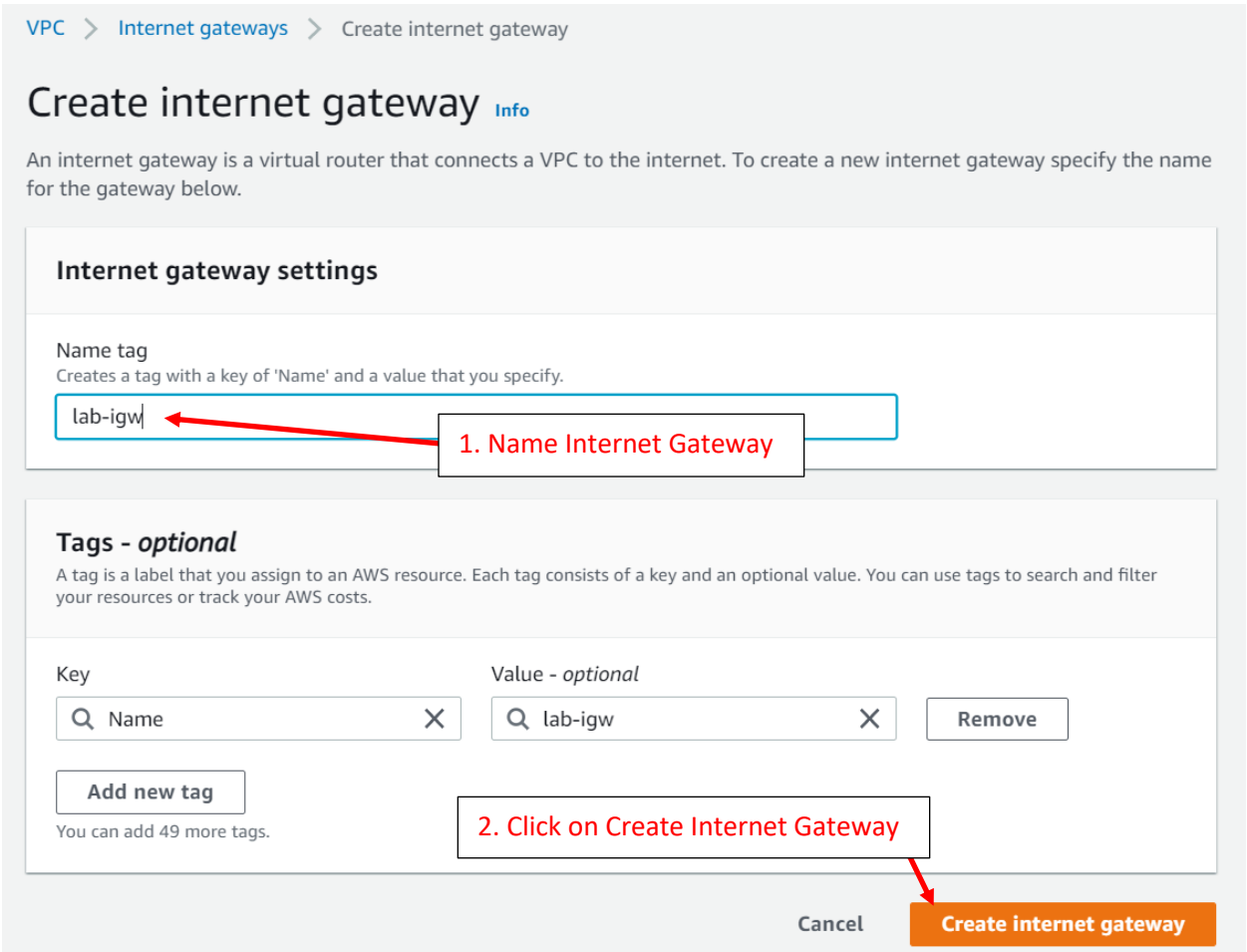
Go to Internet Gateways Display



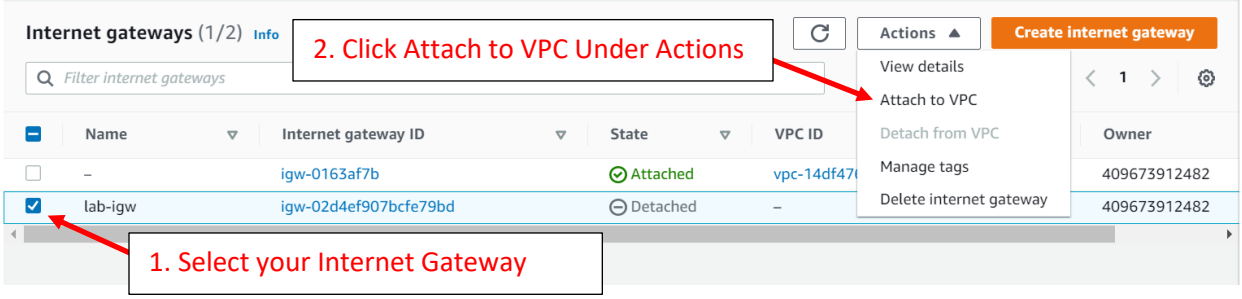
