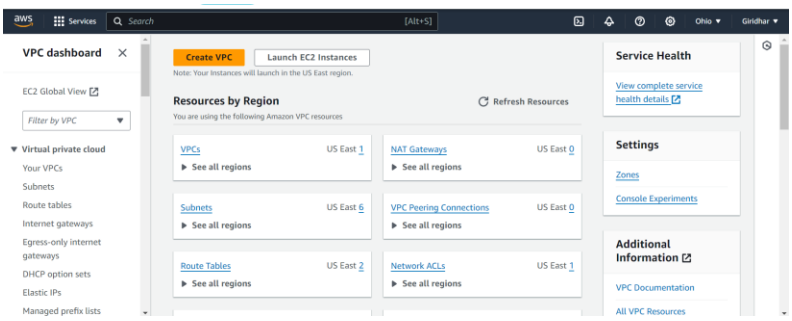
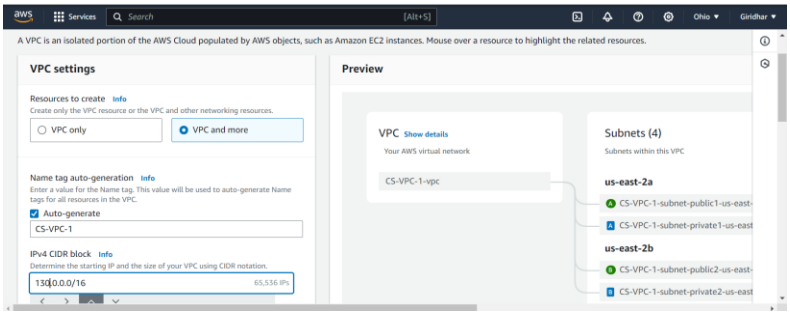
Three VPCs using Transit Gateway;

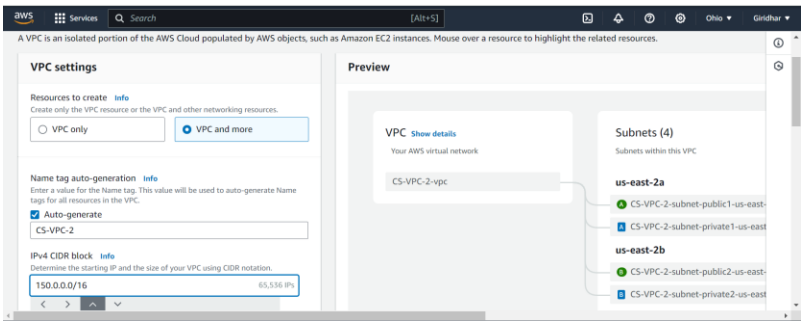
Step1 - creating VPCs

Go to vpc and click on create vpc

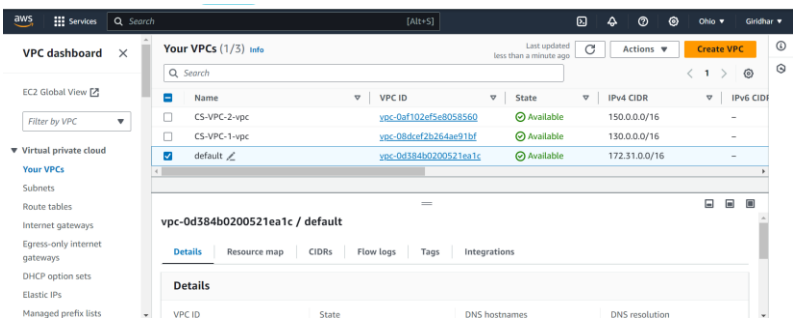


Create two vpc by selecting option vpc and more, so system only will create subnets and they will associate to route tables and also it will create igw and attaches to vpcs.



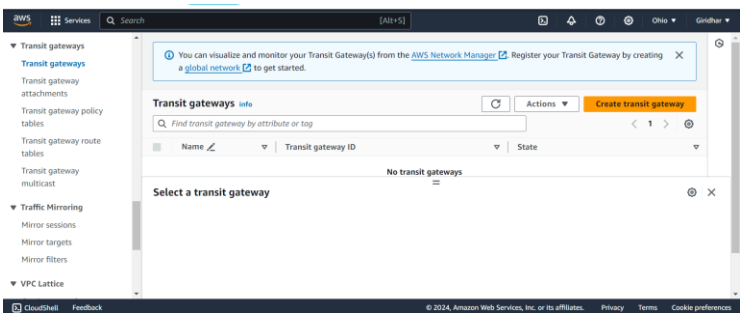


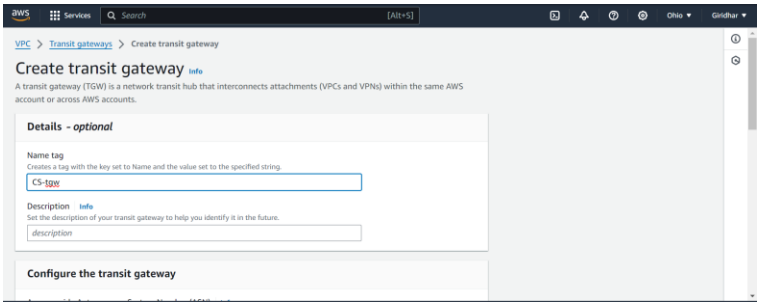
And we have default vpc, total three VPCs are available

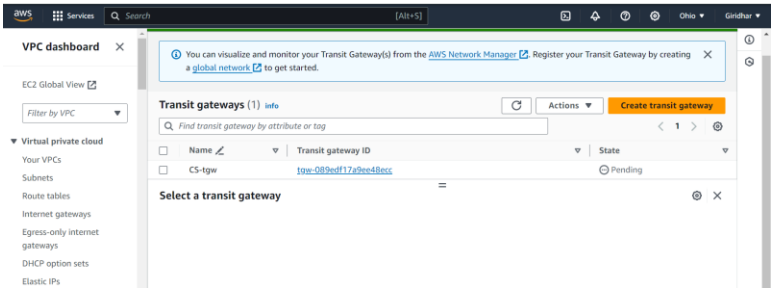


Step2 – creating transit gateway

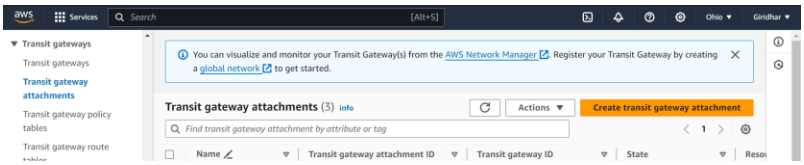
Go to Transit Gateways and create transit gateway (CS-tgw)





