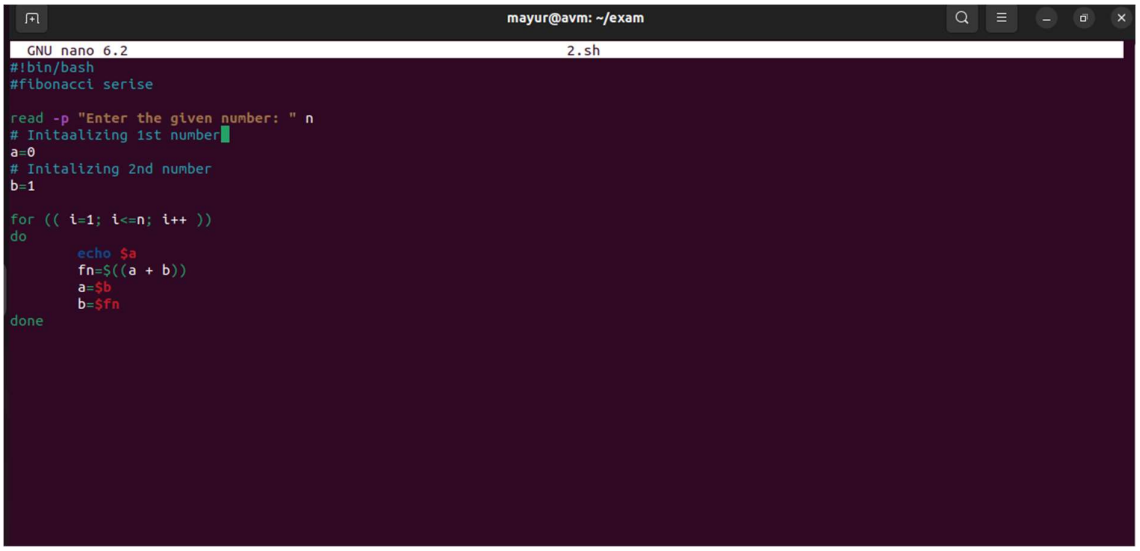
Linux

Q1)

```
#!bin/bash
# TO check leap year
read -p "Enter the year:" y

if [[ $(( y % 4 )) -eq 0 && $(( y % 100 )) -ne 0 || $(( y % 400 )) -eq 0 ]]
then
        echo "$y is a leap year"
else
        echo "$y is not a leap year"

fi
```

```
mayur@avm:~/exam$ nano 1.sh
mayur@avm:~/exam$ bash 1.sh
Enter the year:2020
2020 is a leap year
```

Q2)



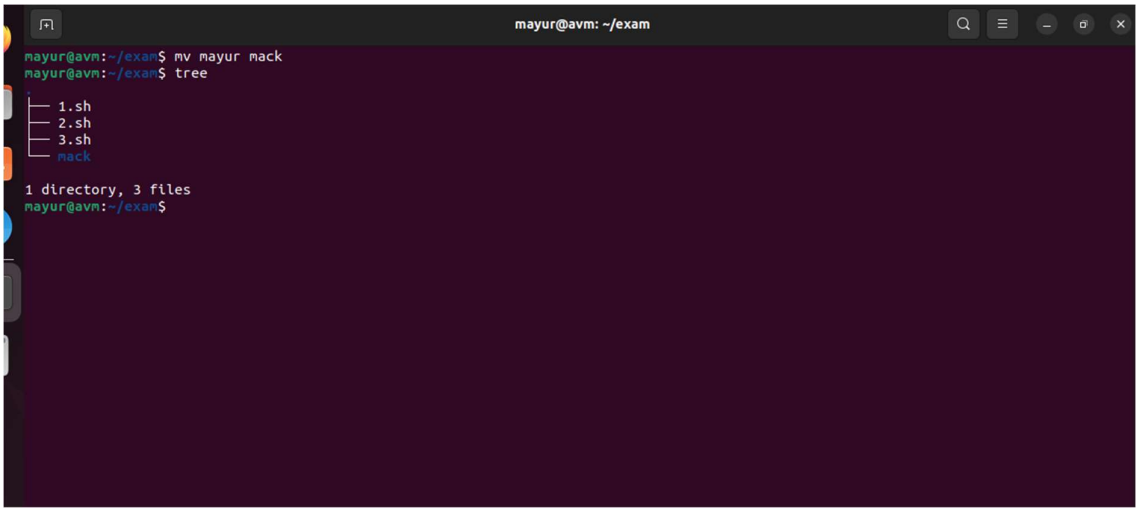

```
mayur@avm:~/exam$ nano 2.sh
mayur@avm:~/exam$ bash 2.sh
Enter the given number: 5
0
1
1
2
3
mayur@avm:~/exam$
```

Q3)

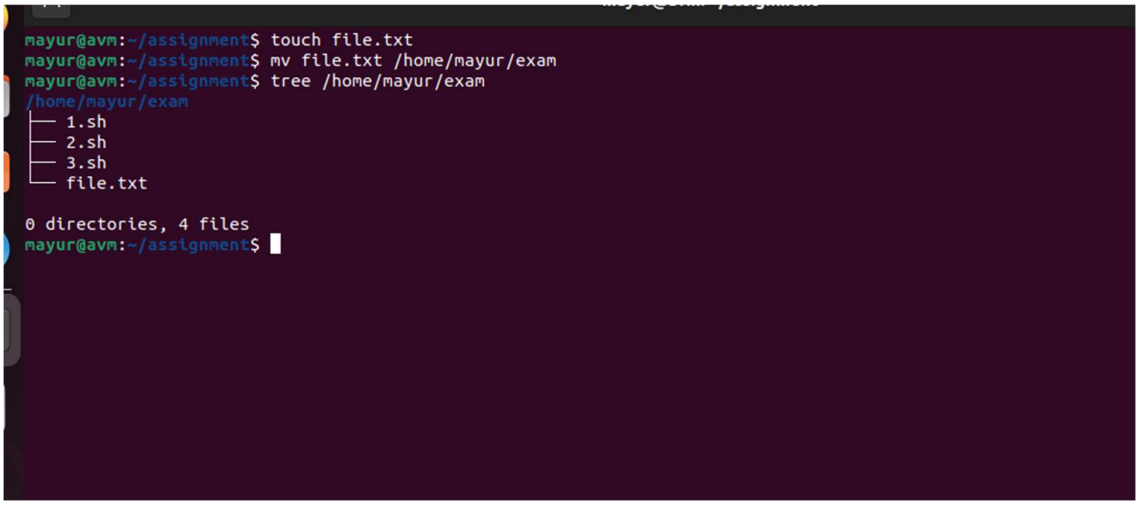
i)

```
mayur@avm:~/exam$ rm -r mack
mayur@avm:~/exam$ tree
.
├── 1.sh
├── 2.sh
└── 3.sh

0 directories, 3 files
mayur@avm:~/exam$
```

ii)



iii)



iv)