Create Internet Gateway

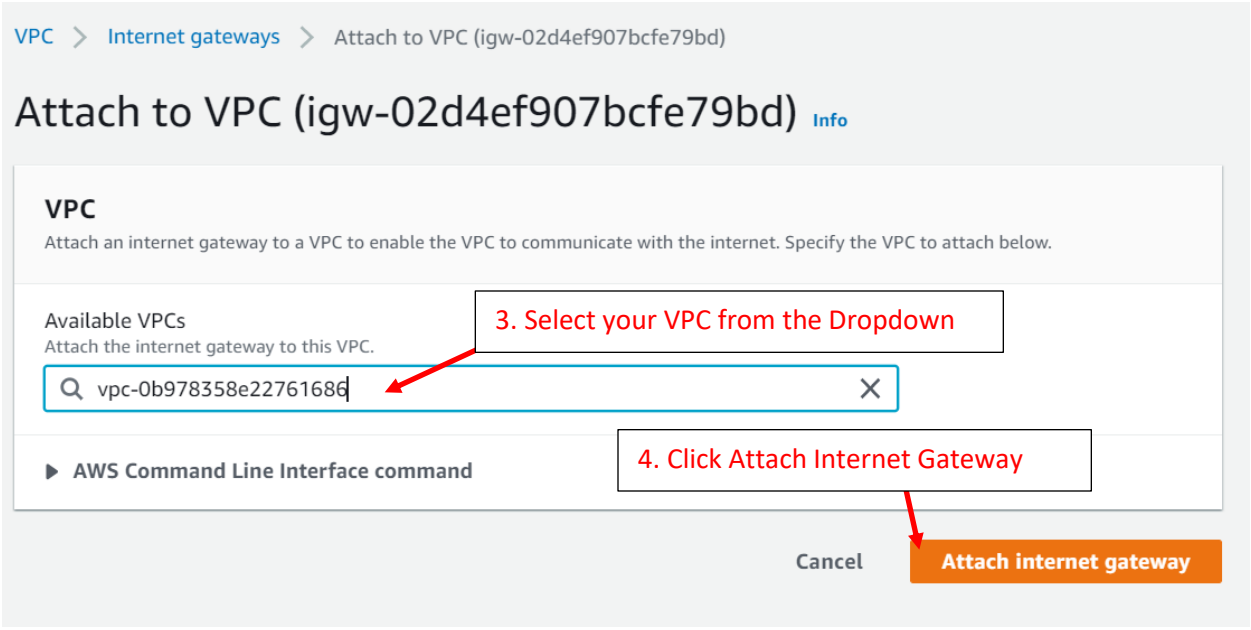


Edit Internet Gateway Details

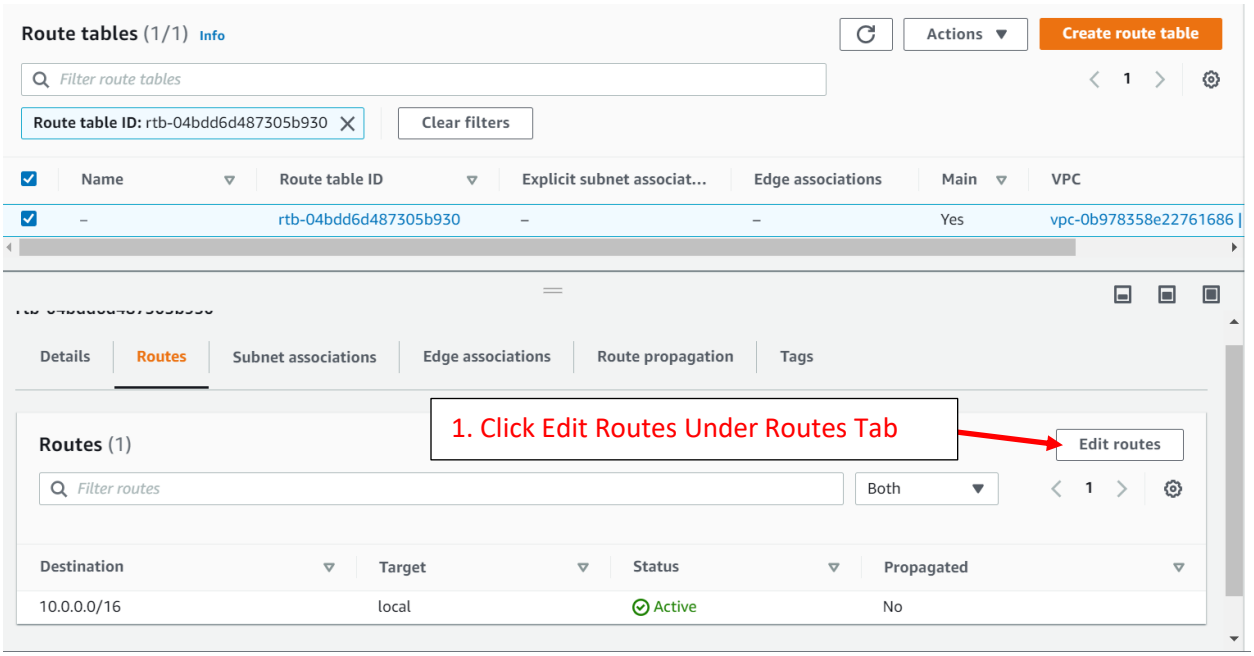