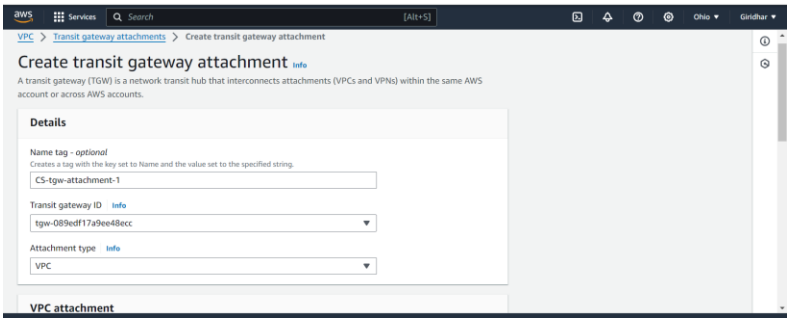


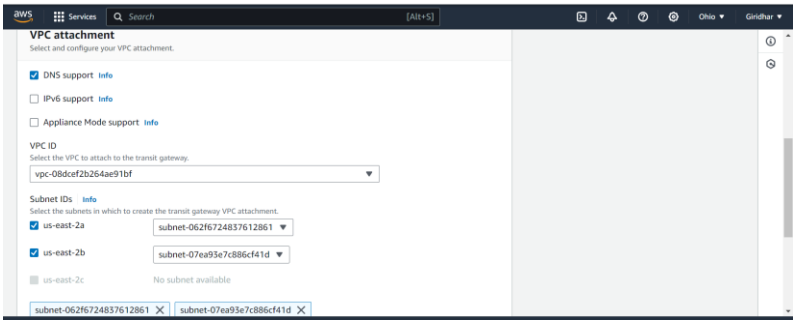
Step3 -create transit gateway attachments for three VPCs one by one

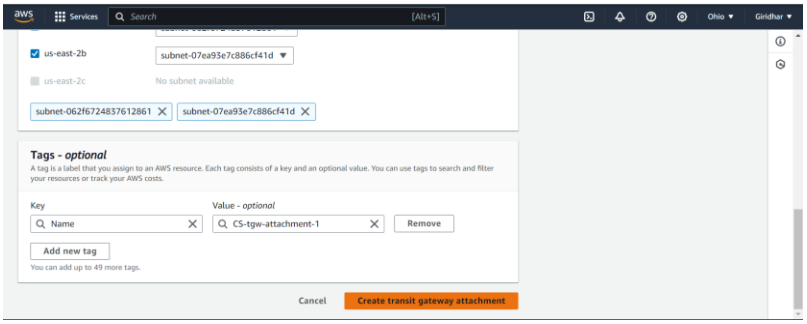


create transit gateway attachment one (CS-tgw-attachment-1) by selecting transit gateway id(CS-twg), which we created before and

select attachment type is VPC and select VPC id any one of three vpcs (CS-VPC-1) we created earlier and select subnets

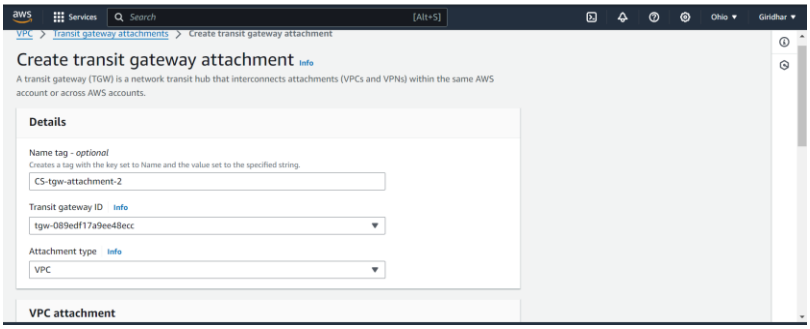


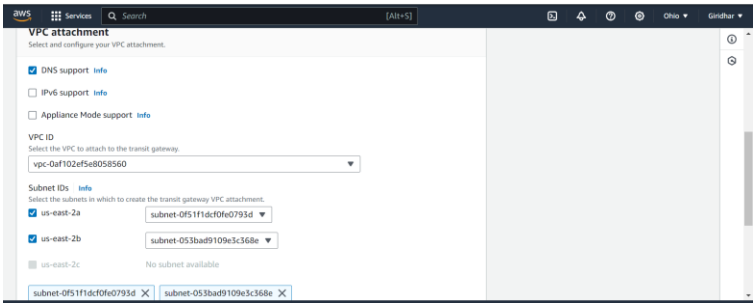


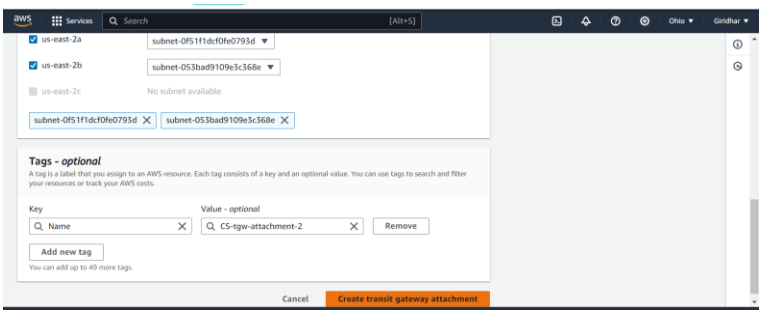


Now create transit gateway attachments for another two vpcs follow the same process

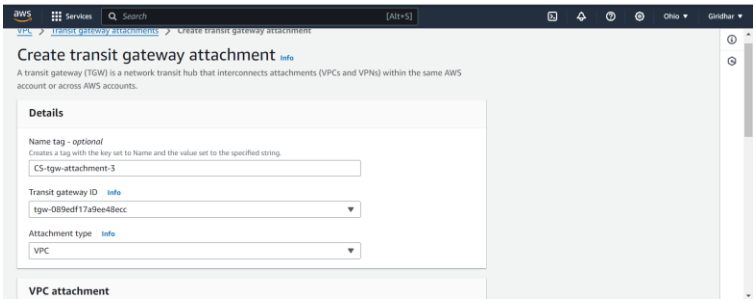
Create tgw attachment (CS-tgw-attachment-2) for (CS-VPC-2)