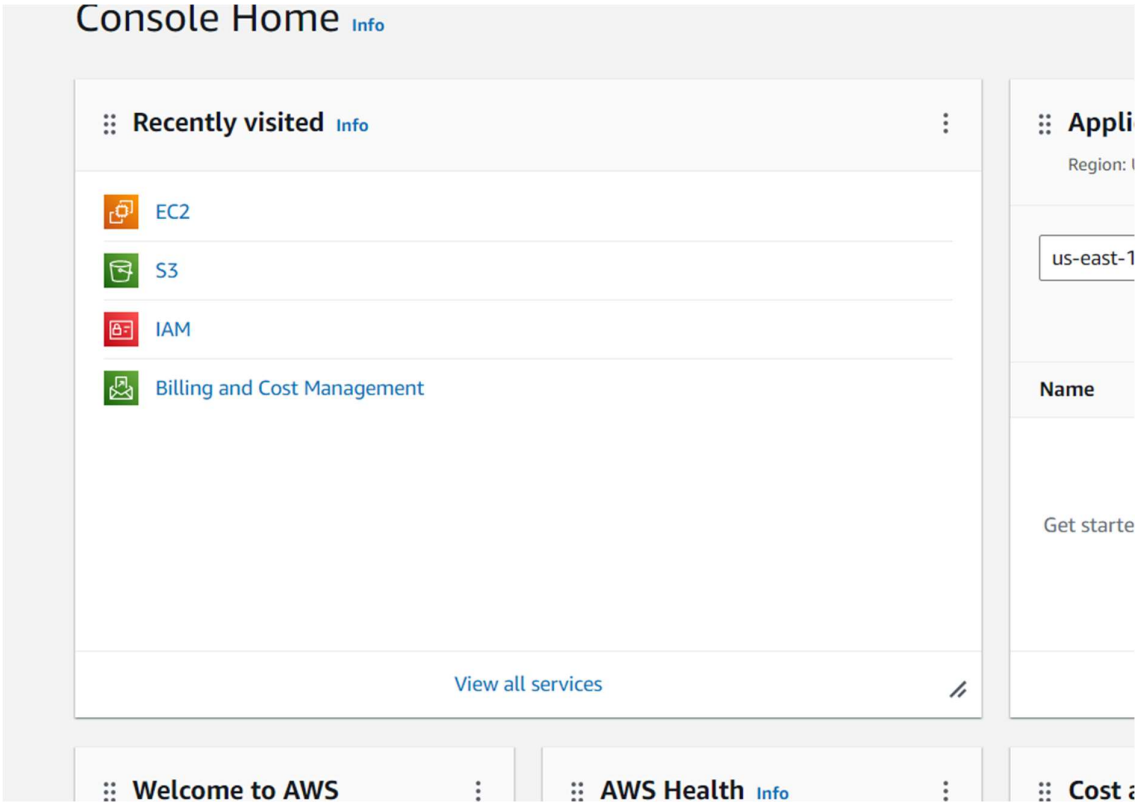
```
mayur@avm:~/exam$ mkdir name
mayur@avm:~/exam$ tree
.
├── 1.sh
├── 2.sh
├── 3.sh
├── file.txt
└── name

1 directory, 4 files
mayur@avm:~/exam$ rm -r name
mayur@avm:~/exam$ tree
.
├── 1.sh
├── 2.sh
├── 3.sh
└── file.txt

0 directories, 4 files
mayur@avm:~/exam$
```

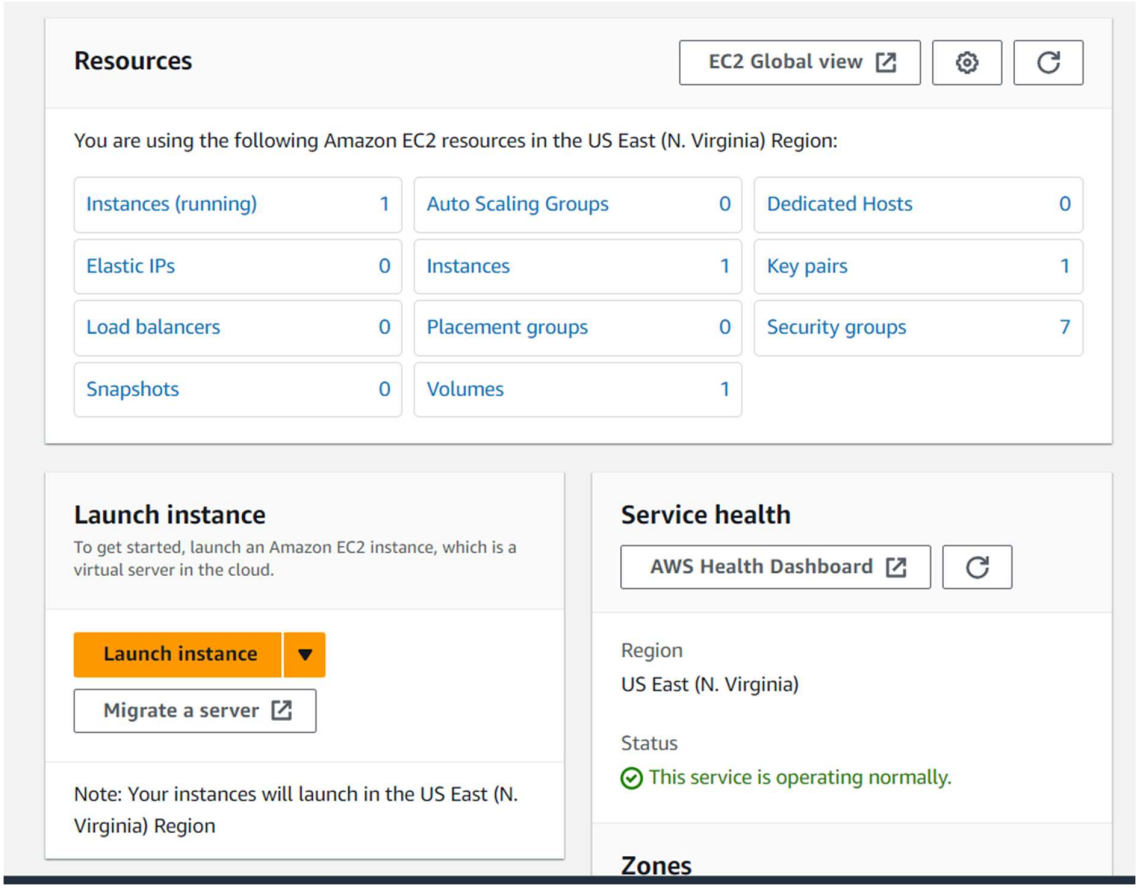
v)

```
mayur@avm:~/exam$ touch file1.txt
mayur@avm:~/exam$ ln file1.txt newfile1.txt
mayur@avm:~/exam$ tree
.
├── 1.sh
├── 2.sh
├── 3.sh
├── file1.txt
└── newfile1.txt

0 directories, 5 files
mayur@avm:~/exam$
```