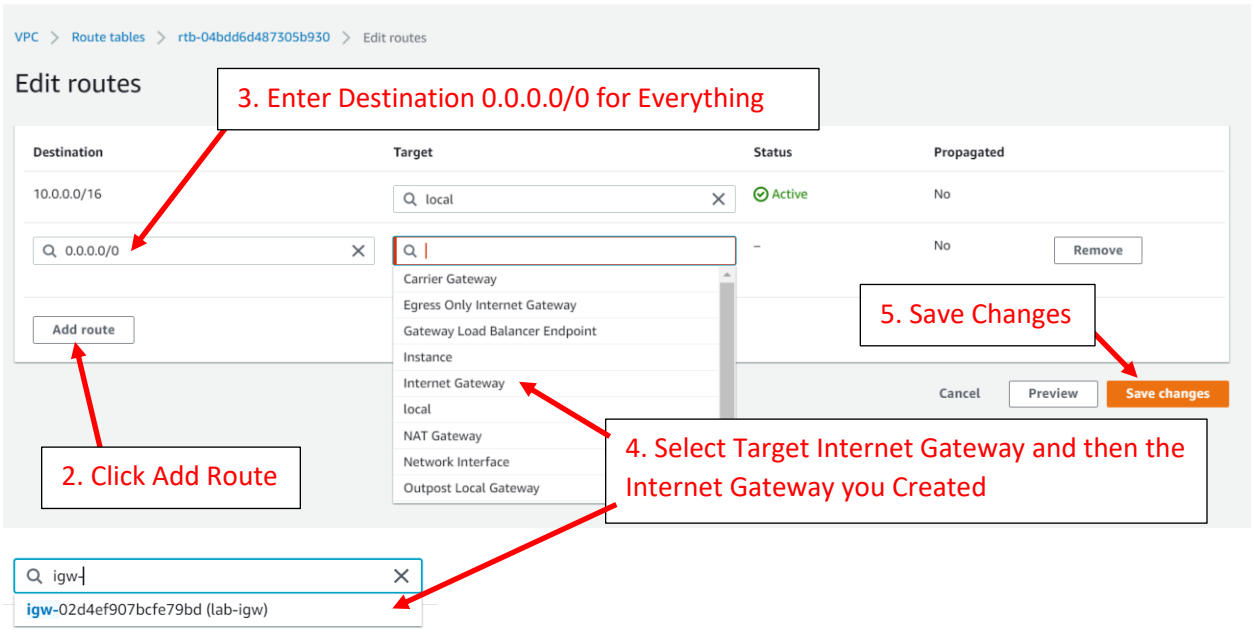
Go Back to Internet Gateways Display and Attach Internet Gateway to your VPC





