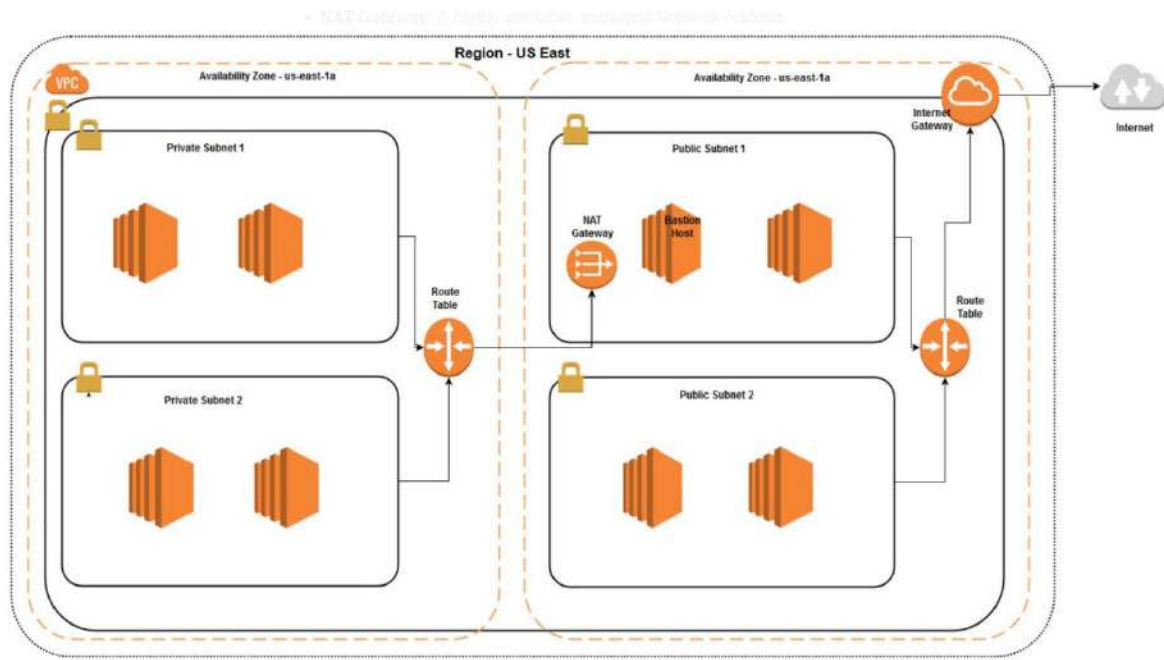


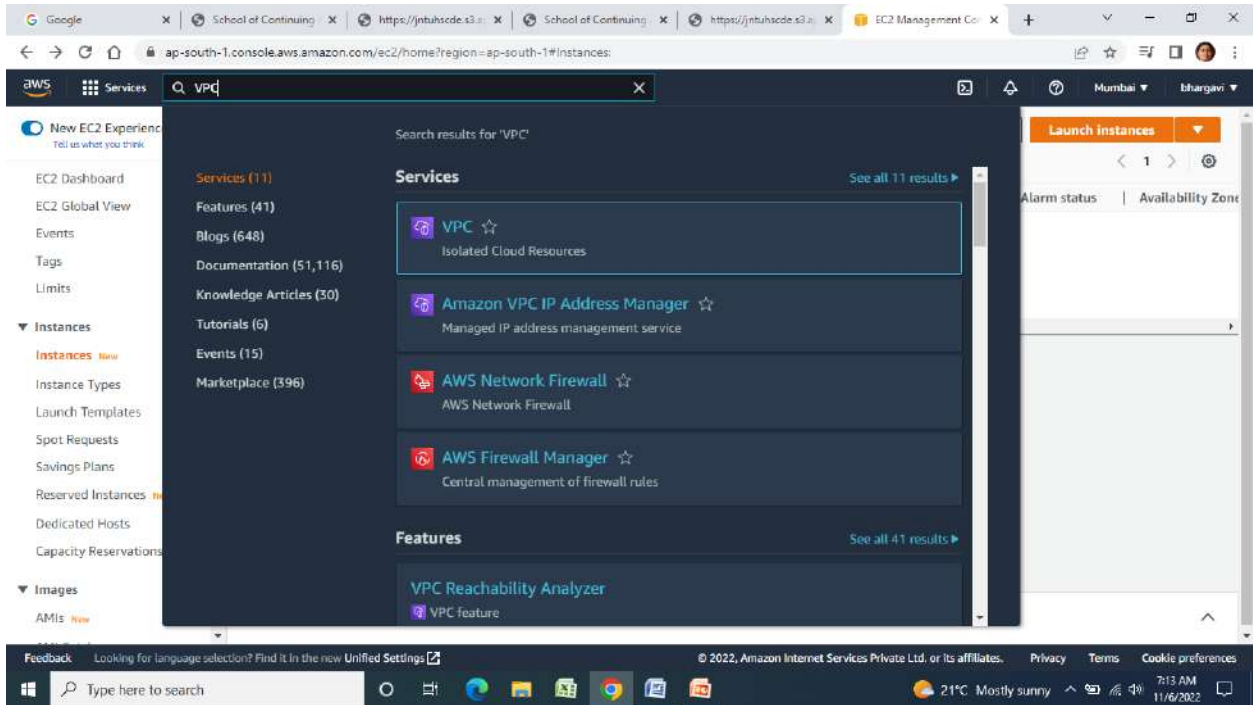
KANDADAI BHARGAVI

Assignment:

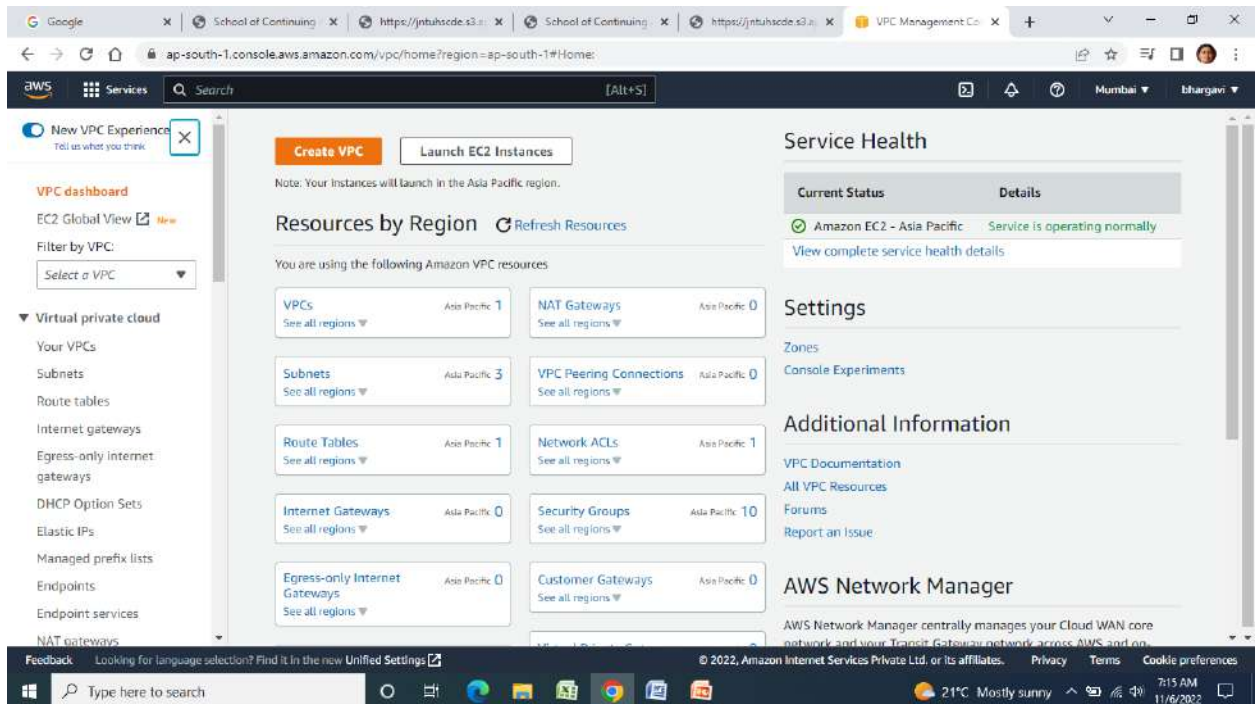
1. VPC with 2 public subnets & 2 private subnet having Internet gateway and NAT gateway