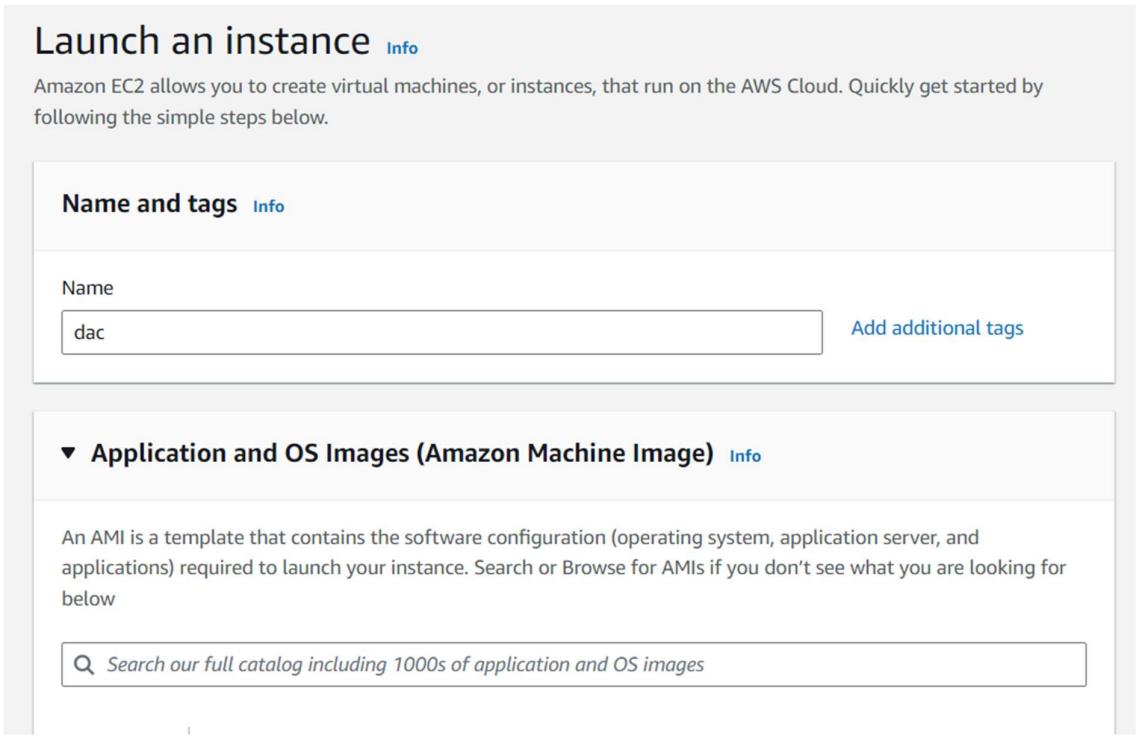
Cloud

Q1) To create EC2 instance and access through putty

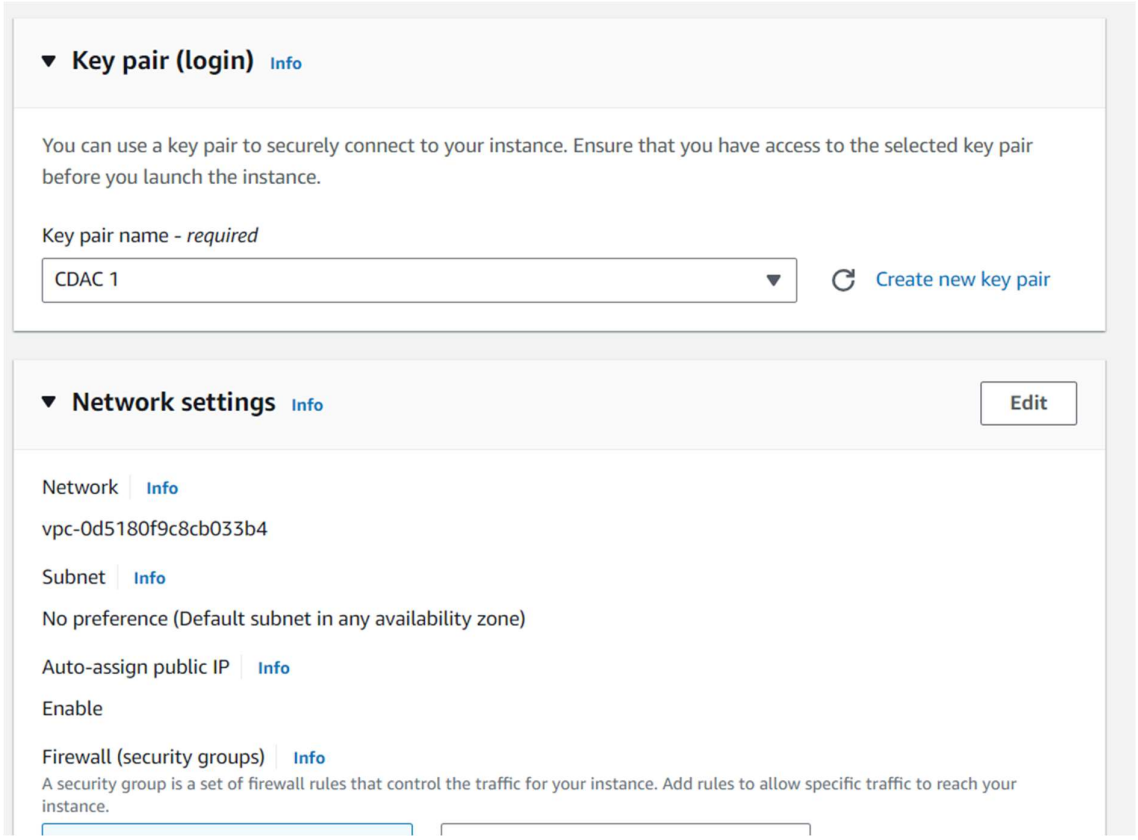