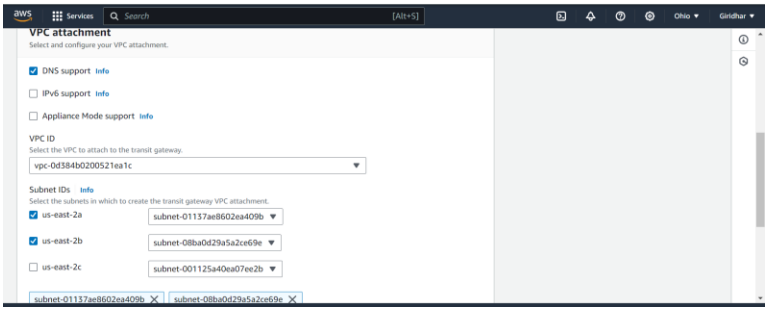


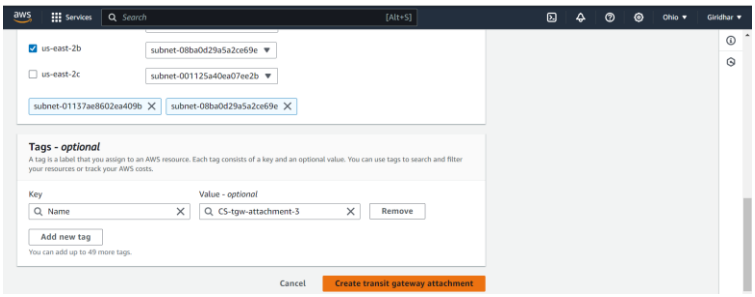




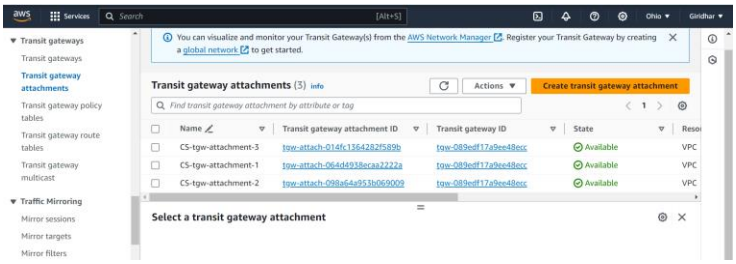
Create tgw attachment (CS-tgw-attachment-3) for default vpc





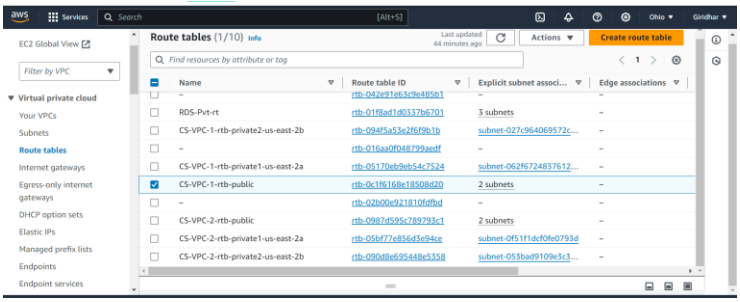


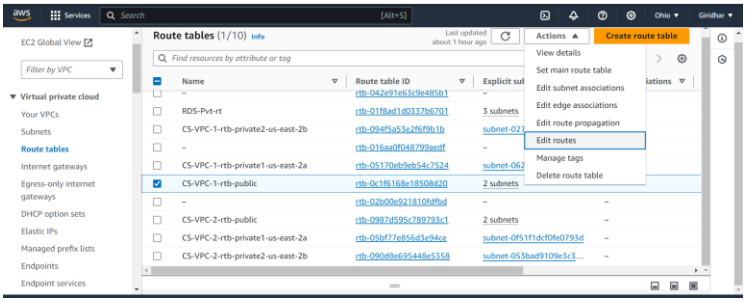
Now the three tgw attachments are available

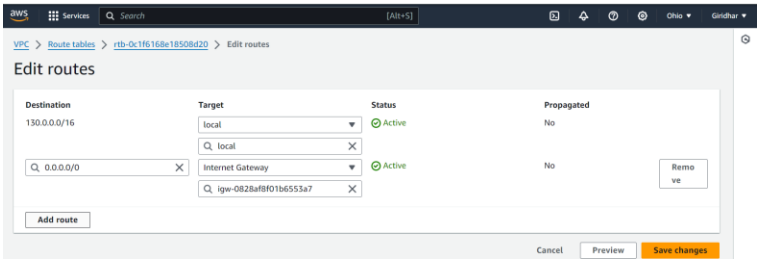


Step4 – Route table

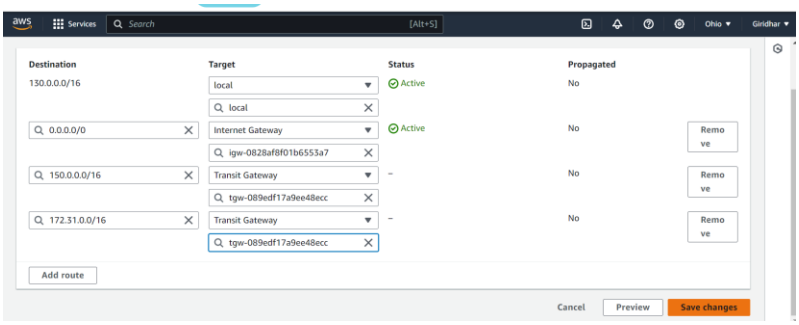
Go to route tables and select CS-VPC-1 public and click on actions --> edit route --> add route



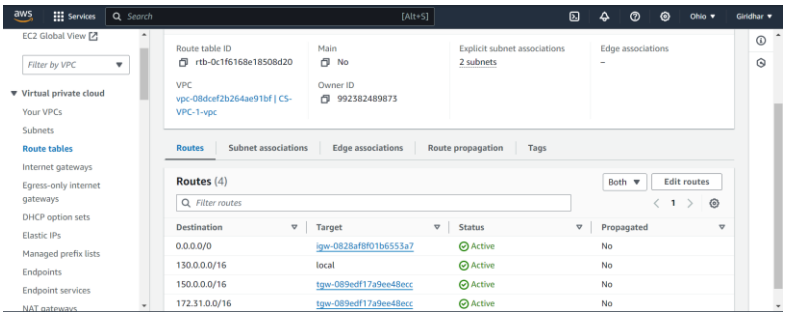




Now there will be CS-VPC-1 IP address 130.0.0.0/16 as destination, we need to add the other two vpcs ip address in destination and in target select transit gateway and select attachment (CS-tgw-attachment-1), click on save changes.