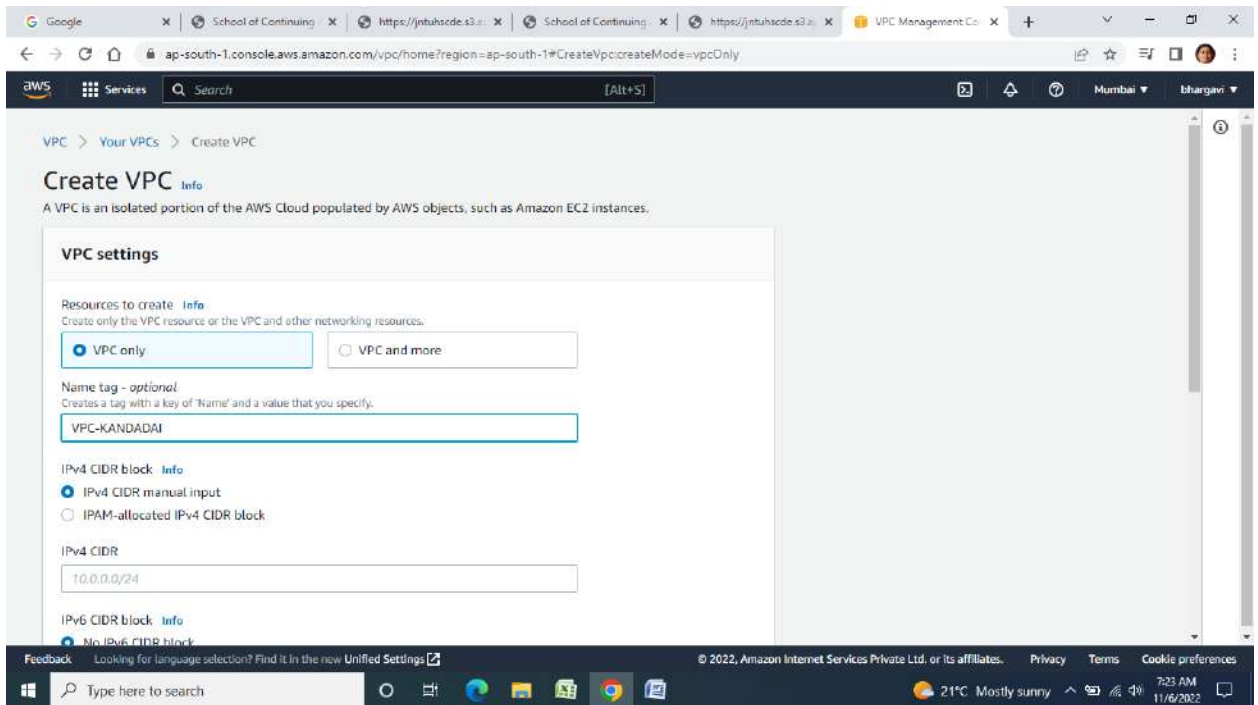
1. Go to VPC option



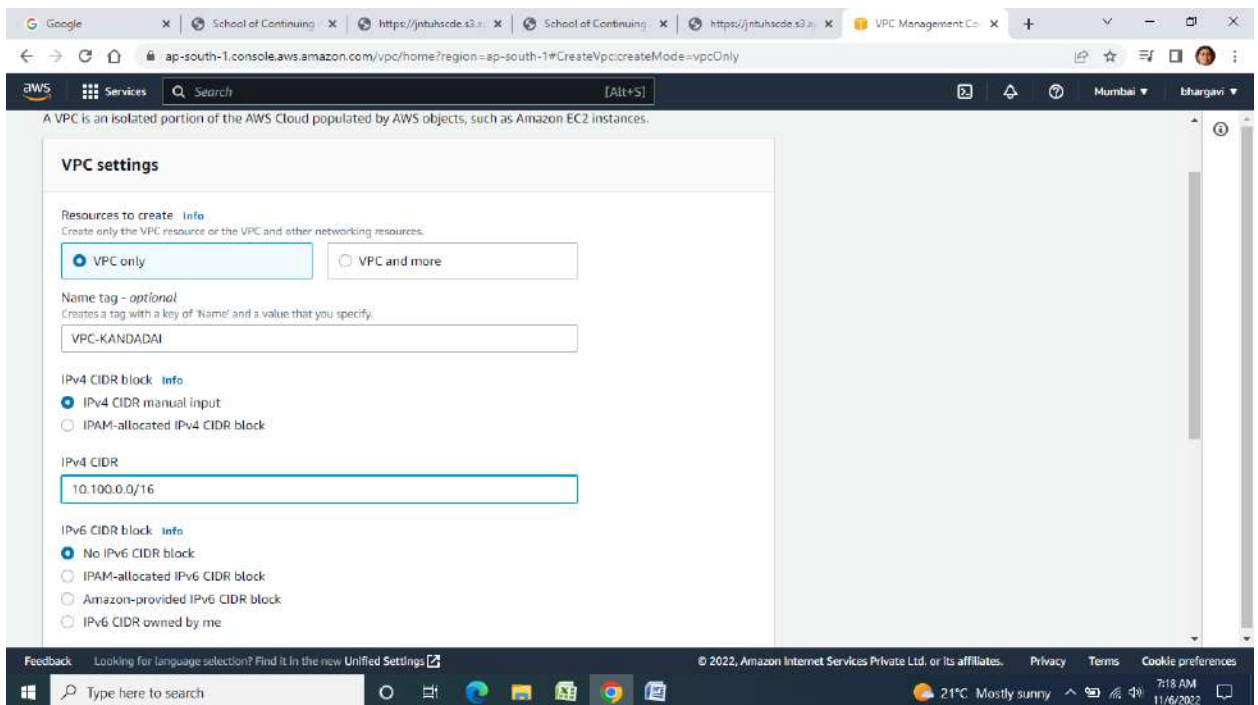
2. Select VPC- and click on create VPC option



3. Select VPC only



3. Give the IPV4 for VPC-10.100.0.0/16



5. Click on create VPC

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: Name Value - optional: VPC-KANDADAI

Buttons: Add new tag, Cancel, Create VPC

6. VPC created

New VPC Experience

VPC dashboard

EC2 Global View

Filter by VPC: Select a VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet gateways

DHCP Option Sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

You successfully created vpc-05e89650ca44ae6cf / VPC-KANDADAI

VPC > Your VPCs > vpc-05e89650ca44ae6cf

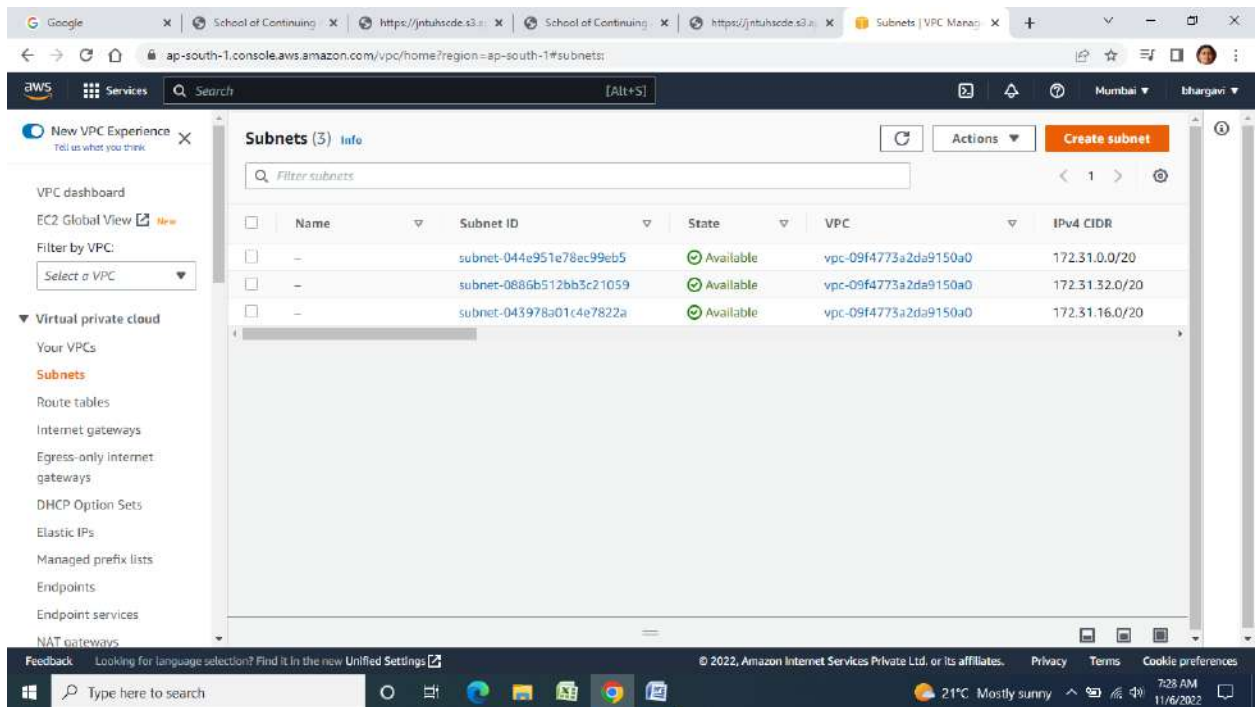
vpc-05e89650ca44ae6cf / VPC-KANDADAI

Actions

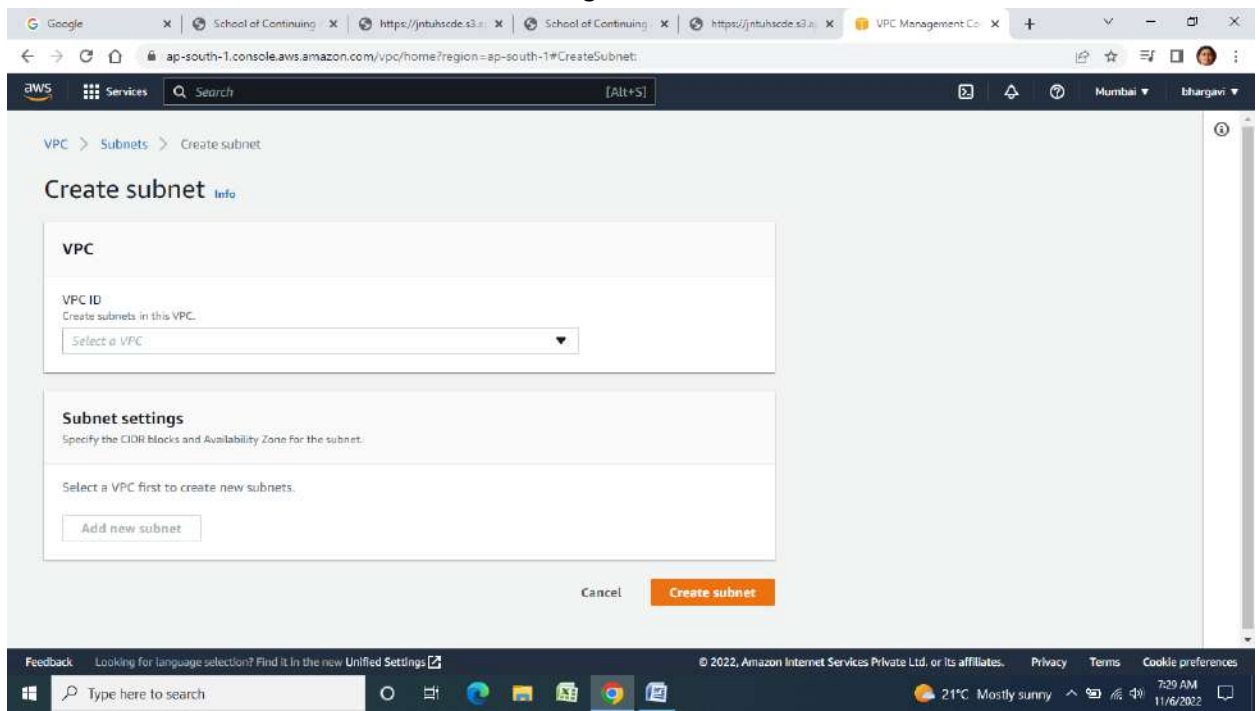
Details info

VPC ID vpc-05e89650ca44ae6cf	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-04c305ee277ea5395	Main route table rtb-05d9e64ddd82c7e69	Main network ACL acl-0e990cd03204a95c4
Default VPC No	IPv4 CIDR 10.100.0.0/16	IPv6 pool -	IPv6 CIDR (Network border group) -
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups -	Owner ID 092168538012	

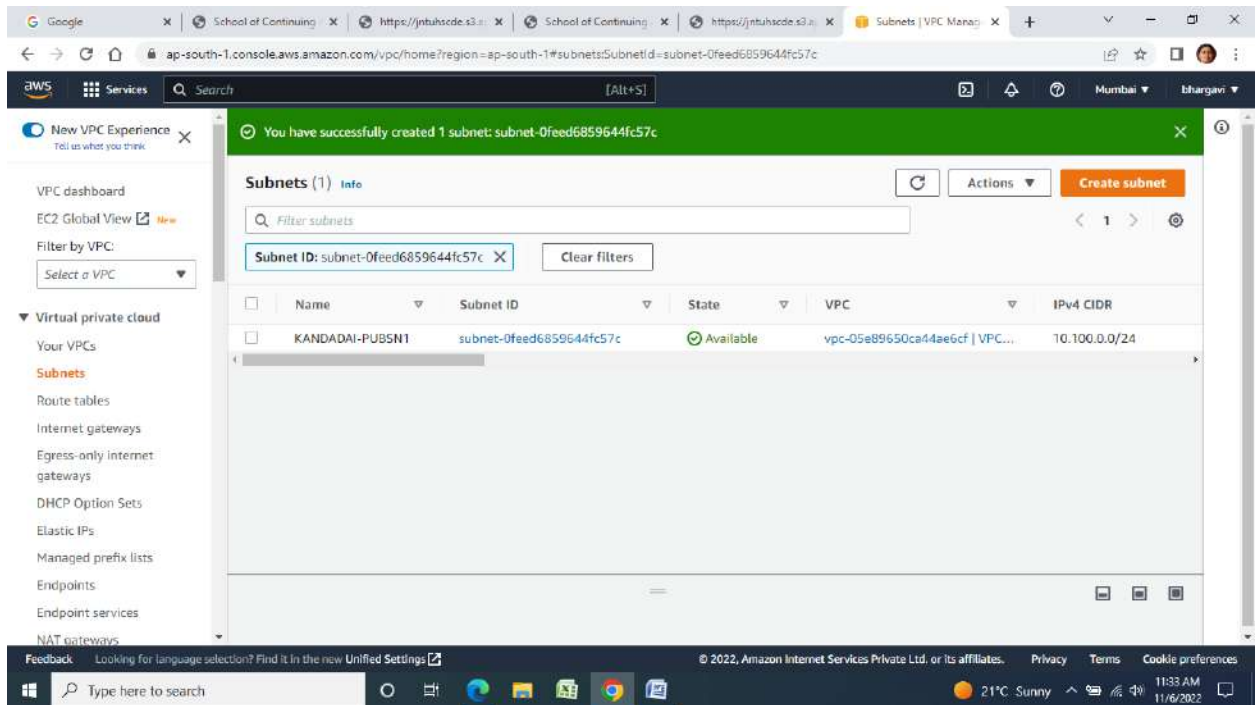
7. Now we need to create Subnets-two public &two private subnets
- 8.Select Subnet option on left pane of the window-click create subnet