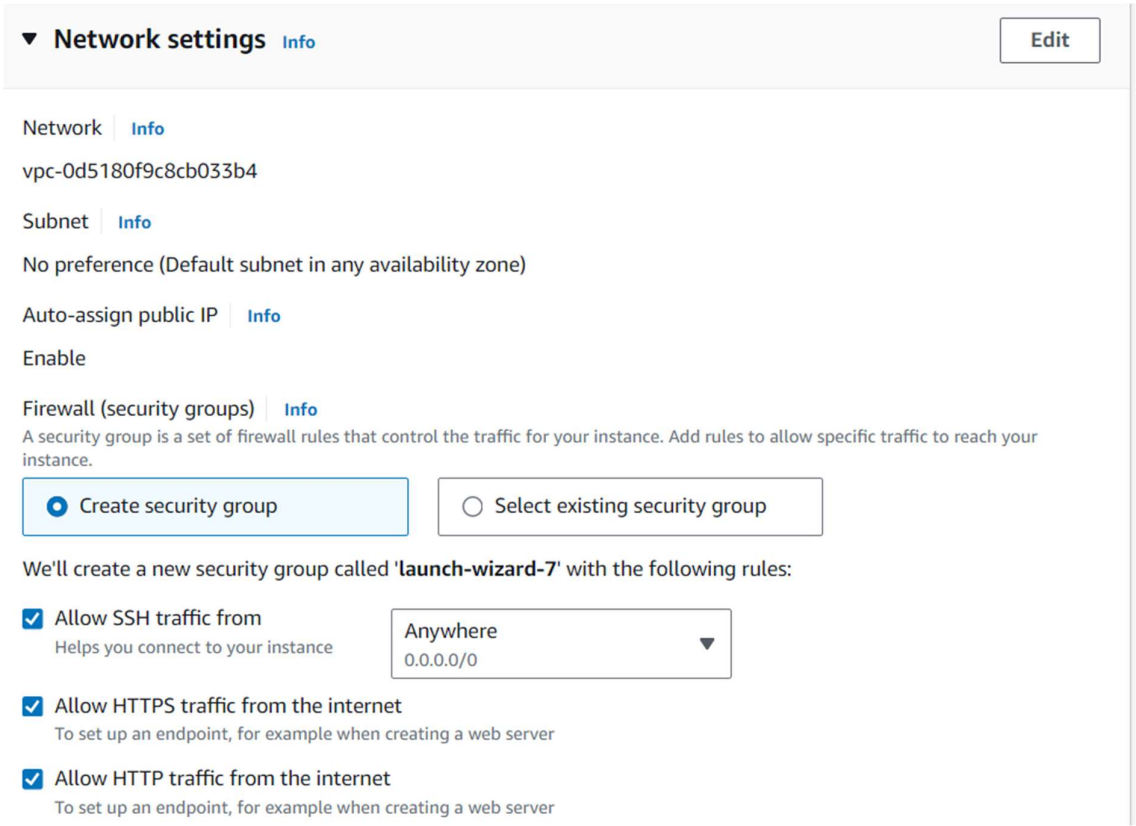
Here we click on EC2 and launch it



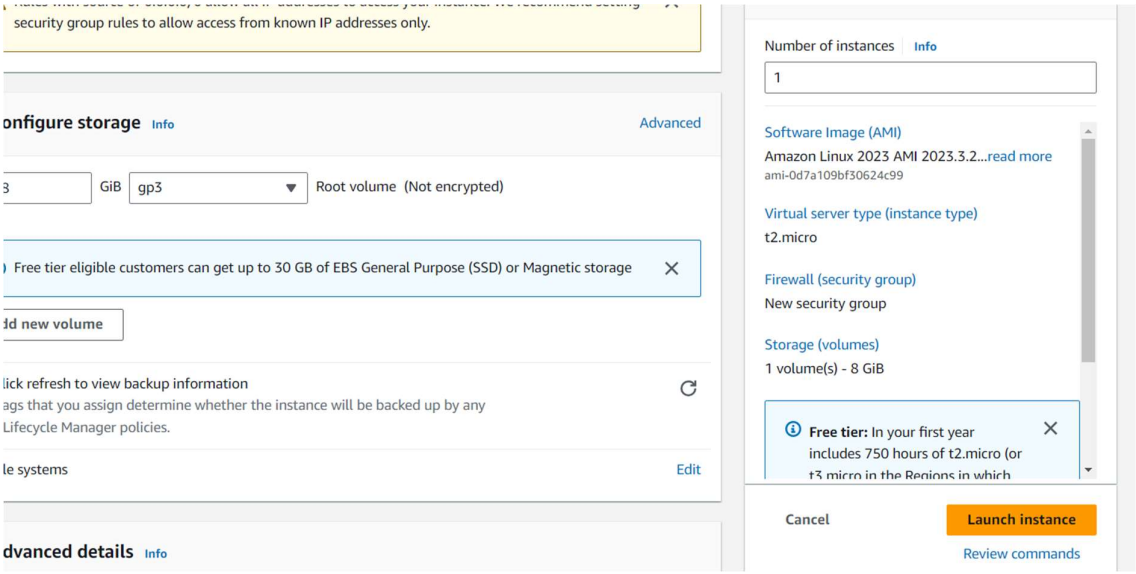
After launching we give name to our instance