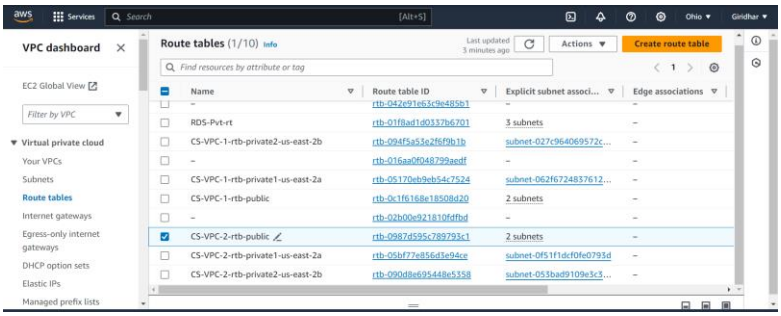


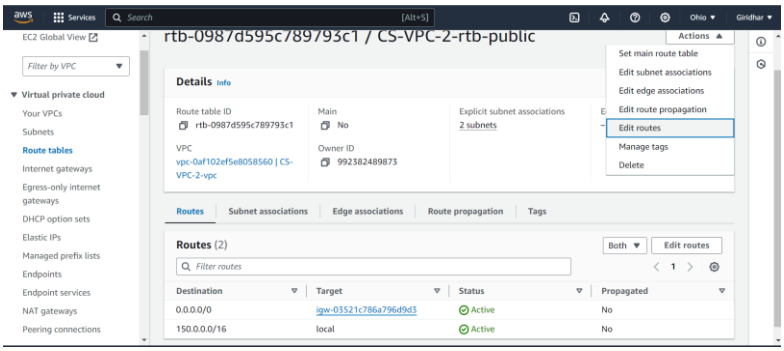
We can see that, added two ip address are active for CS-VPC-1

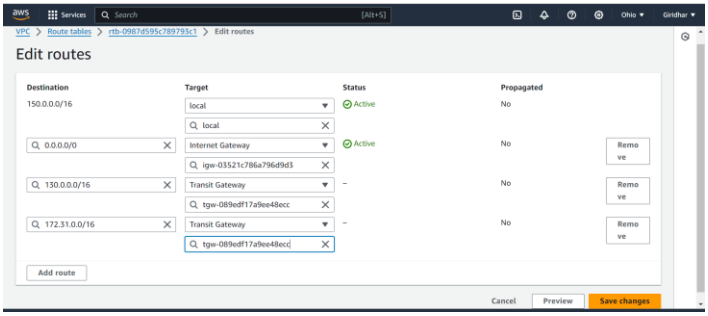


Same process for remaining two vpcs, we should add other two ip address which are not in destination

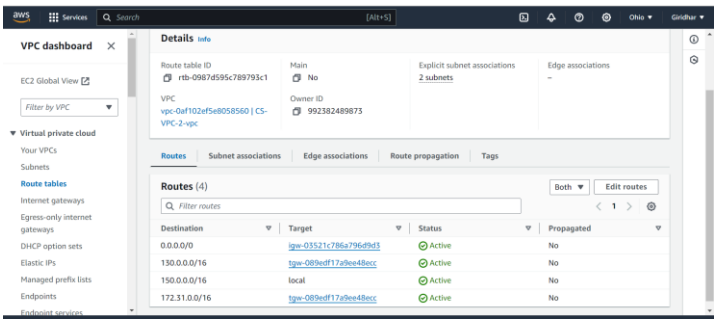
Go to CS-VPC-2 public and repeat the process of adding ip addressess



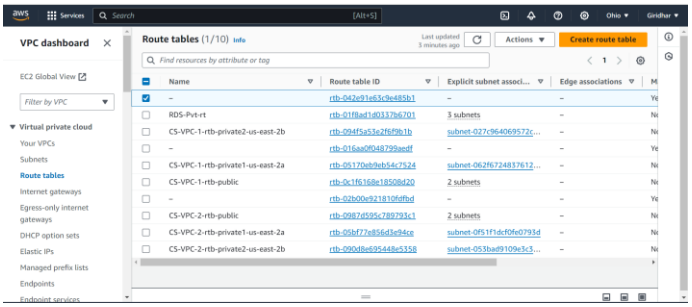


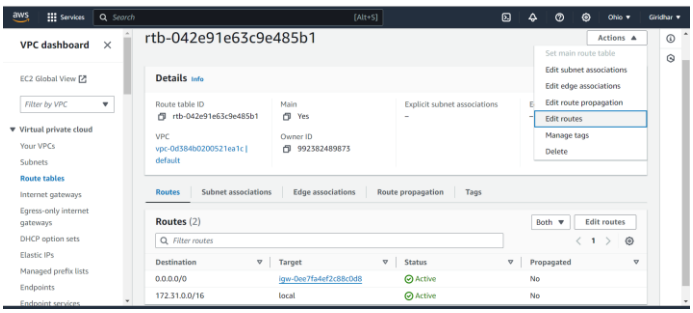


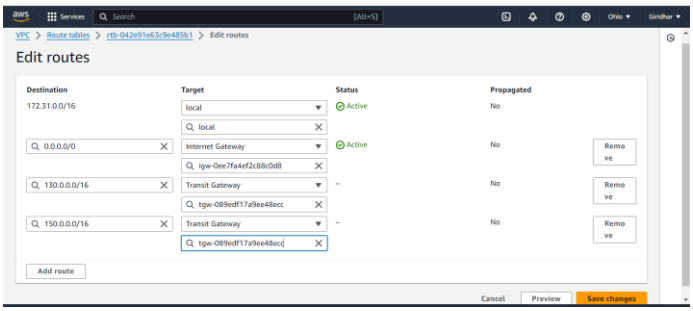
Now added two ip address are active for CS-VPC-2



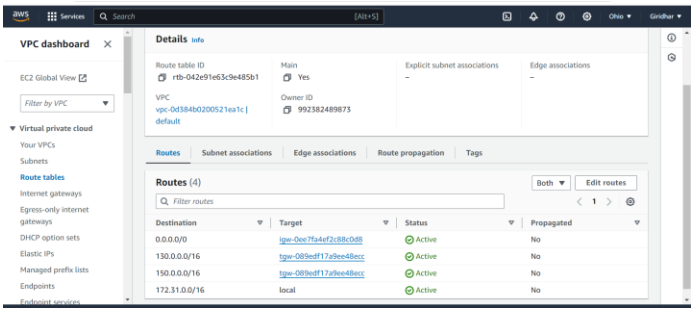
And also, for Default vpc, follow same process of adding ip’s