9. Select VPC that is created and fill the remaining details



10. Create a subnet with IP-10.100.0.0/16

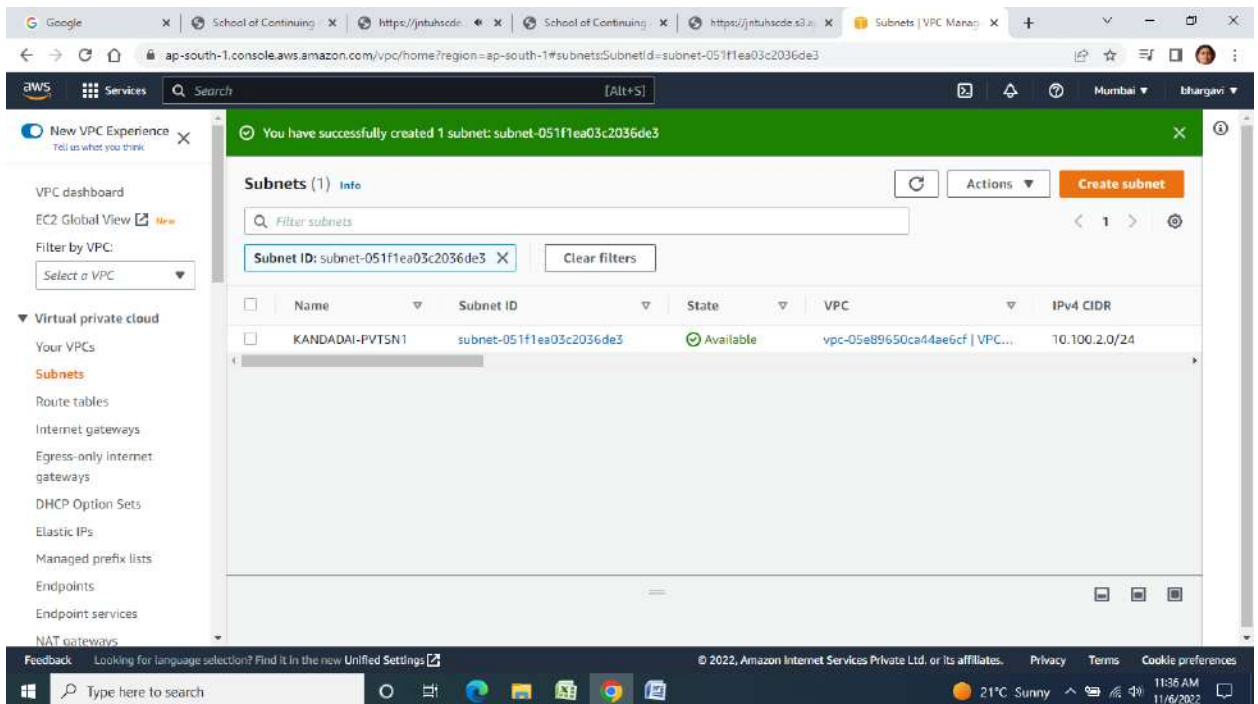
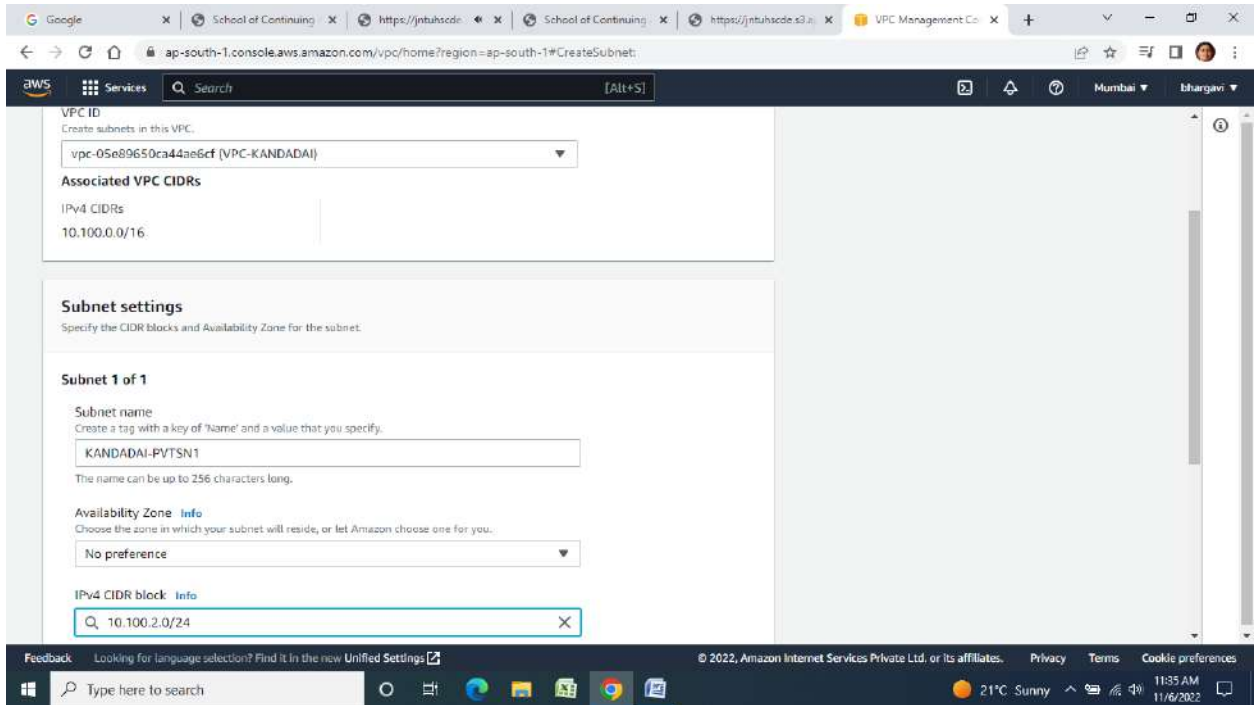


The screenshot displays the AWS Management Console interface. At the top, a green notification banner states: "You have successfully created 1 subnet: subnet-0feed6859644fc57c". Below this, the "Subnets (1) Info" section is visible, featuring a search bar and a "Create subnet" button. A filter is applied to the Subnet ID: "subnet-0feed6859644fc57c". The main content area shows a table with one entry:

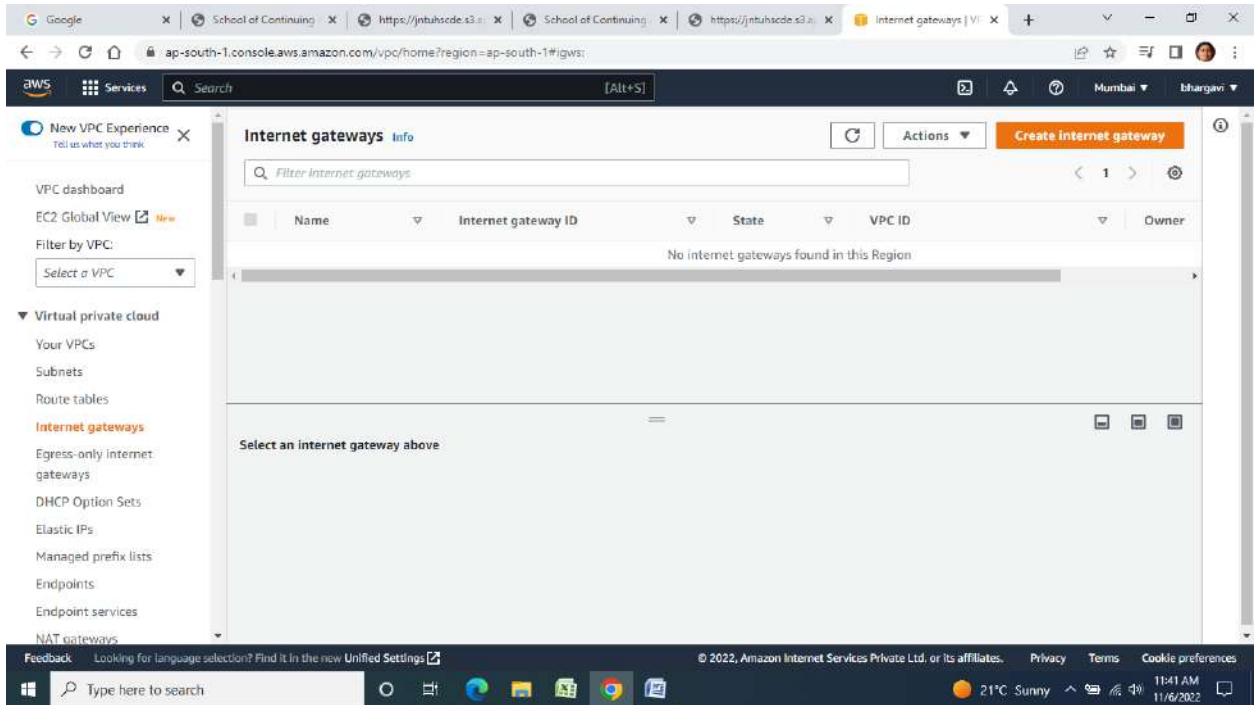
<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR
<input type="checkbox"/>	KANDADAI-PUBSNT	subnet-0feed6859644fc57c	Available	vpc-05e89650ca44ae6cf VPC...	10.100.0.0/24

The left-hand navigation pane lists various VPC services, with "Subnets" highlighted. The bottom of the screen shows the Windows taskbar with the time 11:33 AM on 11/6/2022 and a temperature of 21°C.

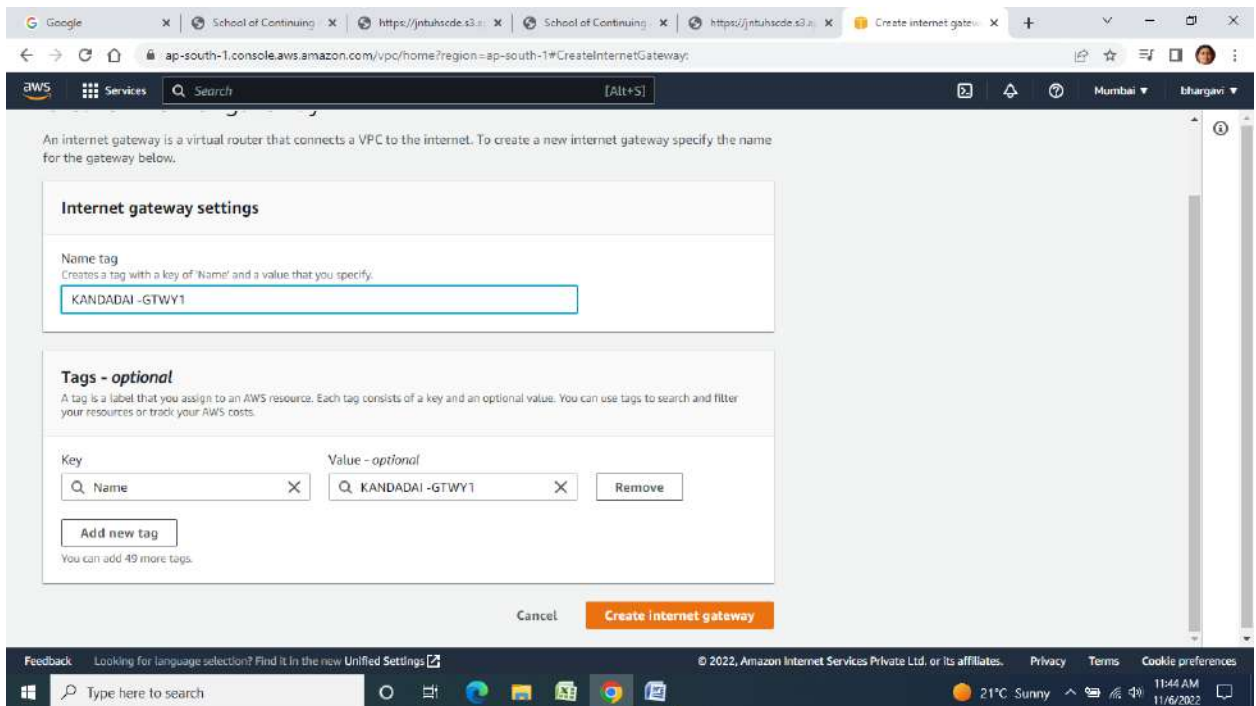
11. Create one private subnet-10.100.2.0/24



12. Now create internet gateway-selecting an option at the left pane of window



12. Just click on create gateway option and the following screen appears, give name to the gateway and click create gateway option



Gateway created

The screenshot shows the AWS Management Console interface. At the top, a green notification banner states: "The following internet gateway was created: igw-07bead86a23e594ea - KANDADAI - GTWY1. You can now attach to a VPC to enable the VPC to communicate with the internet." Below this, the breadcrumb navigation is "VPC > Internet gateways > igw-07bead86a23e594ea". The main heading is "igw-07bead86a23e594ea / KANDADAI - GTWY1".