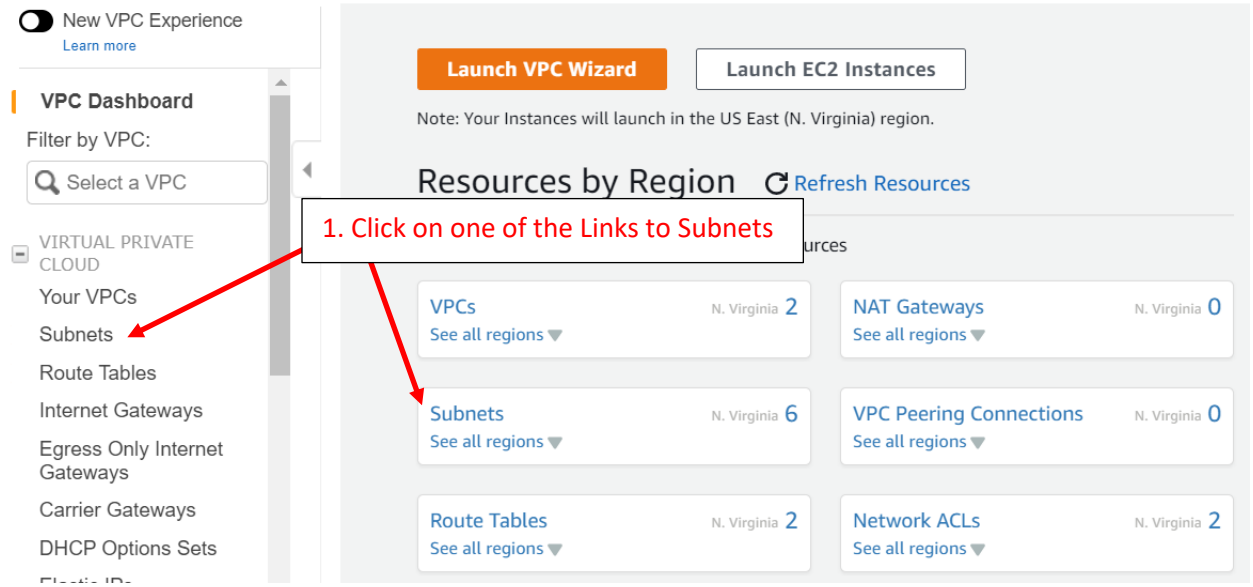
2A) Go to the VPC Routing Table and Create and Entry Pointing to the Internet Gateway