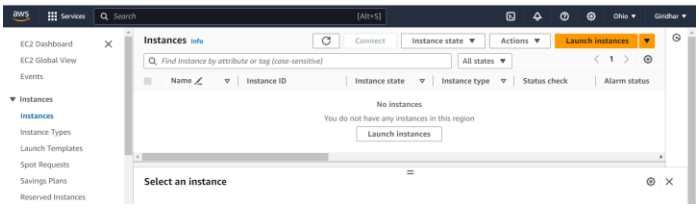




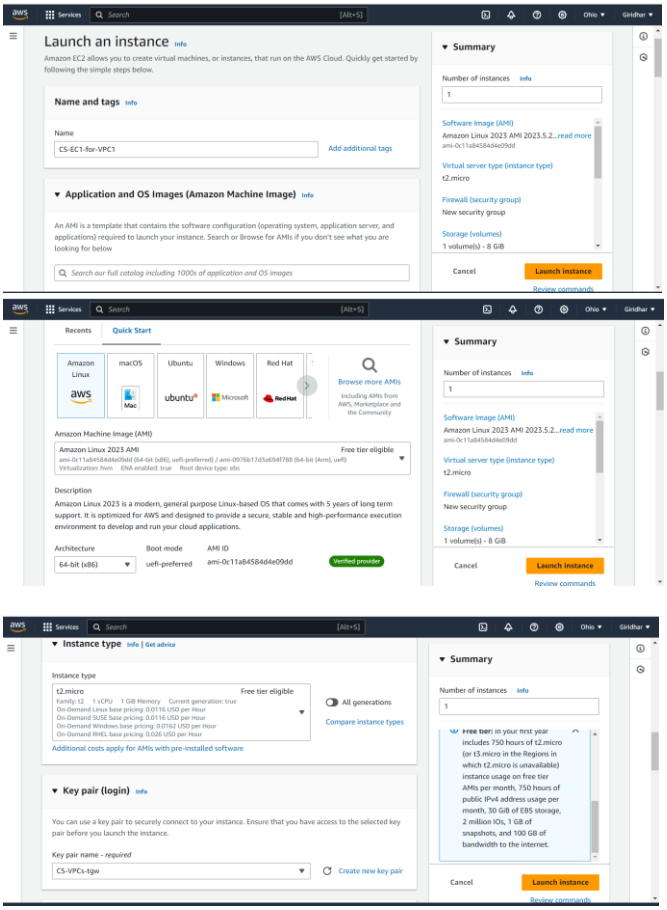
added two ip address are active for default VPC



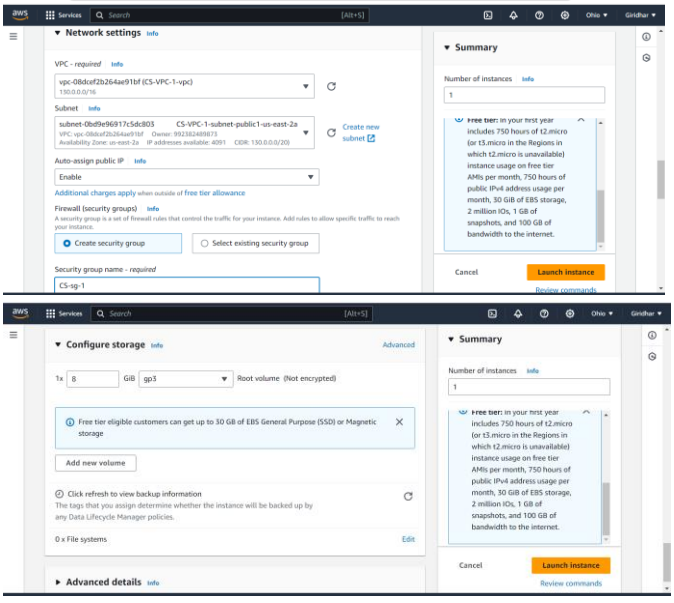
Step5 – creating EC2 instance for three VPCs



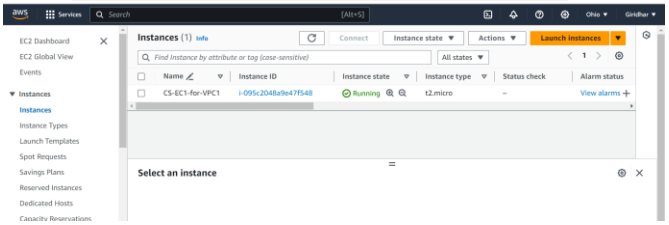
Create instance (CS-EC1-for-VPC1) and select amazon linux, create new key pair

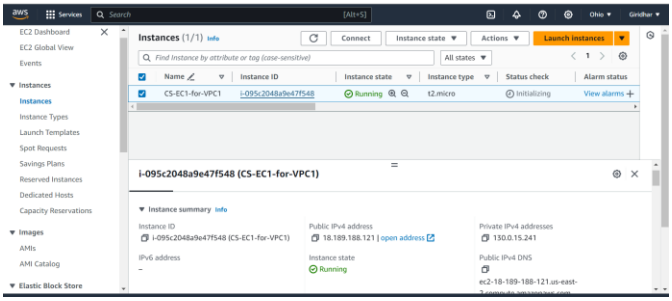


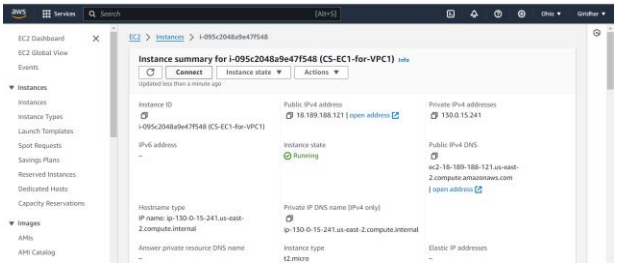
Now select Vpc1 and subnet, create new security grp

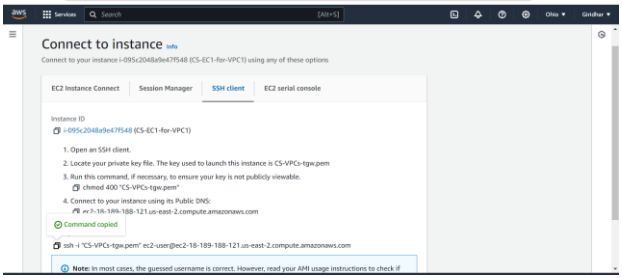


Now instance is created and running

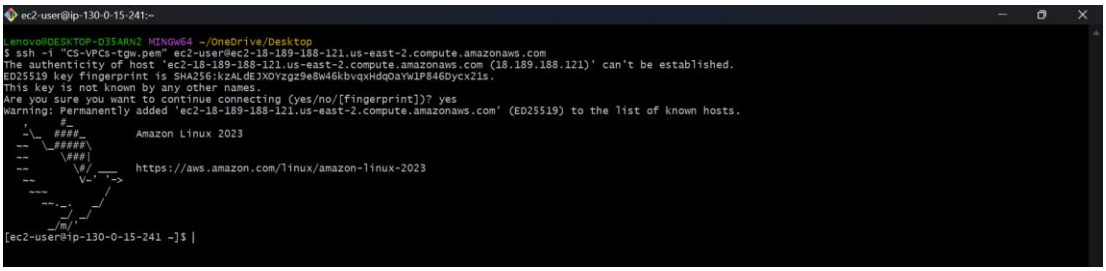


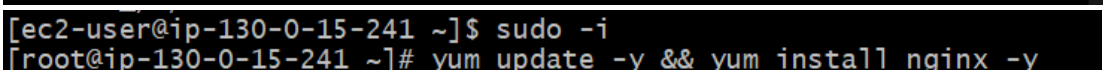




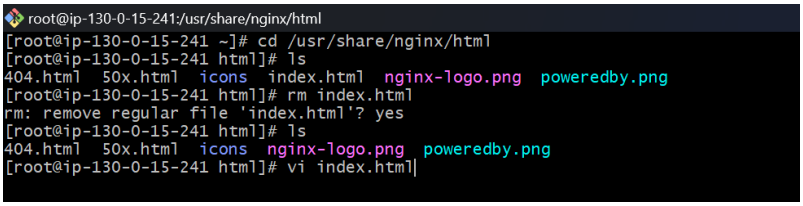


Connect to the instance to git bash by ssh and change to root user and install nginx