The "Details" section contains the following information:

Internet gateway ID	State	VPC ID	Owner
igw-07bead86a23e594ea	Detached	-	092168538012

The "Tags" section shows a single tag:

Key	Value
Name	KANDADAI - GTWY1

The left-hand navigation pane is visible, with "Internet gateways" selected under the "Virtual private cloud" section. The bottom of the screen shows the Windows taskbar with the date and time as 11:45 AM on 11/6/2022.

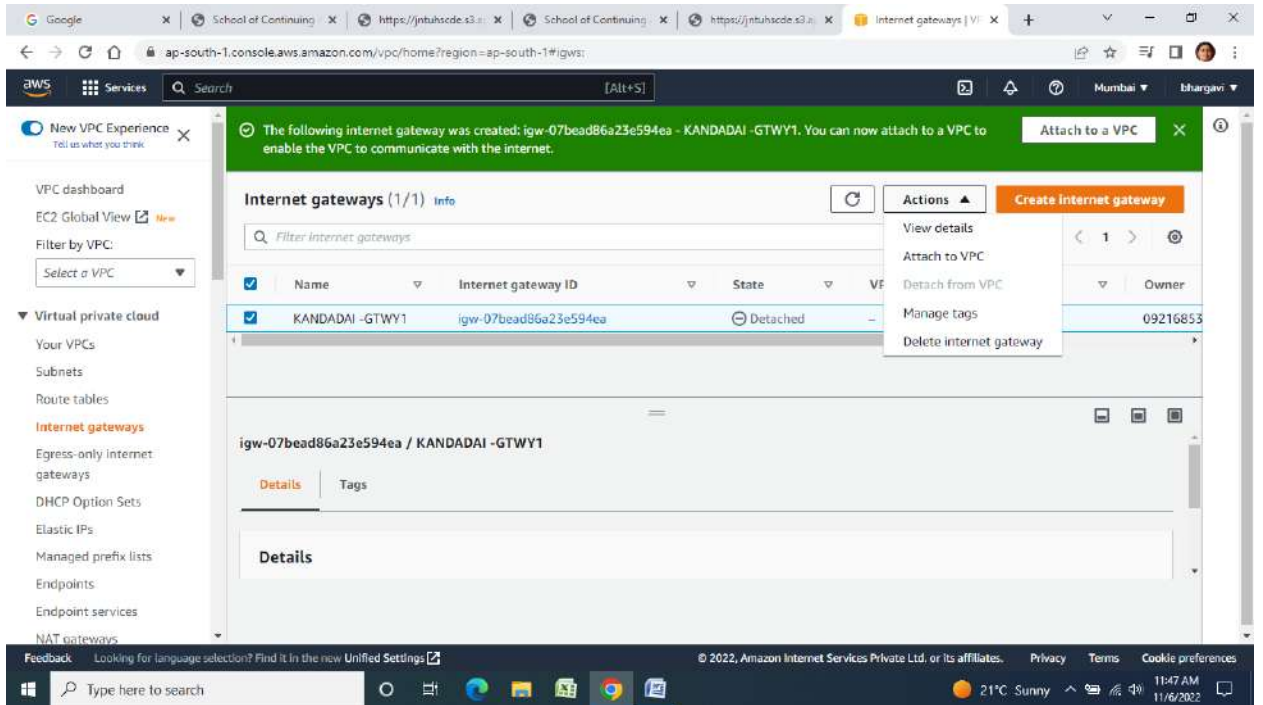
Now select internet gateway option on left window pane and attach it to the vpc, by clicking on actions button at right top of window

The screenshot shows the AWS Management Console interface. At the top, the same green notification banner is present. The breadcrumb navigation is "VPC > Internet gateways | VPC". The main heading is "Internet gateways (1/1) info".

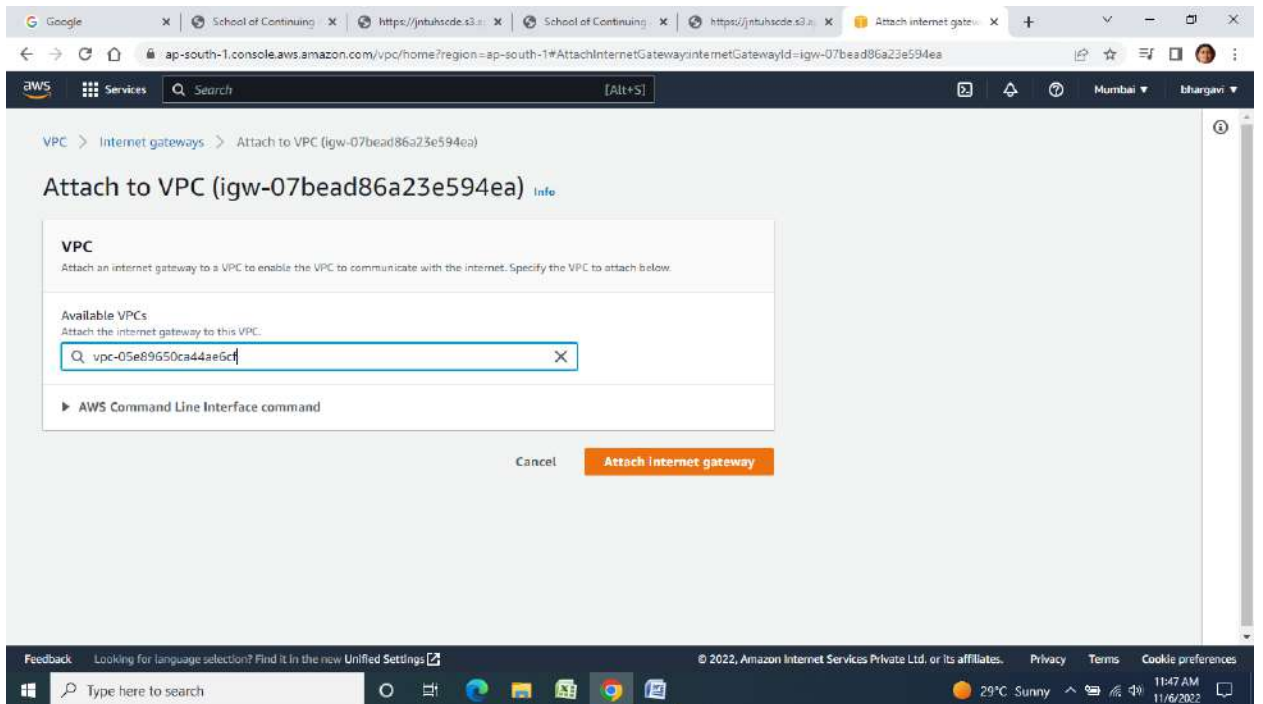
The "Internet gateways" list is shown with the following columns: Name, Internet gateway ID, State, VPC ID, and Owner. The gateway "KANDADAI - GTWY1" is selected, and its details are shown below.

Name	Internet gateway ID	State	VPC ID	Owner
KANDADAI - GTWY1	igw-07bead86a23e594ea	Detached	-	09216853

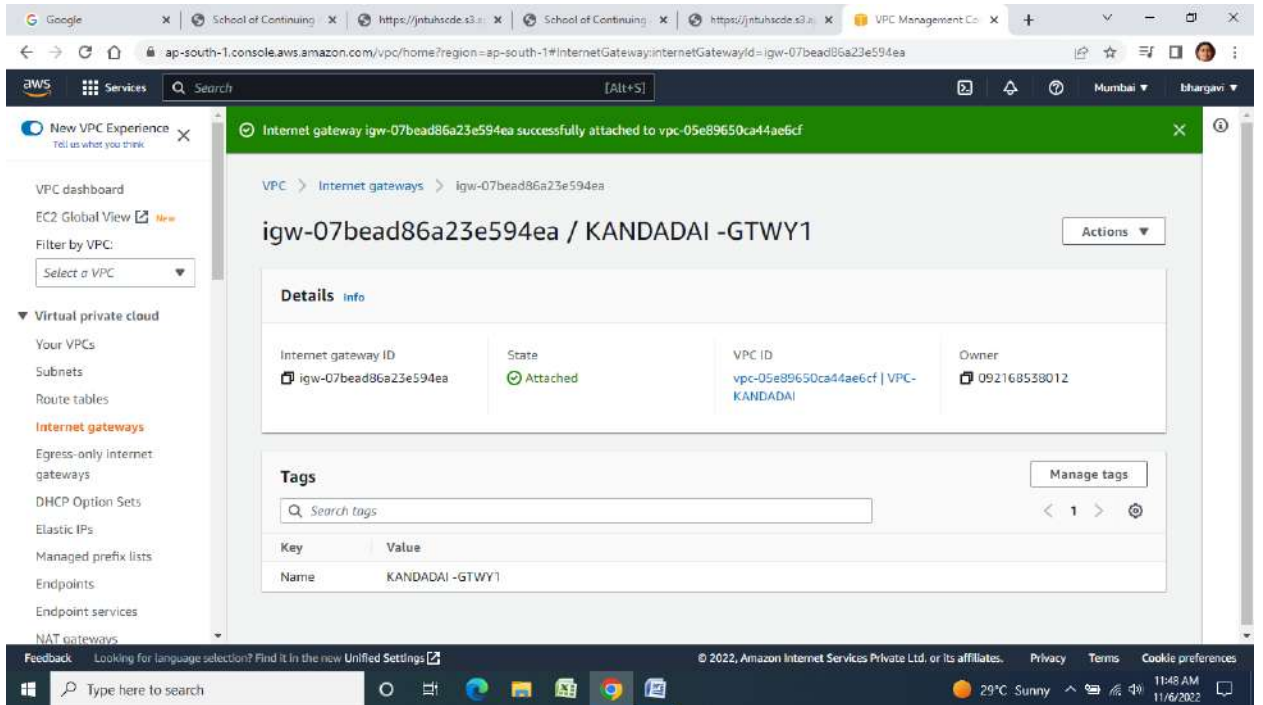
The "Details" section for the selected gateway is visible, showing the "Details" tab. The left-hand navigation pane is visible, with "Internet gateways" selected under the "Virtual private cloud" section. The bottom of the screen shows the Windows taskbar with the date and time as 11:46 AM on 11/6/2022.