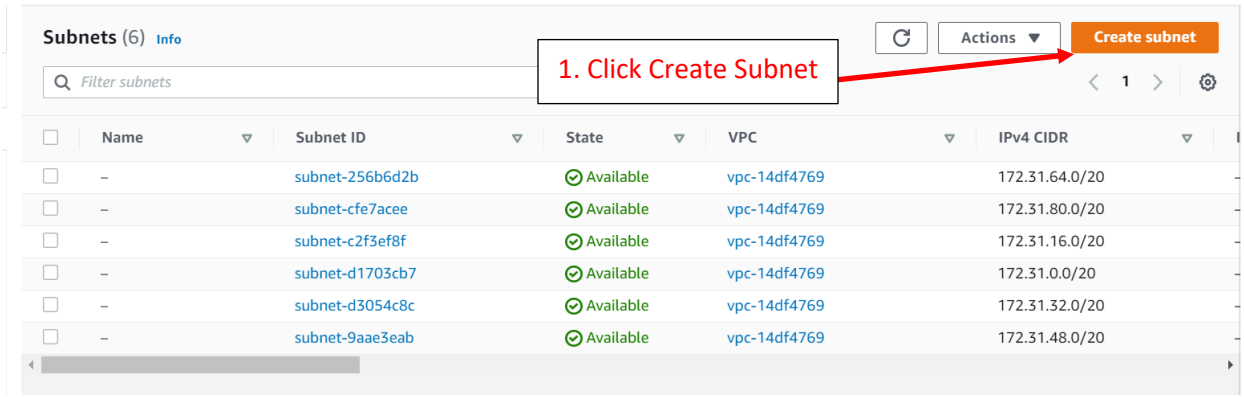


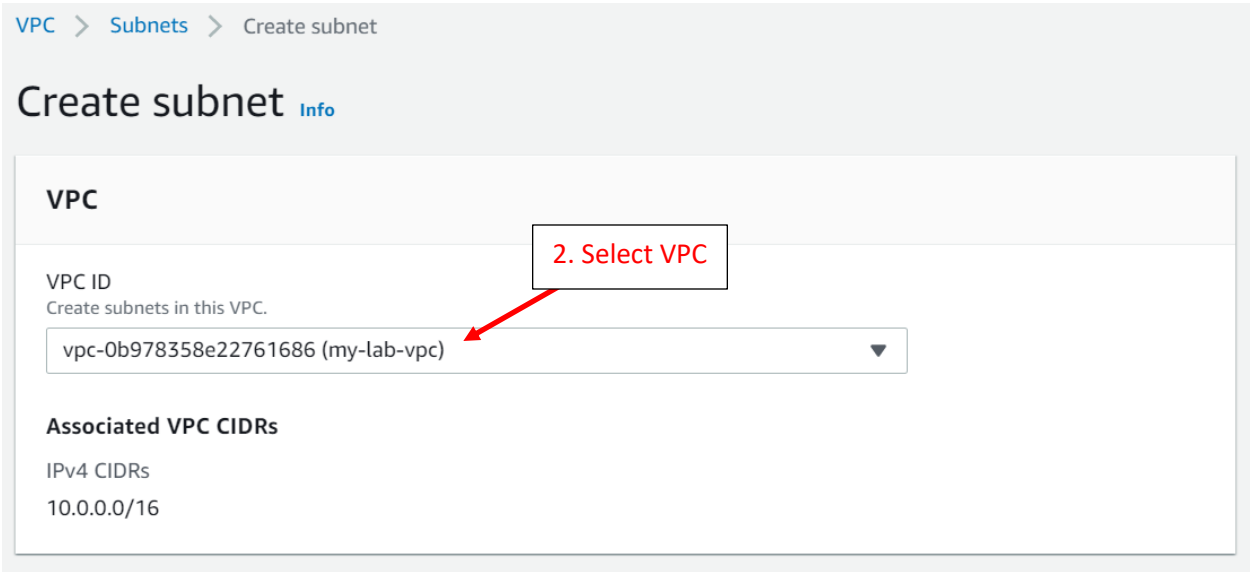
3. Create subnets. Refer the image below.