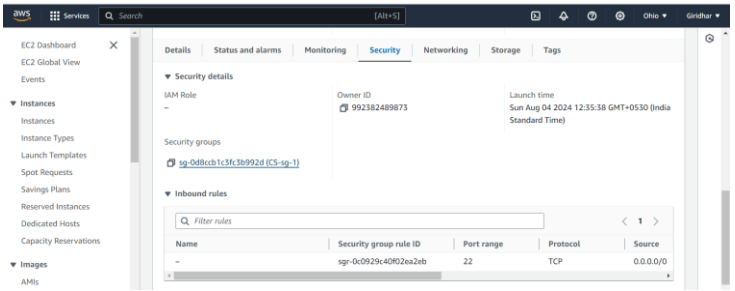


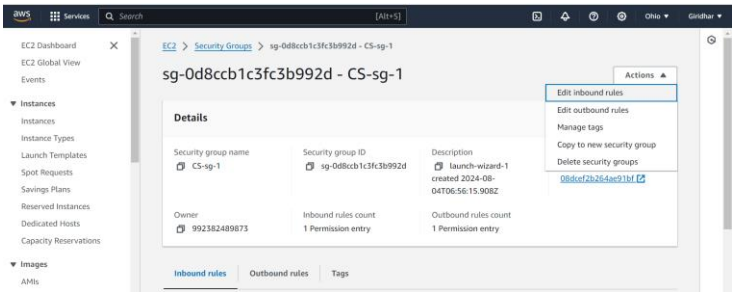


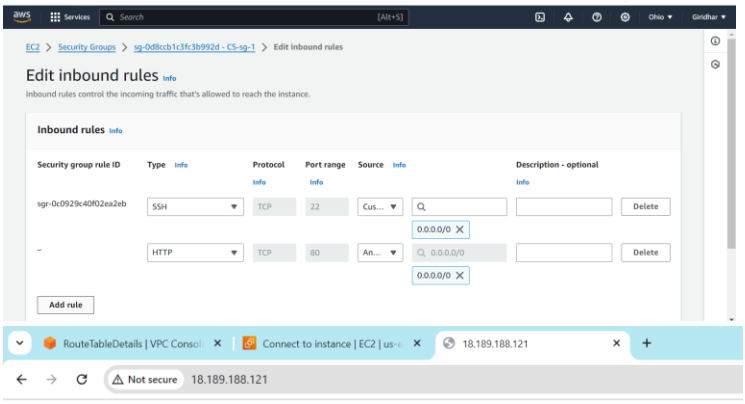
After installing nginx change directory to html, remove the index.html file which was already present and create file index.html again to have our own text data in that



Go to instance and in security grp add inbound rule http which has port 80, so we can see the text file in chrome by adding (:80) in public ip of instance, which is created in git bash.

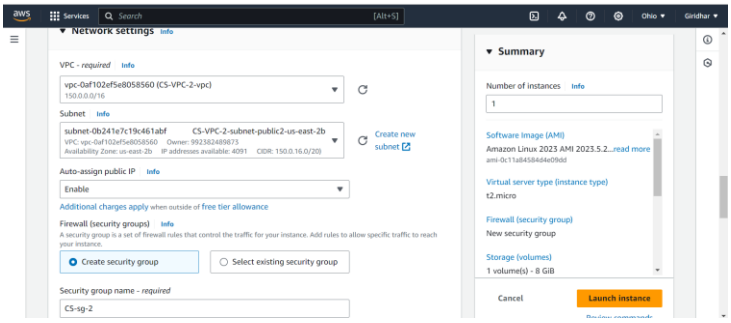


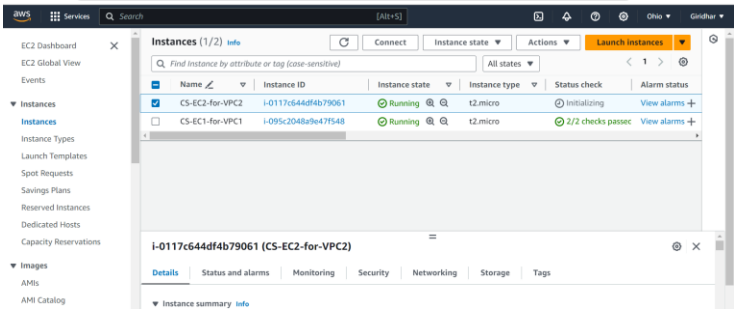


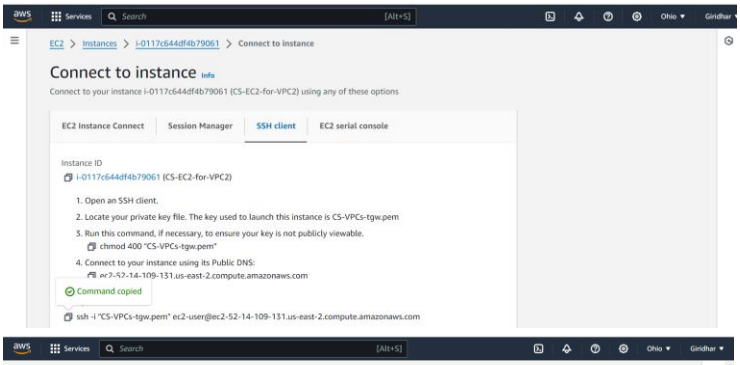


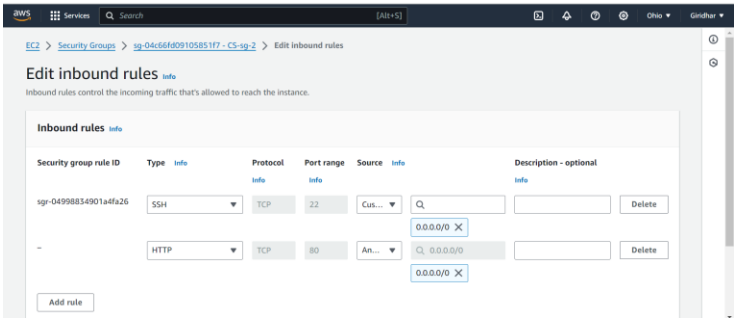
Hi their this is case study of VPC - 1

Now create another instance (CS-EC2-for-VP2)