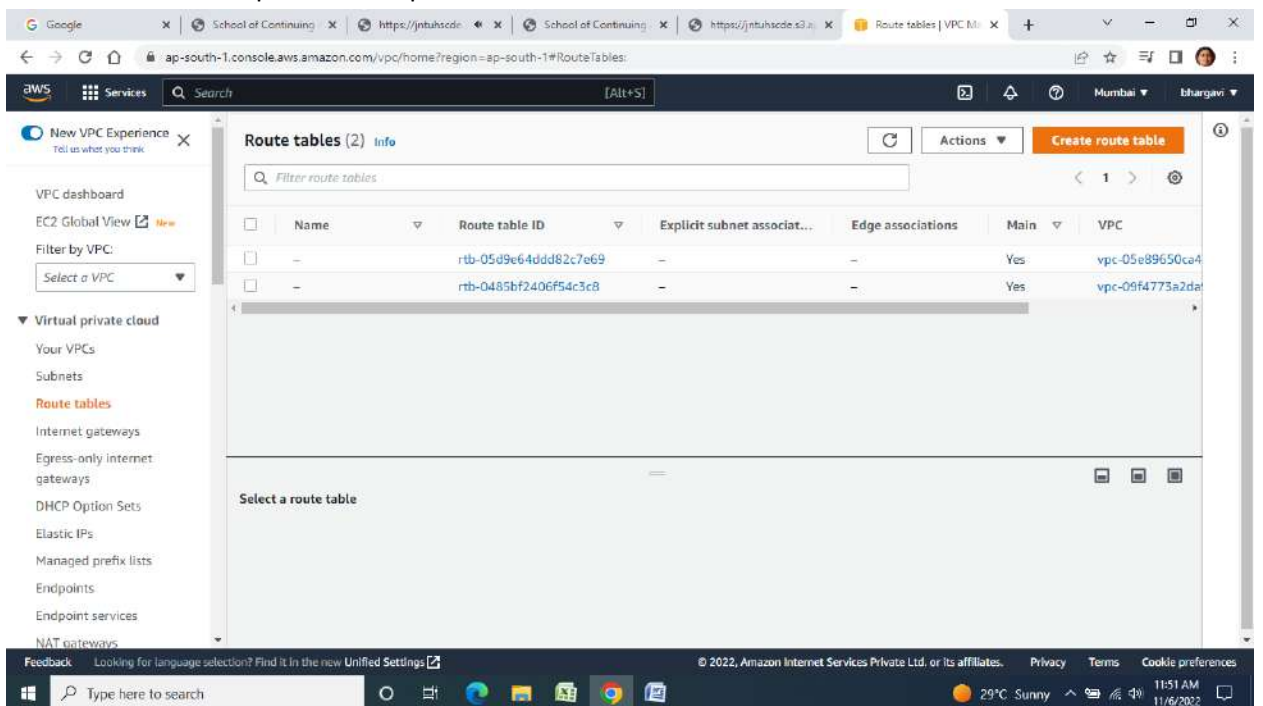
Select attach to vpc-and click on attach internet gateway



Gateway Attached option will come



Now create route table –one for public subnet and one for private subnet
Click on route table option on left pane



Select Create route table option on right side of window

Route table rtb-055b7bf980161e650 | KANDADAI-RT01 was created successfully.

VPC > Route tables > rtb-055b7bf980161e650

rtb-055b7bf980161e650 / KANDADAI-RT01

You can now check network connectivity with Reachability Analyzer [Run Reachability Analyzer](#)

Details info			
Route table ID	Main	Explicit subnet associations	Edge associations
rtb-055b7bf980161e650	No	-	-
VPC	Owner ID		
vpc-05e89650ca44ae6cf VPC-KANDADAI	092168538012		

Routes Subnet associations Edge associations Route propagation Tags

Route table settings

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

KANDADAI-PVT01

VPC
The VPC to use for this route table.

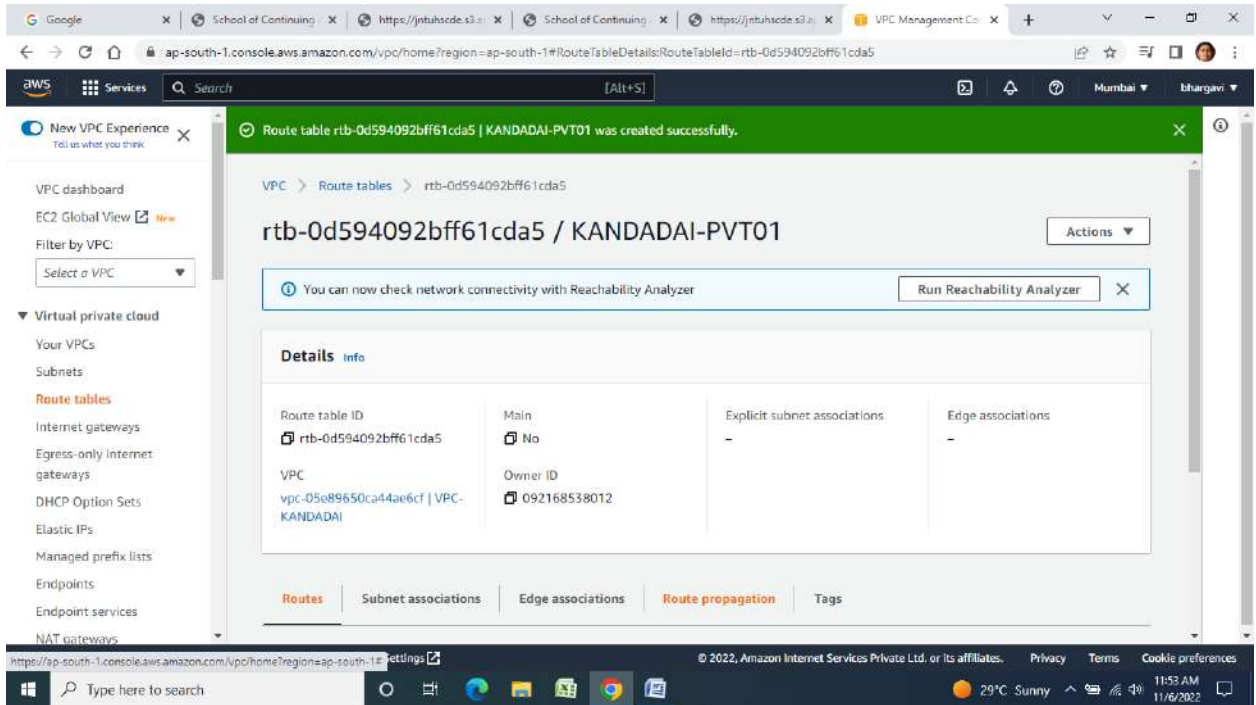
vpc-05e89650ca44ae6cf (VPC-KANDADAI)

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	KANDADAI-PVT01	Remove

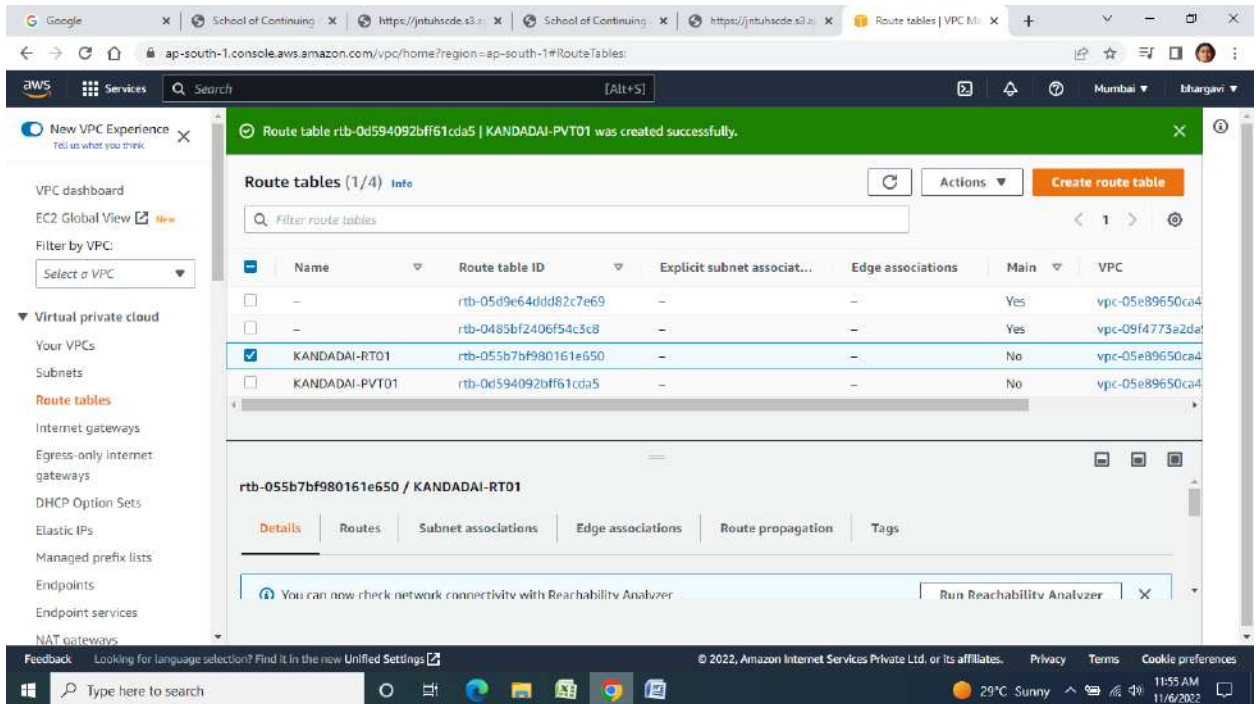
Add new tag
You can add 49 more tags.

Cancel [Create route table](#)

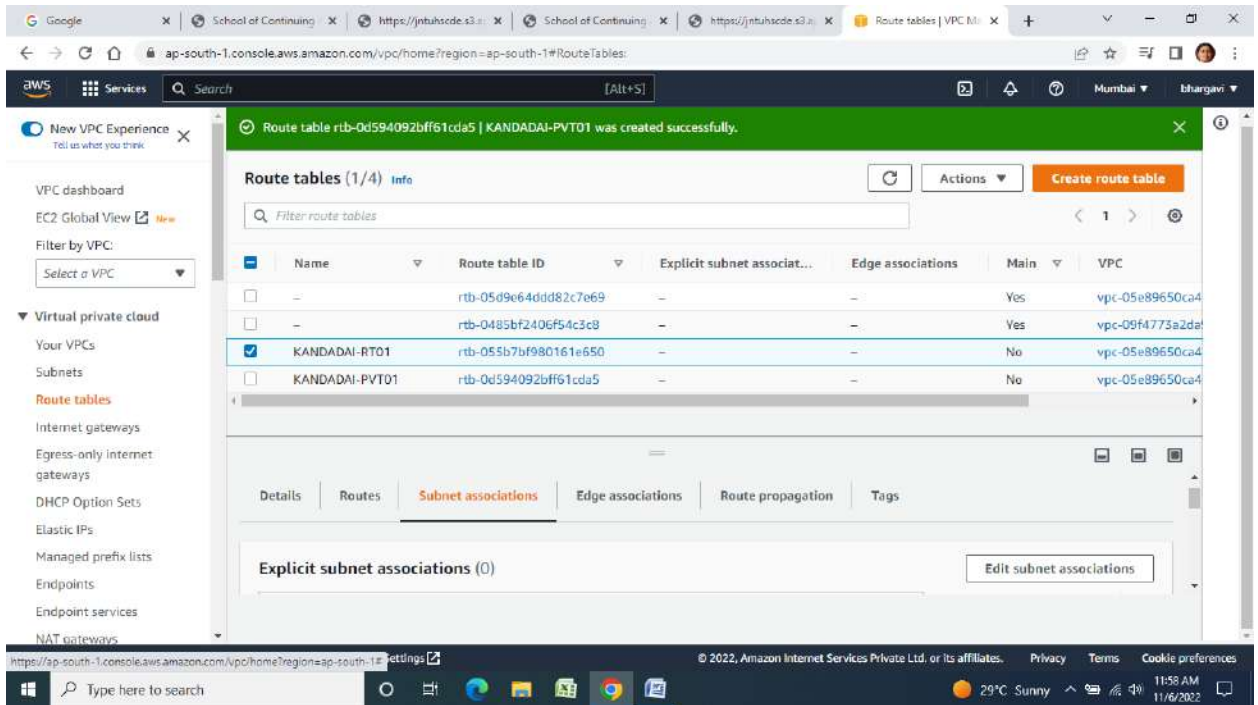


Now associate route table to subnets-Public route table to public subnet and private Route table to private subnets.