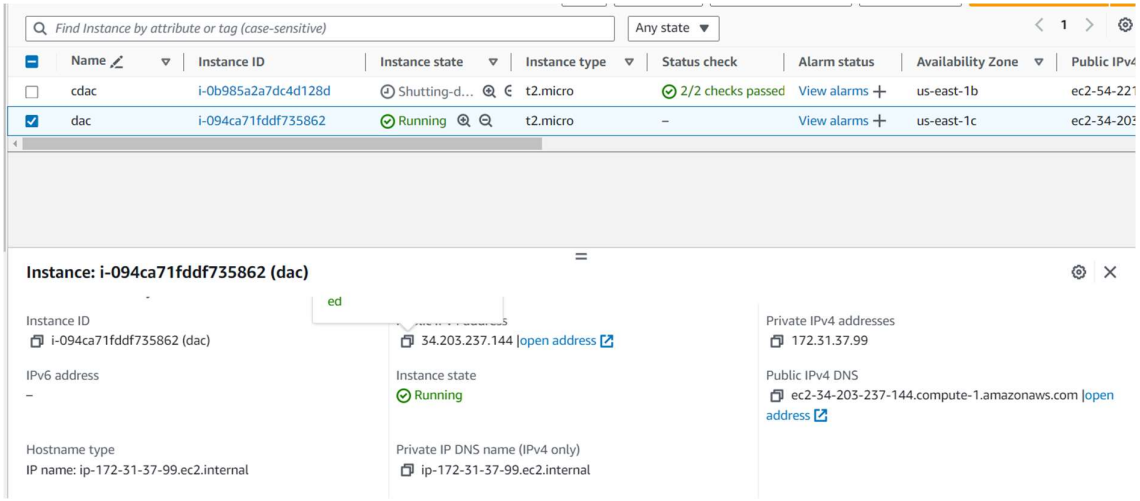
After that we create a key pair



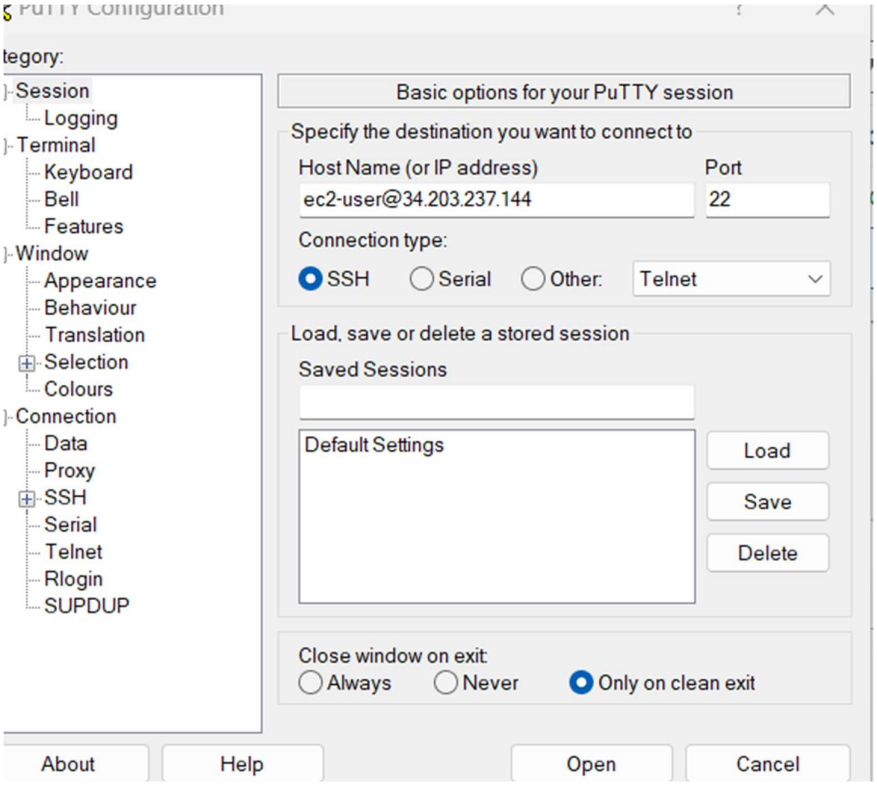
after creating key we allow HTTPS traffic



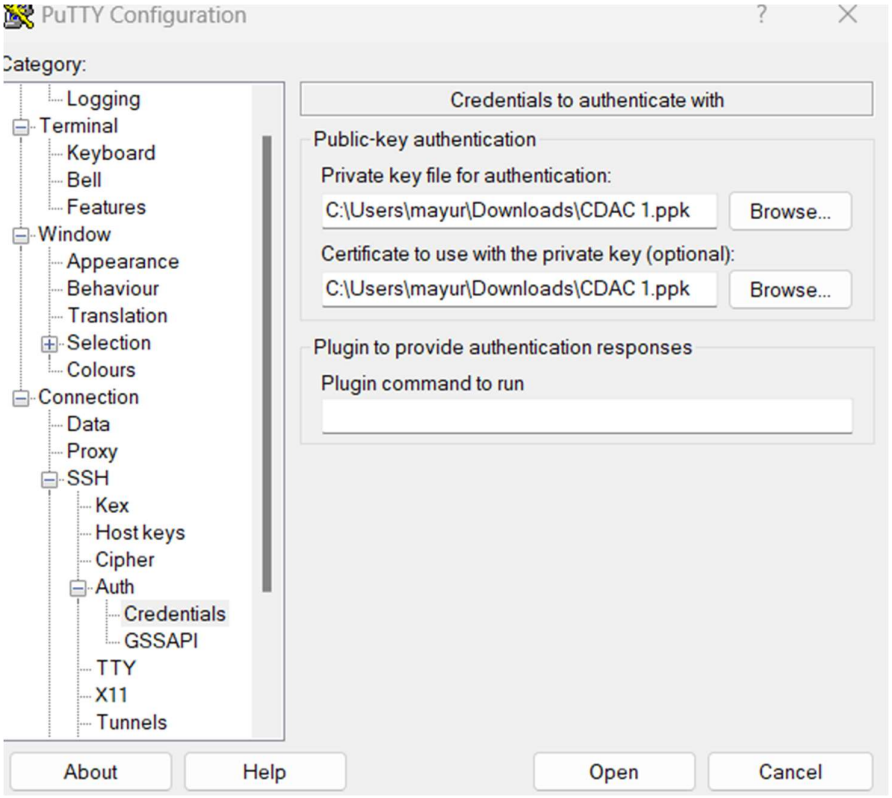
Then we launch our instance



dac is our instance and we copy the public address



Here we put connect our ec2 instance to putty by putting ec2-user@34.203.237.144 hostname



After that we gave credential authentication

Our ec2 instance able to access putyy

```
Unable to use certificate file "C:\Users\mayur\Downloads\CDAC 1.ppk" (PuTTY S
SH-2 private key)
Using username "ec2-user".
Authenticating with public key "CDAC 1"
  ,     #_
  ~\_  ####_        Amazon Linux 2023
 ~~  \_#####\
 ~~     \###|
 ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
  ~~       V~' '->
   ~~~         /
     ~~._.   _/
        _/ _/
      _/m/'
[ec2-user@ip-172-31-37-99 ~]$ sudo -i
[root@ip-172-31-37-99 ~]# yum install httpd -y
```

We install necessary library

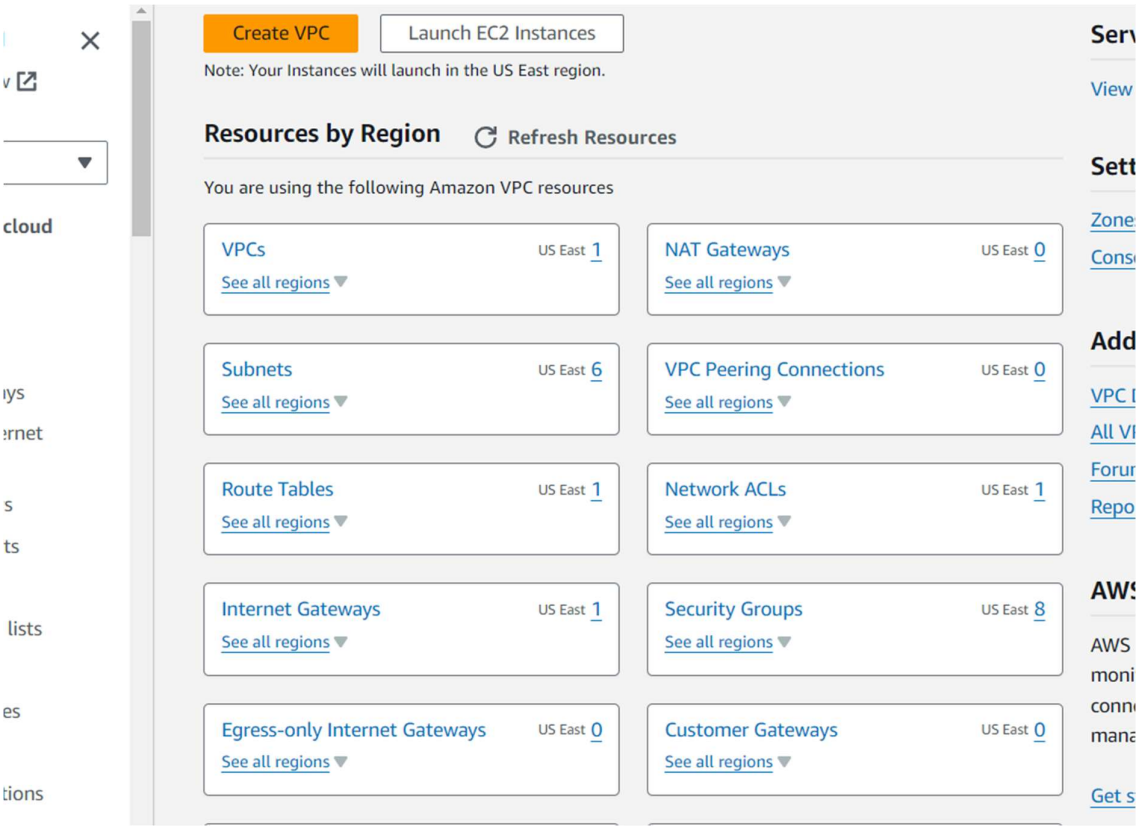
```
Installed:
  apr-1.7.2-2.amzn2023.0.2.x86_64          apr-util-1.6.3-1.amzn2023.0.1.x86_64     apr-util-openssl-1.6.3-1.amzn20
  httpd-2.4.58-1.amzn2023.x86_64           httpd-core-2.4.58-1.amzn2023.x86_64      httpd-filesystem-2.4.58-1.amzn2
  libbrotli-1.0.9-4.amzn2023.0.2.x86_64    mailcap-2.1.49-3.amzn2023.0.3.noarch     mod_http2-2.0.11-2.amzn2023.x86