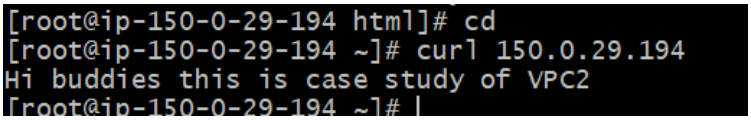


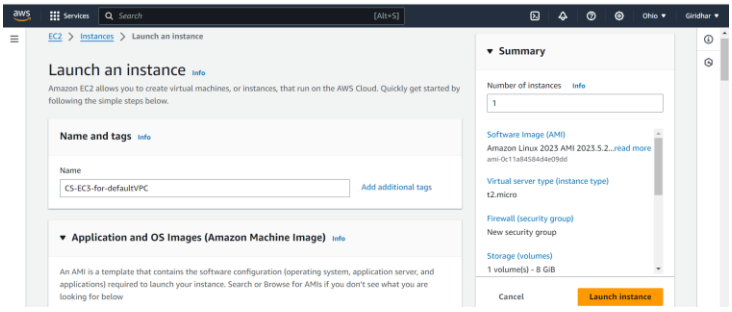


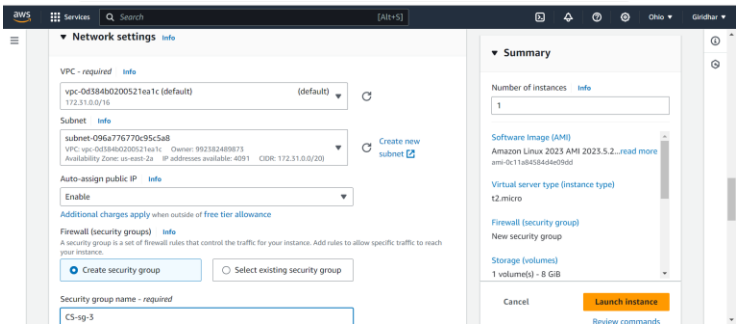


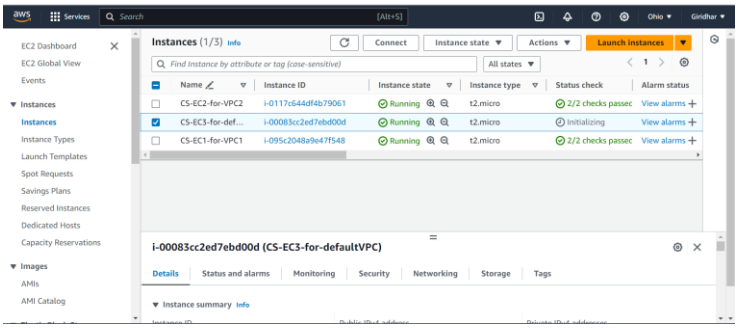


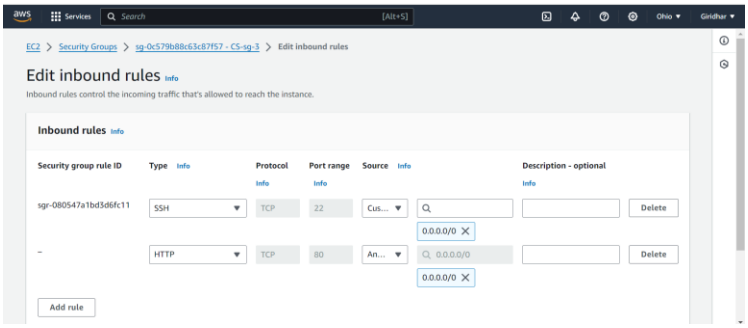
Same process as done for instance one

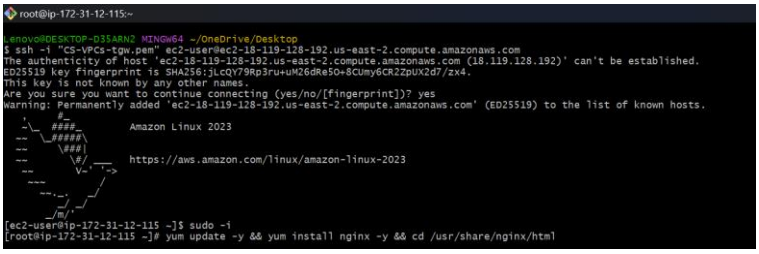


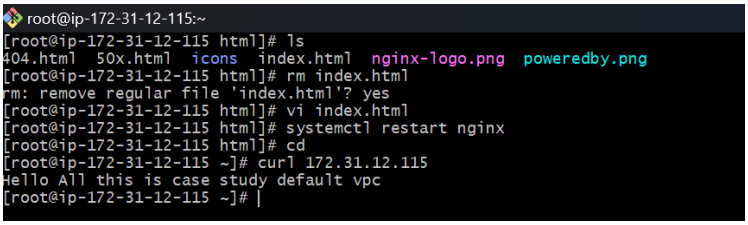

Services
Search
[Alt+S]
Ohio
Giridhar
EC2 > Instances > Launch an instance
Launch an instance Info
Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.
Name and tags Info
Name
CS-EC3-for-defaultVPC
Add additional tags
Application and OS Images (Amazon Machine Image) Info
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below
Summary
Number of instances Info
1
Software Image (AMI)
Amazon Linux 2023 AMI 2023.5.2...read more
ami-0c11a84584d4e09dd
Virtual server type (instance type)
t2.micro
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Cancel
Launch instance


Services
Search
[Alt+S]
Ohio
Giridhar
Network settings Info
VPC - required Info
vpc-0d384b0200521ea1c (default)
172.31.0.0/16
(default)
Subnet Info
subnet-096a776770c95c5a8
VPC: vpc-0d384b0200521ea1c Owner: 952382489873
Availability Zone: us-east-2a IP addresses available: 4091 CIDR: 172.31.0.0/20)
Create new subnet
Auto-assign public IP Info
Enable
Additional charges apply when outside of free tier allowance
Firewall (security groups) Info
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.
Create security group
Select existing security group
Security group name - required
CS-sg-3
Summary
Number of instances Info
1
Software Image (AMI)
Amazon Linux 2023 AMI 2023.5.2...read more
ami-0c11a84584d4e09dd
Virtual server type (instance type)
t2.micro
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Cancel
Launch instance
Review commands