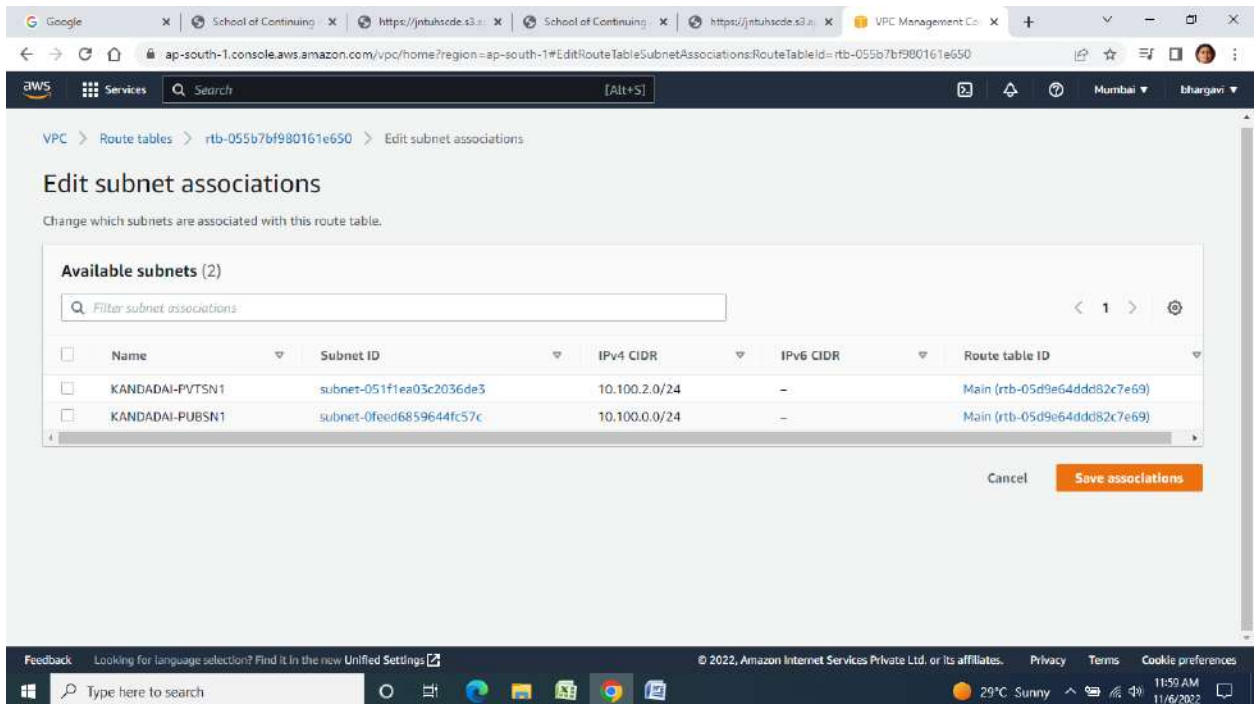
Now go to route table select public route table...



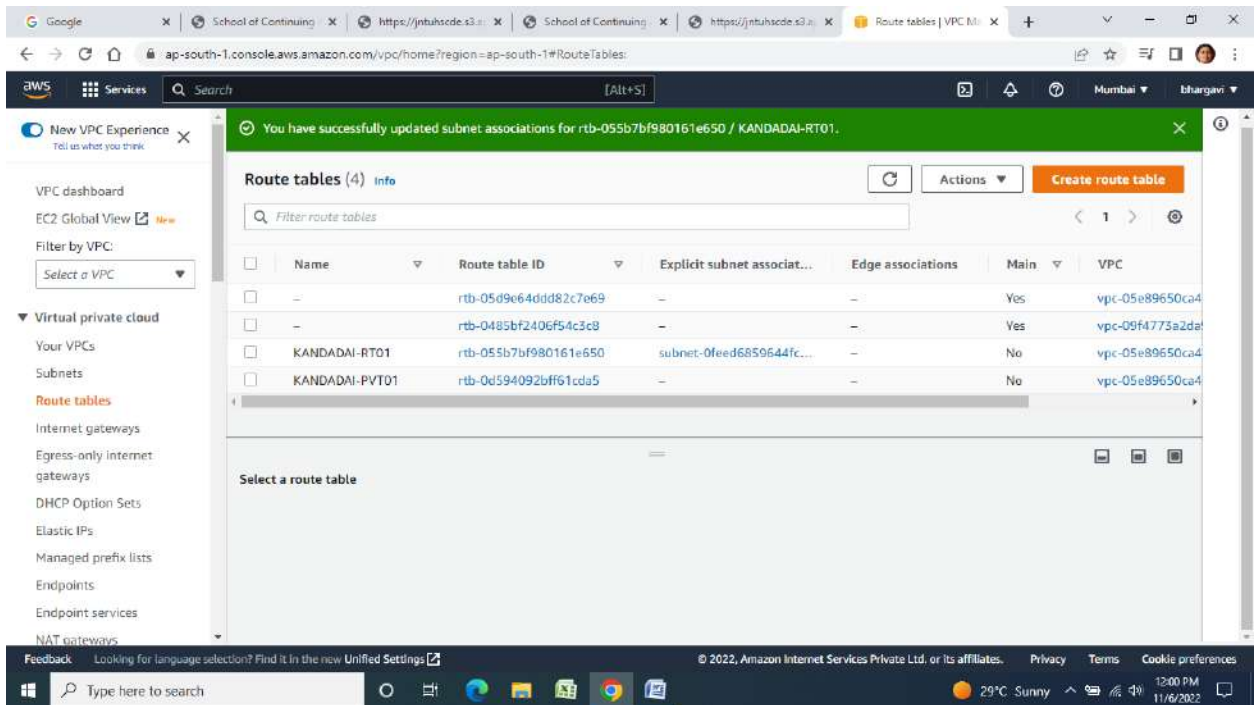
For subnet association-click on Subnet Association option below the route Table



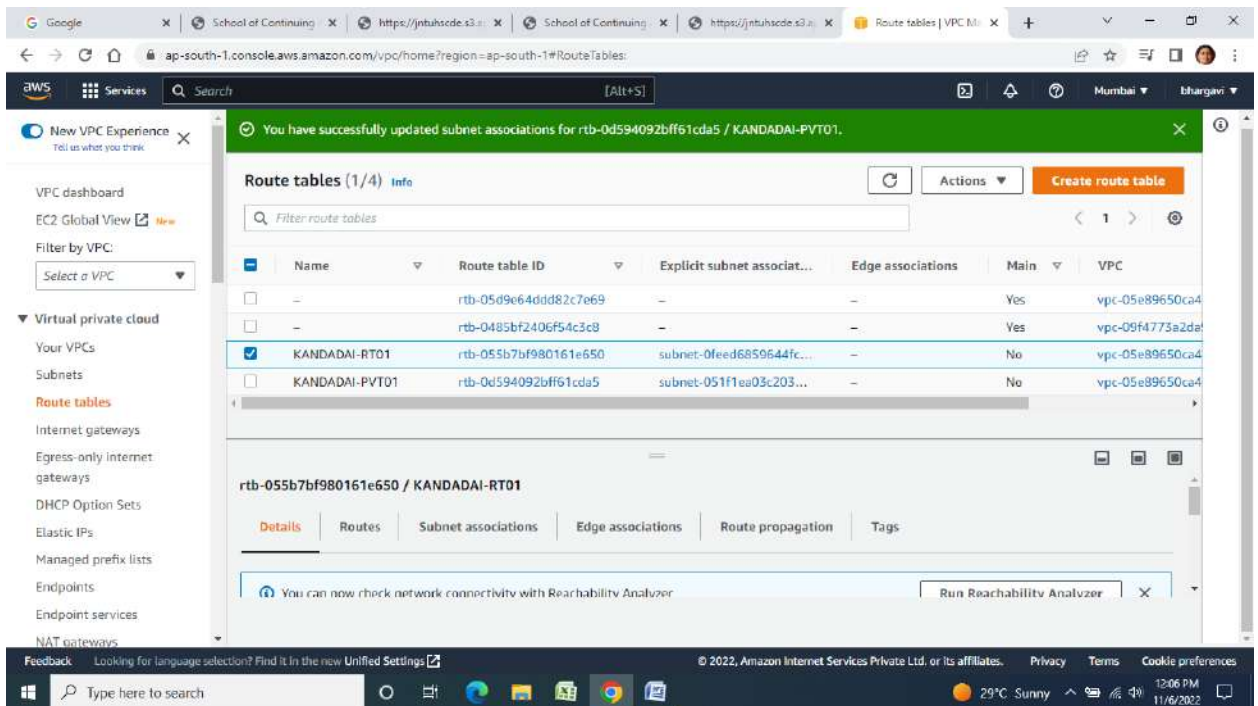
Click on edit subnet association-will get window with all subnets created. Now select the subnets and click on save association

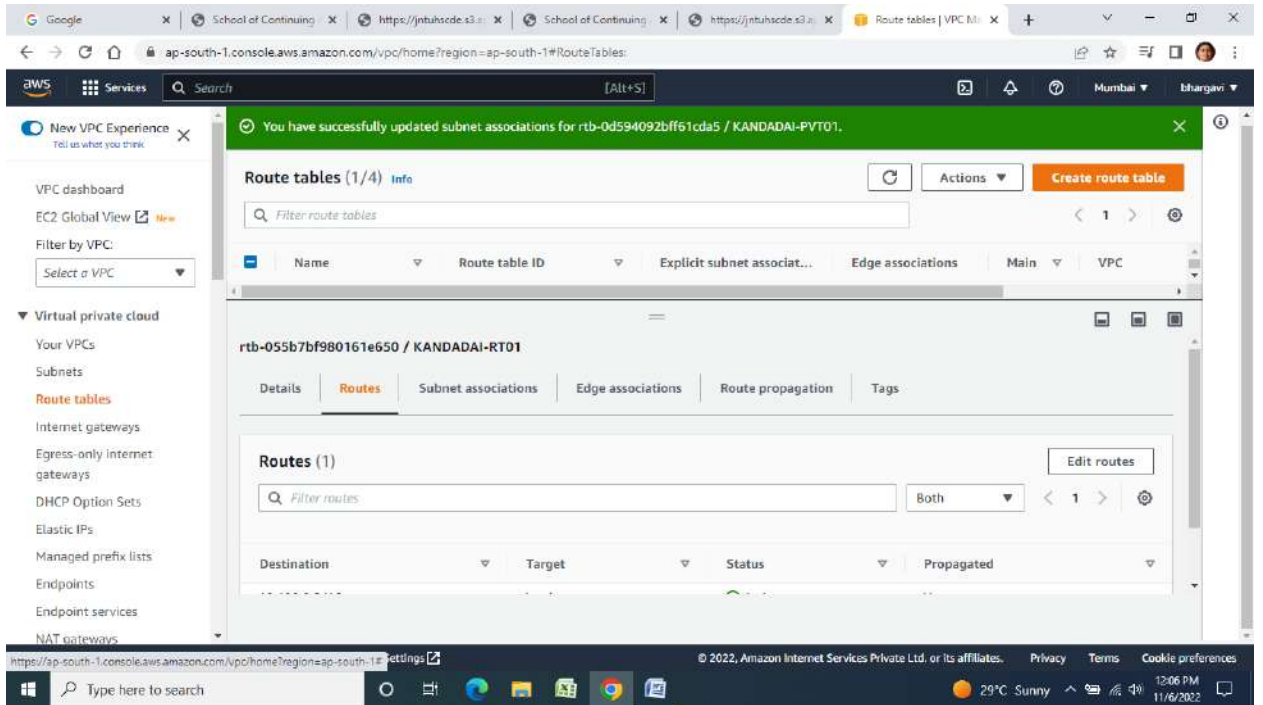


Will get window like below -attach both route tables with subnets.