Complete!
[root@ip-172-31-37-99 ~]# systemctl start httpd
[root@ip-172-31-37-99 ~]# systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[root@ip-172-31-37-99 ~]# cd /var/www/html
[root@ip-172-31-37-99 html]# vi index.html
[root@ip-172-31-37-99 html]#
```

We use this command to create html page

Hello world

After running this 34.203.237.144/ IP address it will give Hello world because we type Hello world in our index.html file

Q2)



Here we click on create vpc

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.

cdac

IPv4 CIDR block Info

- (•) IPv4 CIDR manual input
- ( ) IPAM-allocated IPv4 CIDR block

IPv4 CIDR

10.0.0.0/24

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

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

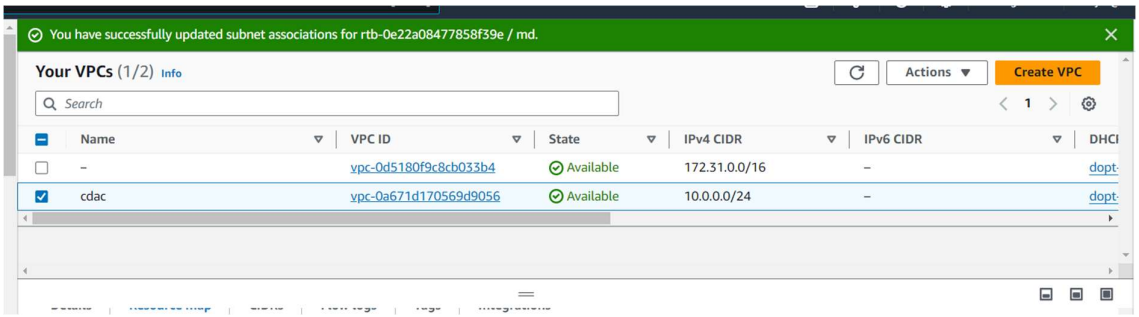
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

No tags associated with the resource

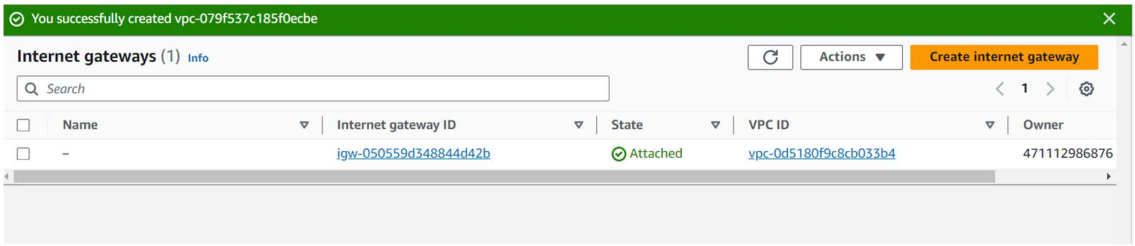
Add tag

You can add 50 more tags

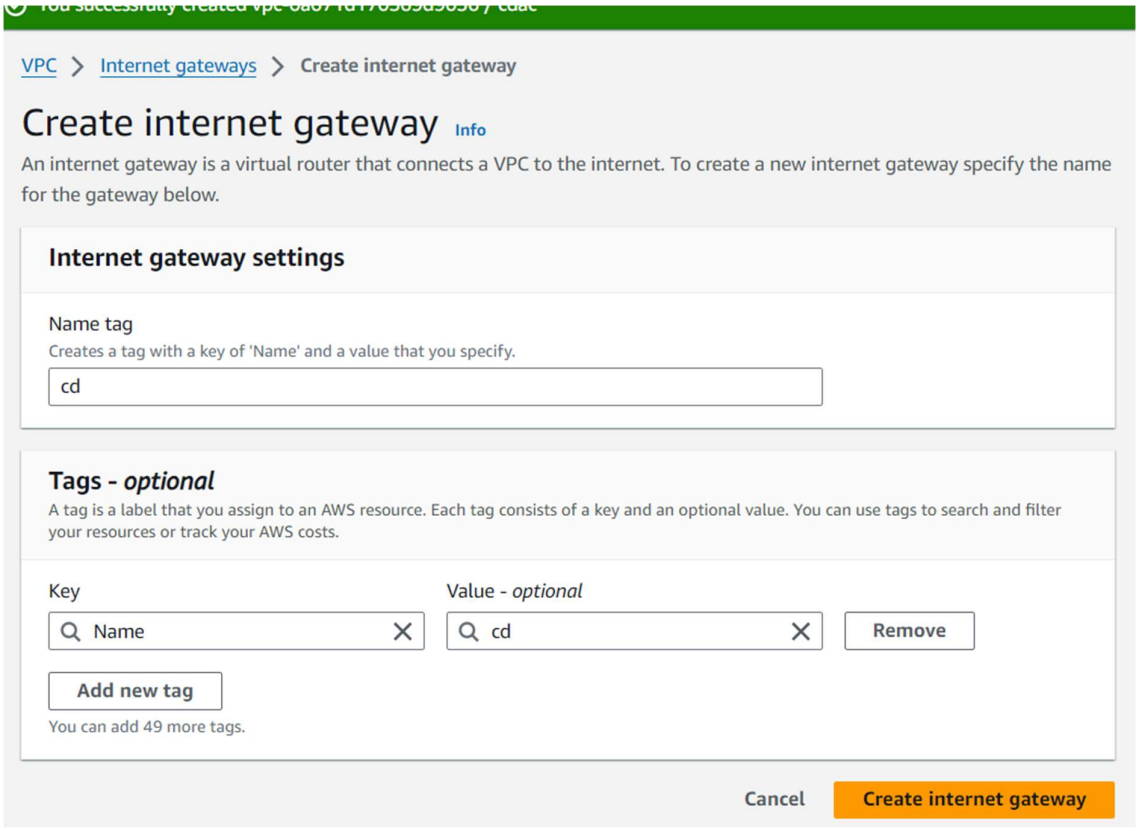
Cancel | Create VPC

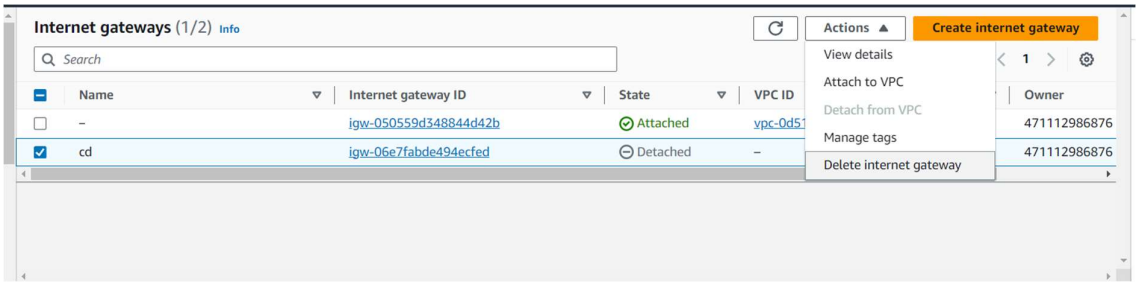


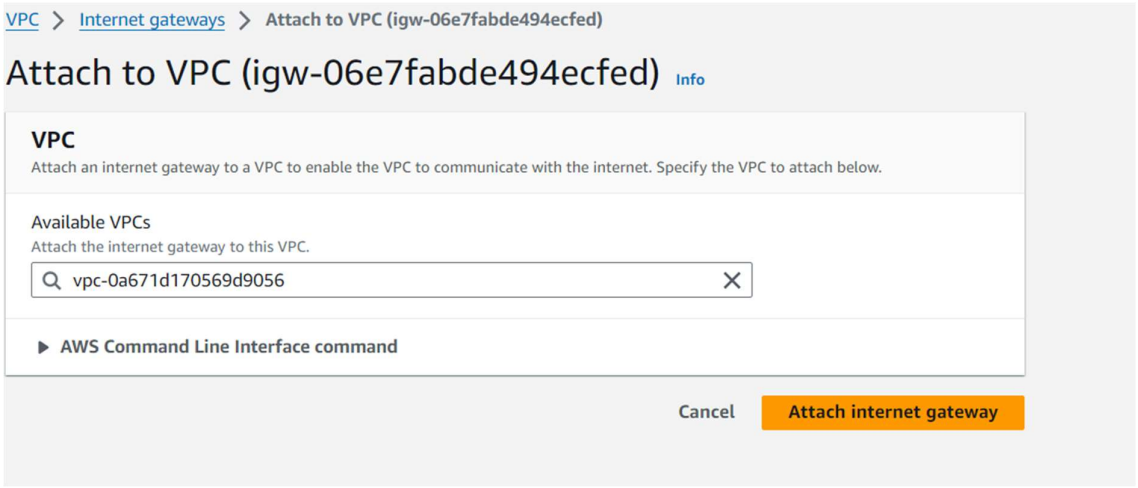
Here we gave VPC name as cdac and we create vpc



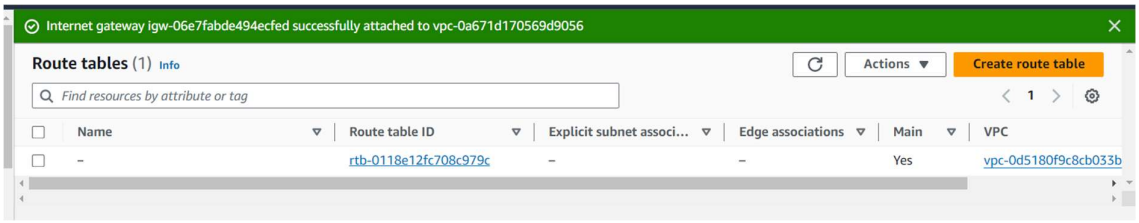
After that we click on internet gateway to create internet gateway