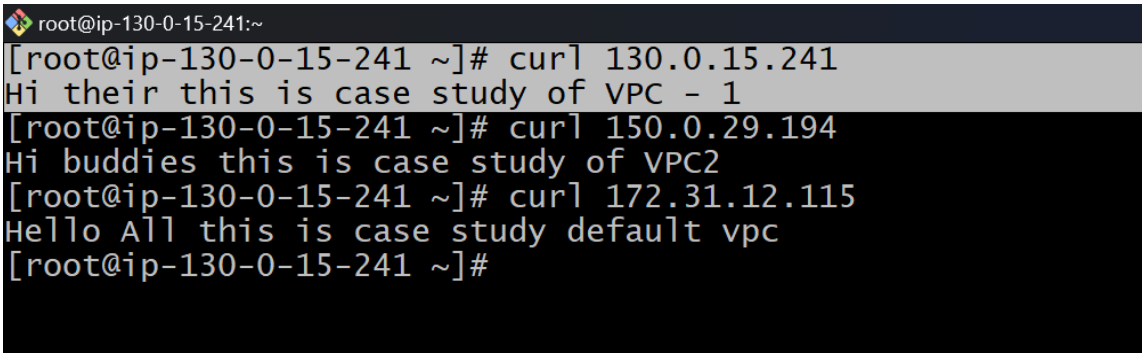

Services
Search
[Alt+S]
Ohio
Giridhar
EC2 Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Images
AMIs
AMI Catalog
Instances (1/3) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
CS-EC2-for-VPC2 i-0117c644df4b79061 Running t2.micro 2/2 checks passed View alarms
CS-EC3-for-def... i-00083cc2ed7ebd00d Running t2.micro Initializing View alarms
CS-EC1-for-VPC1 i-095c2048a9e47f548 Running t2.micro 2/2 checks passed View alarms
i-00083cc2ed7ebd00d (CS-EC3-for-defaultVPC)
Details
Status and alarms
Monitoring
Security
Networking
Storage
Tags
Instance summary Info







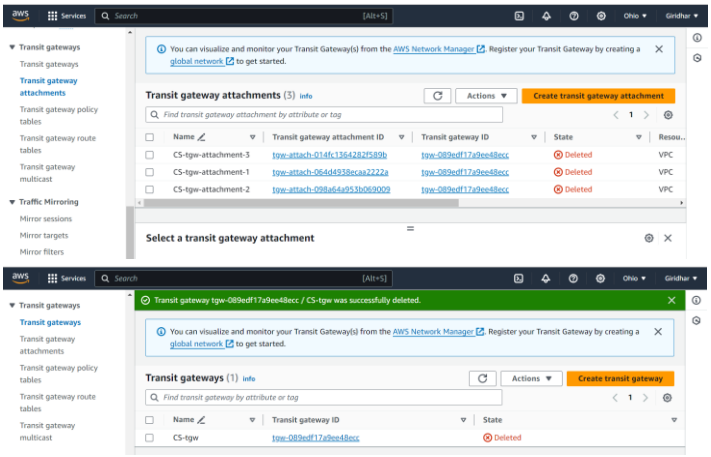
We have created communication to all three VPCs with Transit Gateway step by step, now we can access any data of any vpc from any one of three

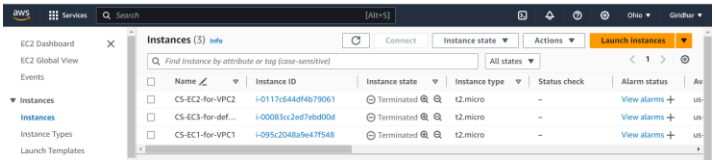


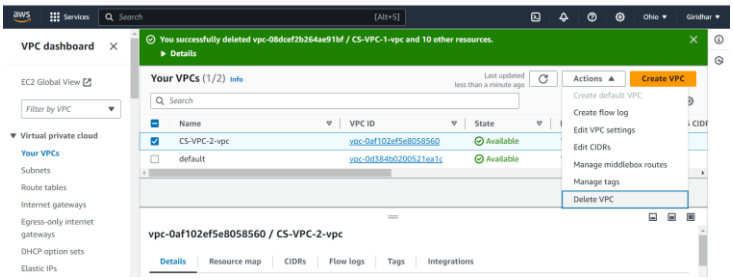
```
root@ip-150-0-29-194:~
[root@ip-150-0-29-194 ~]# curl 150.0.29.194
Hi buddies this is case study of VPC2
[root@ip-150-0-29-194 ~]# curl 130.0.15.241
Hi their this is case study of VPC - 1
[root@ip-150-0-29-194 ~]# curl 172.31.12.115
Hello All this is case study default vpc
[root@ip-150-0-29-194 ~]#
```

```
root@ip-172-31-12-115:~
[root@ip-172-31-12-115 ~]# curl 172.31.12.115
Hello All this is case study default vpc
[root@ip-172-31-12-115 ~]# curl 150.0.29.194
Hi buddies this is case study of VPC2
[root@ip-172-31-12-115 ~]# curl 130.0.15.241
Hi their this is case study of VPC - 1
[root@ip-172-31-12-115 ~]#
```

Delete all in reverse process




Services
Search
[Alt+S]
Ohio
Giridhar
EC2 Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Instances (3) Info
Connect
Instance state
Actions
Launch instances
Find instance by attribute or tag (case-sensitive)
All states
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
CS-EC2-for-VPC2
i-0117c644df4b79061
Terminated
t2.micro
View alarms
CS-EC3-for-def...
i-00083cc2ed7ebd00d
Terminated
t2.micro
View alarms
CS-EC1-for-VPC1
i-095c2048a9e47f548
Terminated
t2.micro
View alarms


Services
Search
[Alt+S]
Ohio
Giridhar
VPC dashboard
EC2 Global View
Filter by VPC
Virtual private cloud
Your VPCs
Subnets
Route tables
Internet gateways
Egress-only internet gateways
DHCP option sets
Elastic IPs
You successfully deleted vpc-08dcef2b264ae91bf / CS-VPC-1-vpc and 10 other resources.
Details
Your VPCs (1/2) Info
Last updated less than a minute ago
Actions
Create VPC
Search
Name
VPC ID
State
CS-VPC-2-vpc
vpc-0af102ef5e8058560
Available
default
vpc-0d384b0200521ea1c
Available
Create default VPC
Create flow log
Edit VPC settings
Edit CIDRs
Manage middlebox routes
Manage tags
Delete VPC
vpc-0af102ef5e8058560 / CS-VPC-2-vpc
Details
Resource map
CIDRs
Flow logs
Tags
Integrations