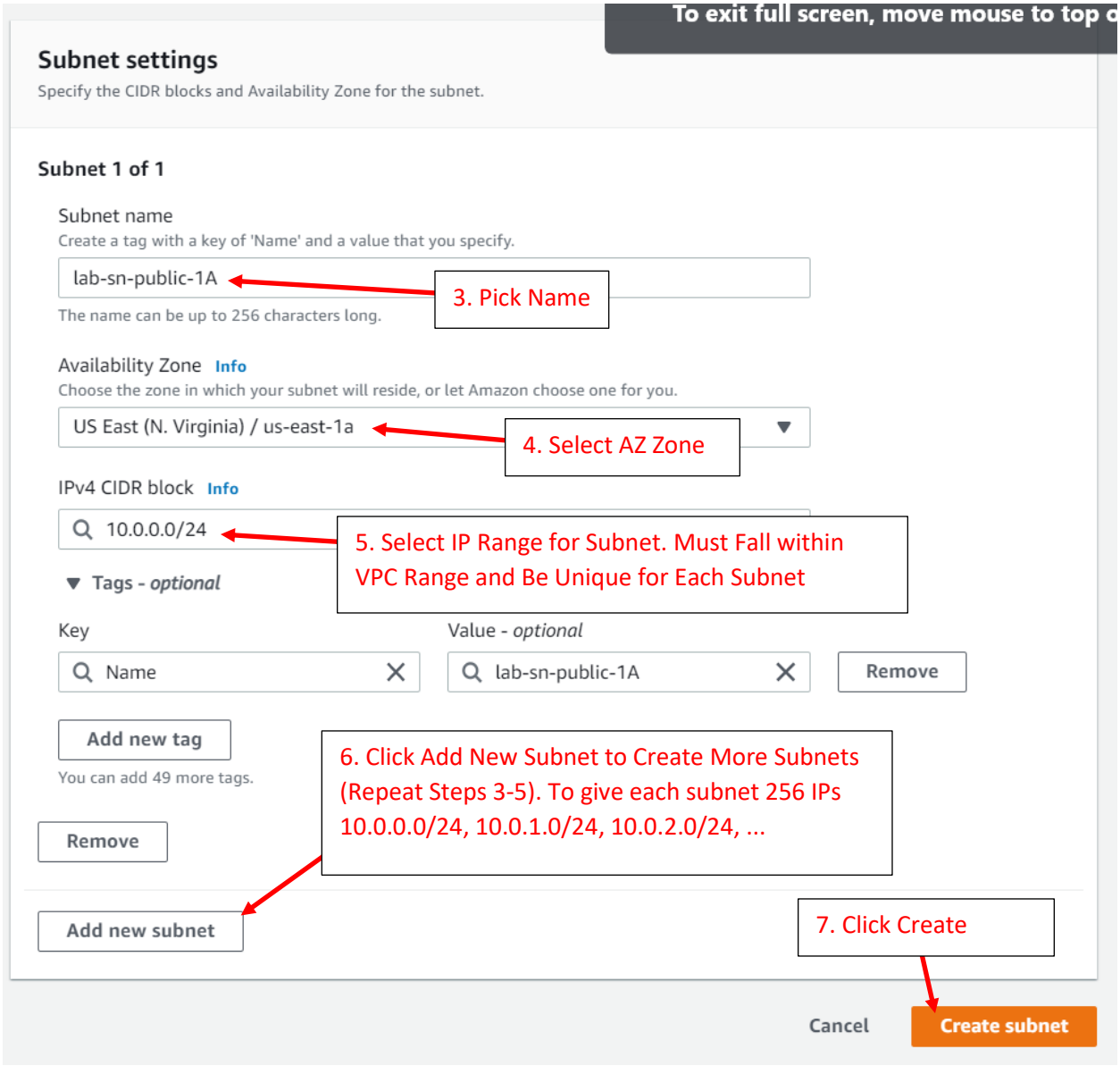
Go to the Subnets Display



Create Subnet






To exit full screen, move mouse to top o
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.
lab-sn-public-1A
3. Pick Name
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.
US East (N. Virginia) / us-east-1a
4. Select AZ Zone
IPv4 CIDR block Info
10.0.0.0/24
5. Select IP Range for Subnet. Must Fall within VPC Range and Be Unique for Each Subnet
Tags - optional
Key
Value - optional
Name
lab-sn-public-1A
Remove
Add new tag
You can add 49 more tags.
6. Click Add New Subnet to Create More Subnets (Repeat Steps 3-5). To give each subnet 256 IPs 10.0.0.0/24, 10.0.1.0/24, 10.0.2.0/24, ...
Remove
Add new subnet
7. Click Create
Cancel
Create subnet

3A) Create public subnets by enabling **auto-assign public IPv4 addresses**.

Go Back to the Subnet Display