Here we create our internet gateway cd and we attach it to VPC



Route table settings

Name - *optional*

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

md

VPC

The VPC to use for this route table.

vpc-0a671d170569d9056 (cdac)

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*	
Name	md	Remove

Add new tag

You can add 49 more tags.

Cancel | Create route table

After that we create route table name as md

Route table rtb-0e22a08477858f39e | md was created successfully.

Subnets (6) Info

Actions | Create subnet

Find resources by attribute or tag

1

Name	Subnet ID	State	VPC	IPv4 CIDR
–	subnet-0101ec03af3e743dd	Available	vpc-0d5180f9c8cb033b4	172.31.80.0/20
–	subnet-076f14277a9535317	Available	vpc-0d5180f9c8cb033b4	172.31.32.0/20
–	subnet-03a903c6c7c1d819a	Available	vpc-0d5180f9c8cb033b4	172.31.48.0/20
–	subnet-0e9da11fb4fbfa2e8	Available	vpc-0d5180f9c8cb033b4	172.31.0.0/20
–	subnet-02e5610962ecf7791	Available	vpc-0d5180f9c8cb033b4	172.31.64.0/20
–	subnet-0ed73009178c17c9c	Available	vpc-0d5180f9c8cb033b4	172.31.16.0/20

VPC ID

Create subnets in this VPC.

vpc-0a671d170569d9056 (cdac)

Associated VPC CIDRs

IPv4 CIDRs

10.0.0.0/24

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.

mayur

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