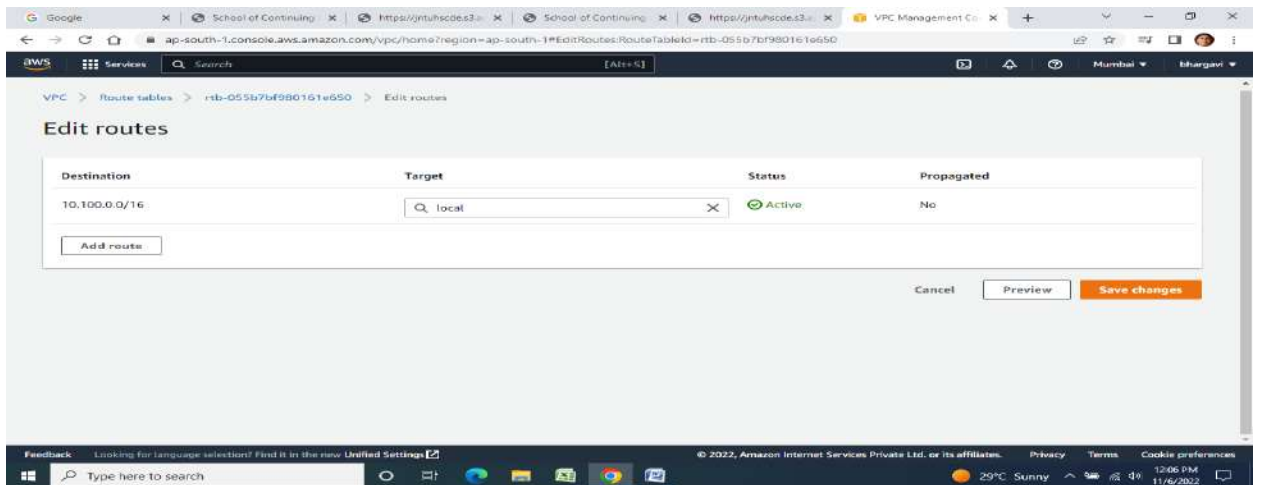


Now attach Public Route table to internet gateway
Select public route table and click on routes option

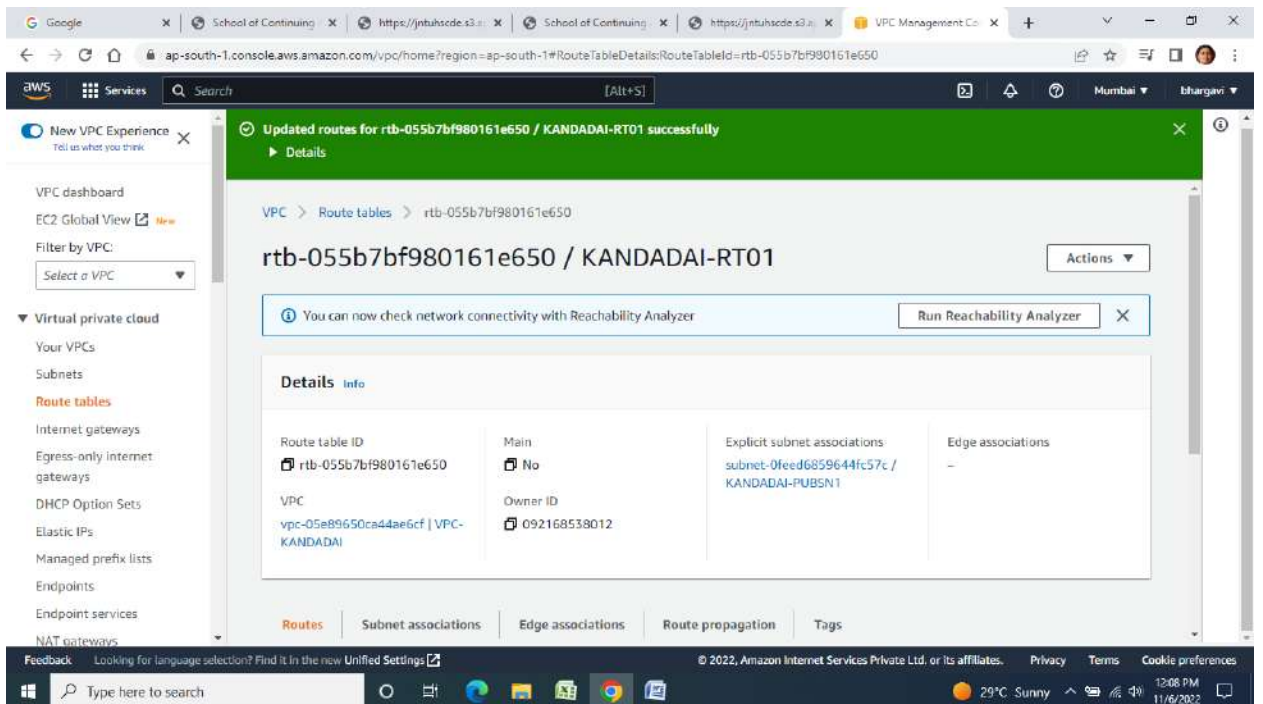
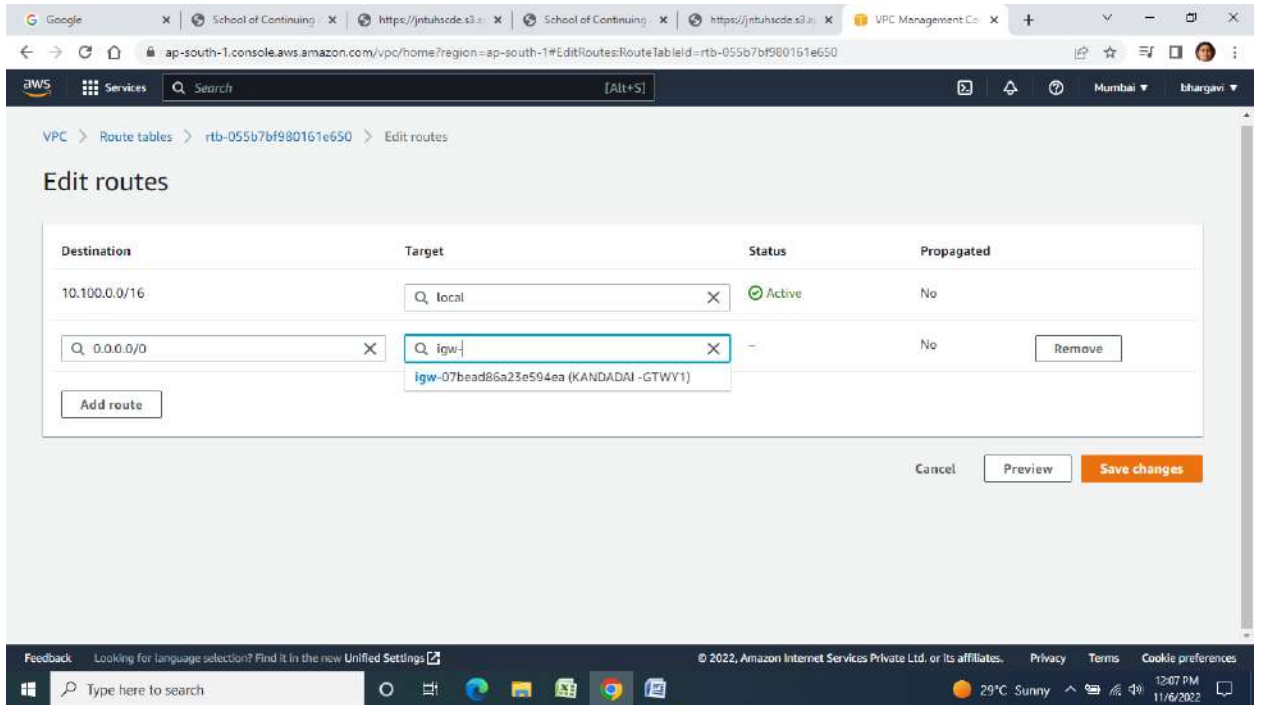




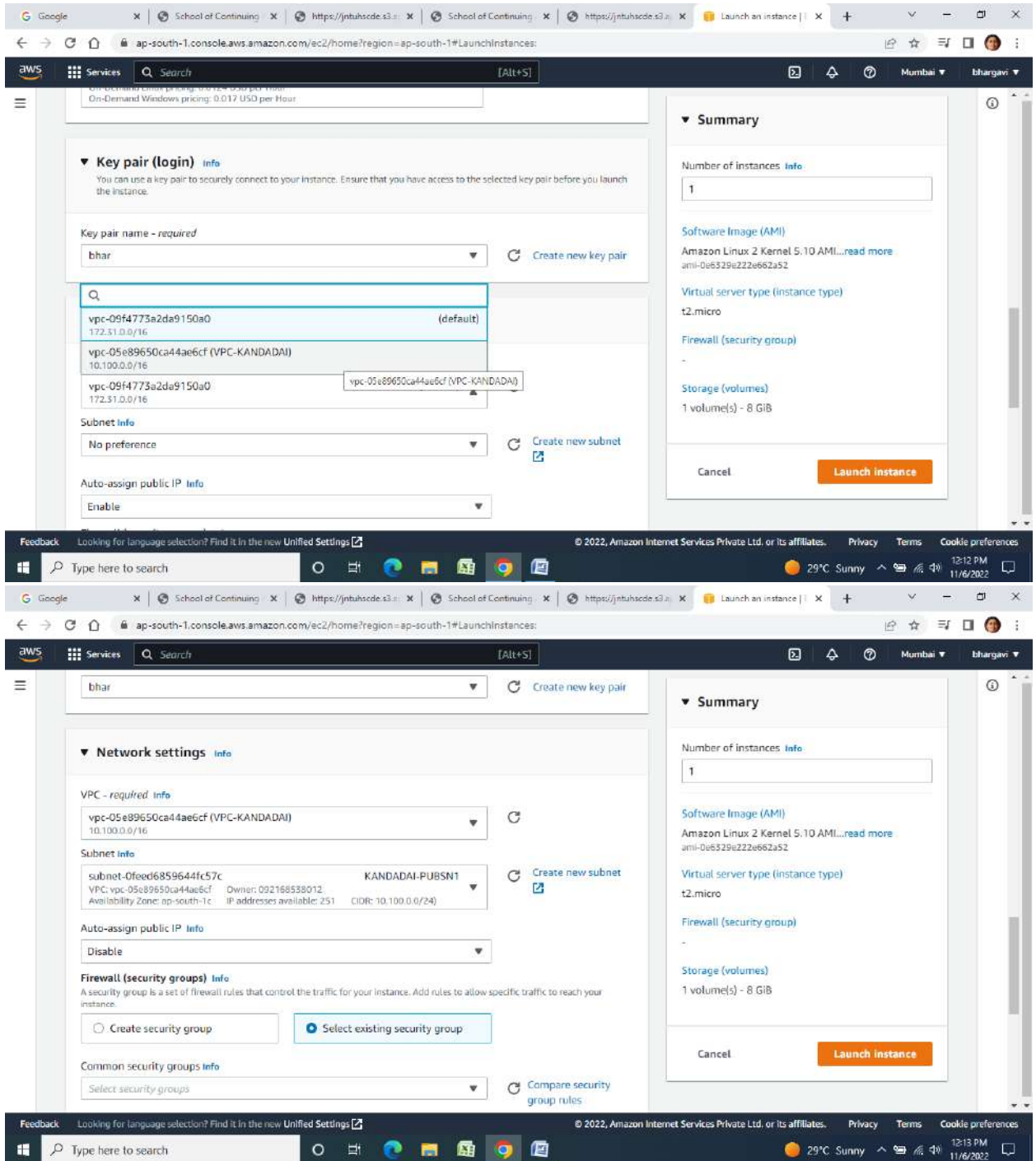
Go to Edit routes option



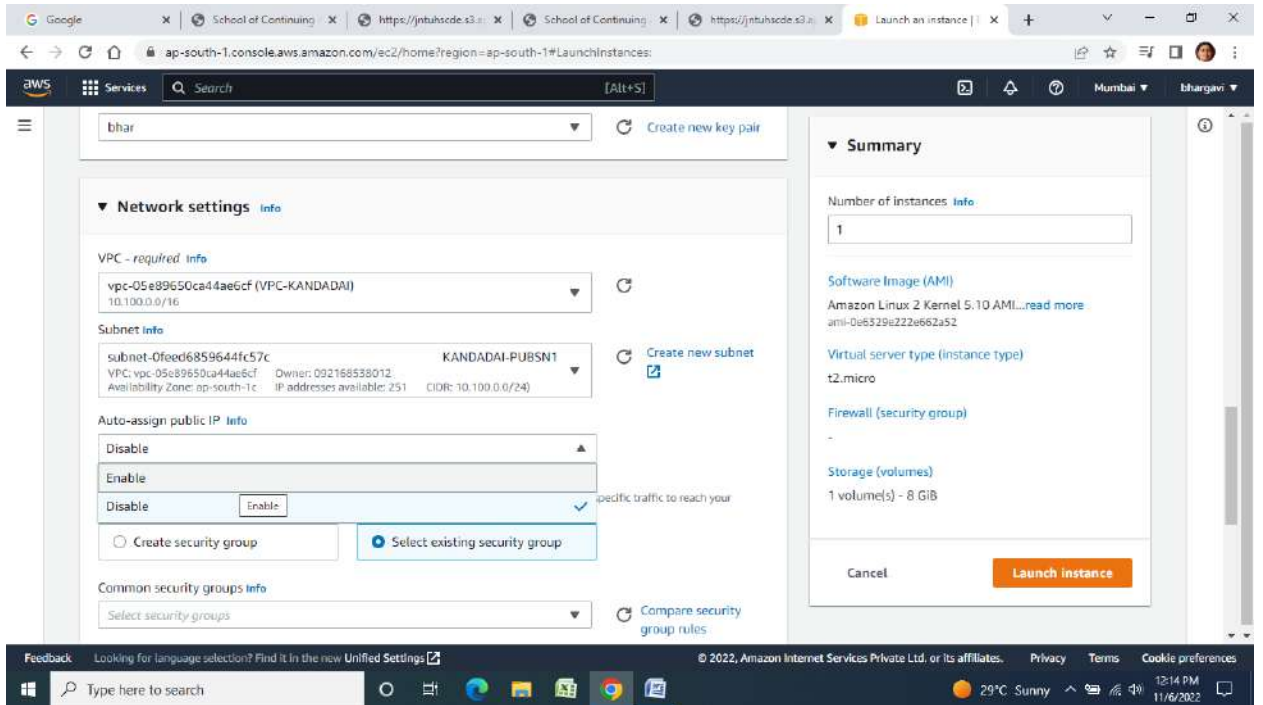
Fill in the details-click add route-0.0.0.0/0, add created internet gateway and click save changes