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

10.0.0.0/24

IPv4 subnet CIDR block

10.0.0.0/28 16 IPs

▼ Tags - *optional*

Key | Value - *optional*

Name | mayur | Remove

Add new tag

You can add 49 more tags.

Remove

Add new subnet

Cancel | Create subnet

After creating route table we create subnet name as mayur

Route tables (1/3) Info

Actions | Create route table

Find resources by attribute or tag

Name	Route table ID	Explicit subnet associ...	Edge associations	Main	VPC
–	rtb-0118e12fc708c979c	–	–	Yes	vpc-0d5180f9c8cb033b
–	rtb-02a993af024d6b128	–	–	Yes	vpc-0a671d170569d90
md	rtb-0e22a08477858f39e	–	–	No	vpc-0a671d170569d90

rtb-0e22a08477858f39e / md

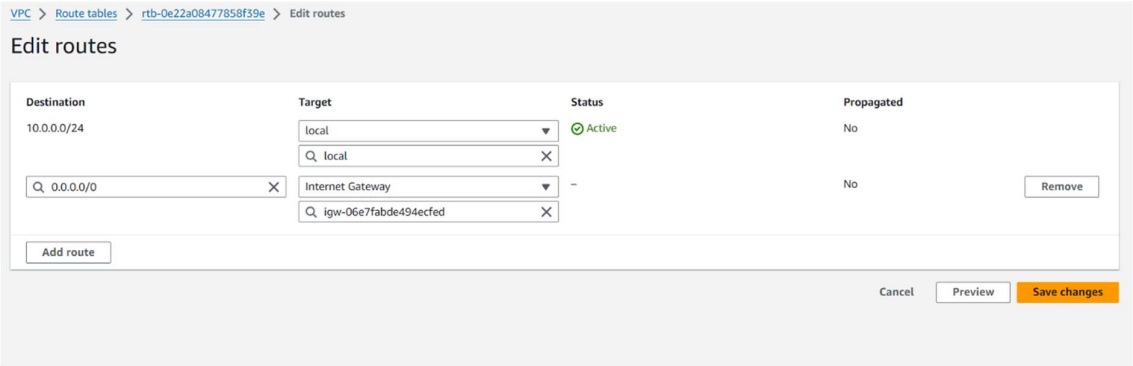
Details | Routes | Subnet associations | Edge associations | Route propagation | Tags

Routes (1)

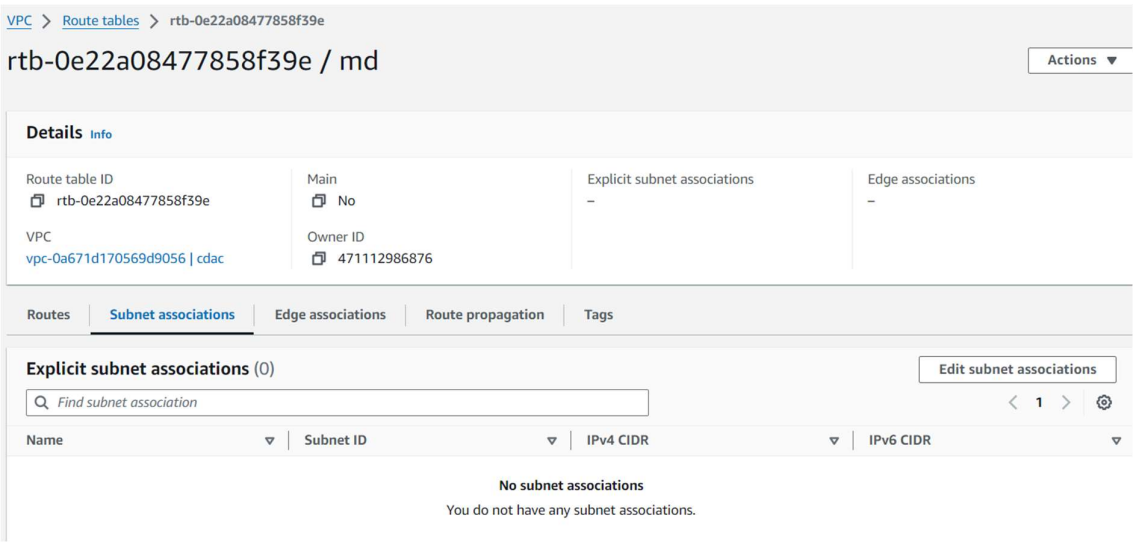
Both | Edit routes

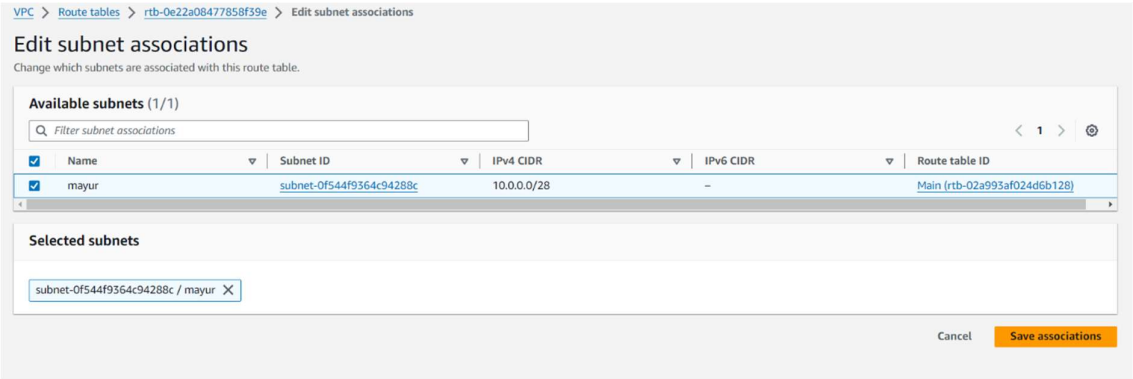
Filter routes

Destination	Target	Status	Propagated
10.0.0.0/24	local	Active	No



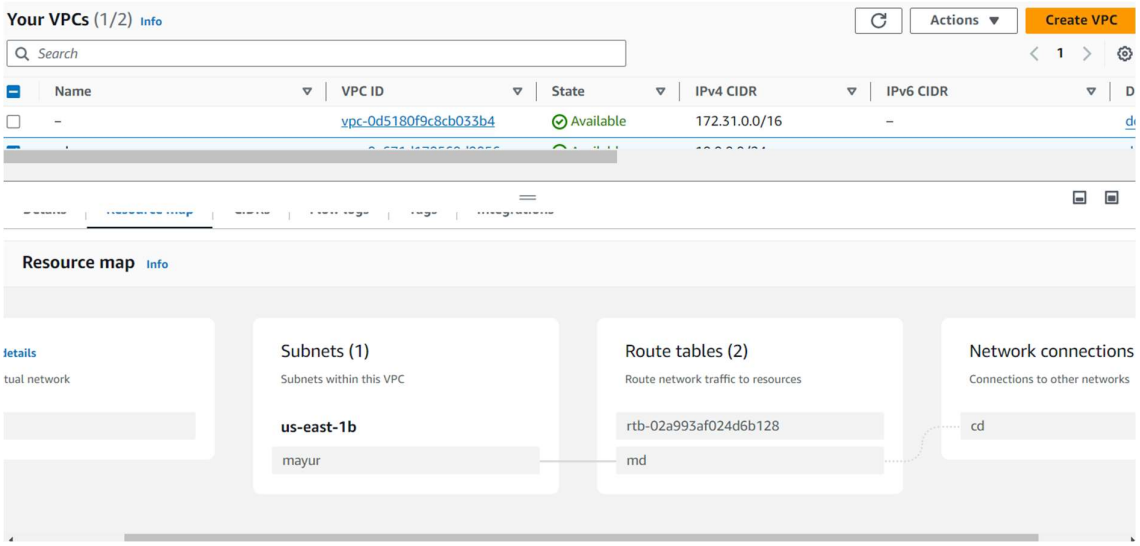
After that we again go in route table > routes from there we add Route





After that we did subnet connection

Route tables> Subnet associations >Edit subnet association>click on Mayur



Now our connection is done mayur > md > cd