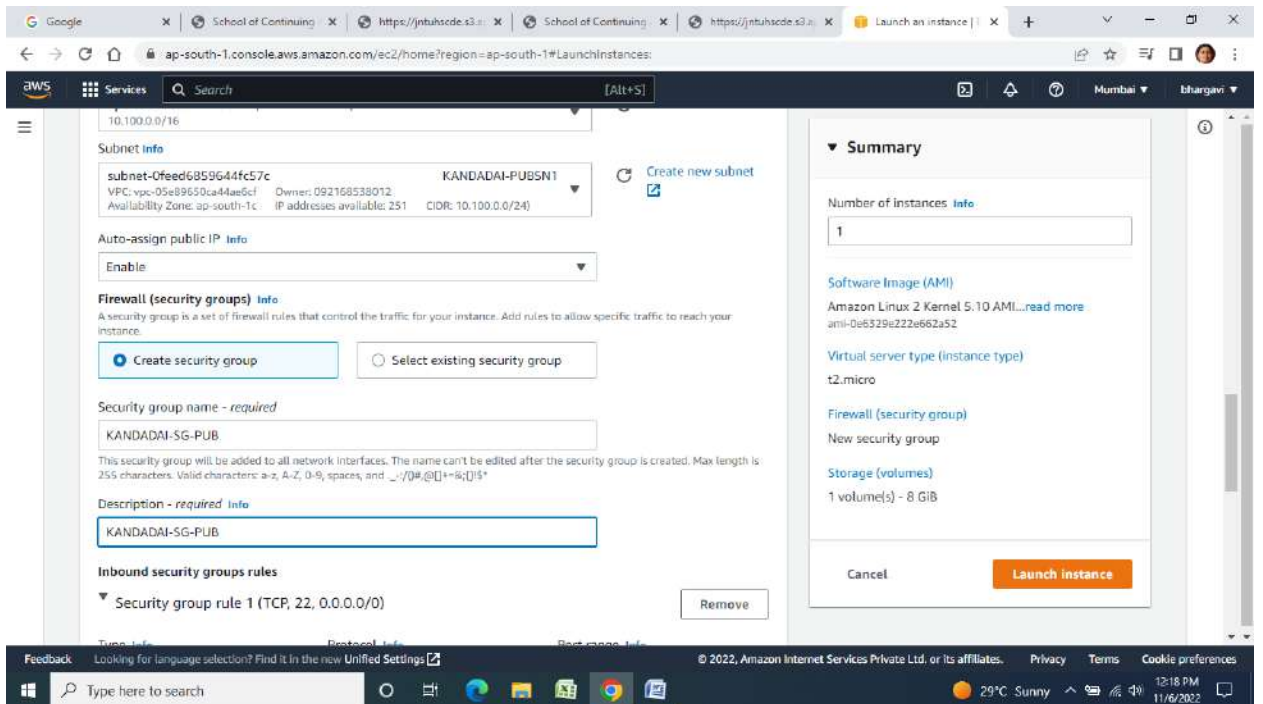
NEXT CREATE AN EC2 MACHINE USING SUBNET OPTION WITH VPC WHAT HAS BEEN CREATED



ENABLE PUBLIC IP



Create Security Group and add inbound rules



CREATE TWO INSTANCES FOR TWO SUBNETS

The screenshot displays the AWS Management Console interface. The main content area shows a table of EC2 instances:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
KANDADAI-PUBEC2	i-0cb86066a474b4439	Running	t3.nano	2/2 checks passed	No alarms	sa-east-1
KANDADAI-FVTEC2	i-0ecb229dc10cd7ddd	Running	t3.nano	Initializing	No alarms	sa-east-1

The left sidebar contains navigation options such as EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, and AMIs.

Connect public EC2 machine

The screenshot shows a terminal window with the following content:

```
root@ip-10-100-0-48:/home/ec2-user
Microsoft Windows [Version 10.0.19042.1110]
(c) Microsoft Corporation. All rights reserved.

C:\Users\BHARGAVI>SSH
usage: ssh [-46AaCfGgKkMNnqsTtVvXxYy] [-B bind_interface]
          [-b bind_address] [-c cipher_spec] [-D [bind_address:]port]
          [-E log_file] [-e escape_char] [-F configfile] [-I pkcs11]
          [-i identity_file] [-J [user@host[:port]]] [-L address]
          [-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]
          [-Q query_option] [-R address:] [-S ctl_path] [-W host:port]
          [-w local_tun[:remote_tun]] destination [command]

C:\Users\BHARGAVI>ssh -i "choco1.pem" ec2-user@15.228.219.207
The authenticity of host '15.228.219.207 (15.228.219.207)' can't be established.
ECDSA key fingerprint is SHA256:XoJwSU+BuLLIKt211hpLfkW86IVdy9H1U8xwgfXUvjg.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '15.228.219.207' (ECDSA) to the list of known hosts.

  ____      )
 /_  /_   ) /
/_  /_   ) /

 Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
13 package(s) needed for security, out of 16 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-10-100-0-48 ~]$ sudo su
[root@ip-10-100-0-48 ec2-user]#
```

COPY KEY FROM LOCAL MACHINE TO EC2 MACHINE WITH EC2 PUBLIC IP ADDRESS

```
Scp -i .\choco1.pem -r .\choco1.pem ec2-user@15.228.219.207 :/home/ec2-user
```

```
Microsoft Windows [Version 10.0.19042.1110]
(c) Microsoft Corporation. All rights reserved.

C:\Users\BHARGAVI>scp -i .\choco1.pem -r .\choco1.pem ec2-user@15.228.219.207:/home/ec2-user
ssh: Could not resolve hostname ec2-user@15.228.219.207: No such host is known.
lost connection

C:\Users\BHARGAVI>scp -i .\choco1.pem -r .\choco1.pem ec2-user@15.228.219.207:/home/ec2-user
ssh: Could not resolve hostname ec2-user@15.228.219.207: No such host is known.
lost connection

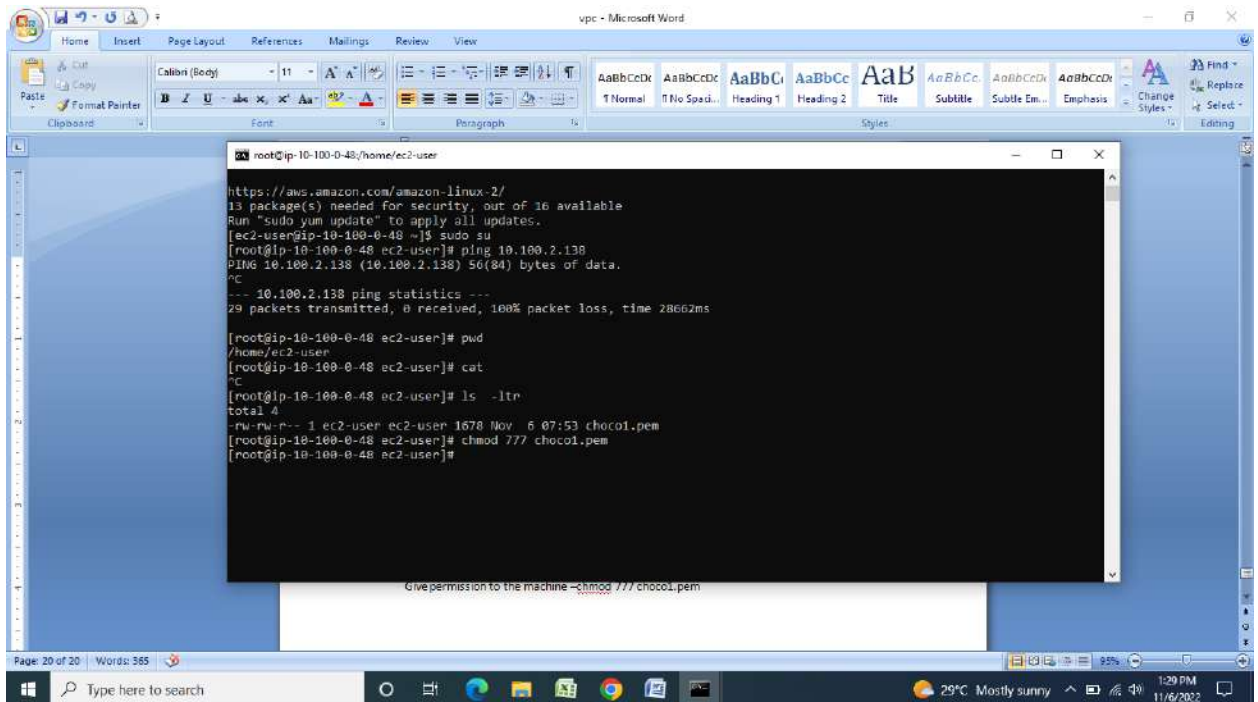
C:\Users\BHARGAVI>ssh
usage: ssh [-46AACfgGkkMnqstTvVxYy] [-B bind_interface]
[-b bind_address] [-c cipher_spec] [-D [bind_address]:port]
[-E log_file] [-e escape_char] [-F configfile] [-I pkcs11]
[-i identity_file] [-j [user@]host[:port]] [-L address]
[-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]
[-Q query_option] [-R address] [-S ctl_path] [-W host:port]
[-w local_tun[:remote_tun]] destination [command]

C:\Users\BHARGAVI>scp -i .\choco1.pem -r .\choco1.pem ec2-user@15.228.219.207:/home/ec2-us
scp: /home/ec2-us: Permission denied

C:\Users\BHARGAVI>scp -i .\choco1.pem -r .\choco1.pem ec2-user@15.228.219.207:/home/ec2-user
choco1.pem
100% 1678 5.0KB/s 00:00

C:\Users\BHARGAVI>
```

Give permission to the machine –
chmod 777 choco1.pem



```
root@ip-10-100-0-48:/home/ec2-user

https://aws.amazon.com/amazon-linux-2/
13 package(s) needed for security, out of 16 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-10-100-0-48 ~]$ sudo su
[root@ip-10-100-0-48 ec2-user]# ping 10.100.2.138
PING 10.100.2.138 (10.100.2.138) 56(84) bytes of data:
^C
--- 10.100.2.138 ping statistics ---
29 packets transmitted, 0 received, 100% packet loss, time 28662ms

[root@ip-10-100-0-48 ec2-user]# pwd
/home/ec2-user
[root@ip-10-100-0-48 ec2-user]# cat
^C
[root@ip-10-100-0-48 ec2-user]# ls -ltr
total 4
-rw-rw-r-- 1 ec2-user ec2-user 1678 Nov 6 07:53 choco1.pem
[root@ip-10-100-0-48 ec2-user]# chmod 777 choco1.pem
[root@ip-10-100-0-48 ec2-user]#
```

Now connect your private subnet machine with private ip address to the machine
Cmd is-ssh -I choco1.pem ec2-user@private ip address of private machine

