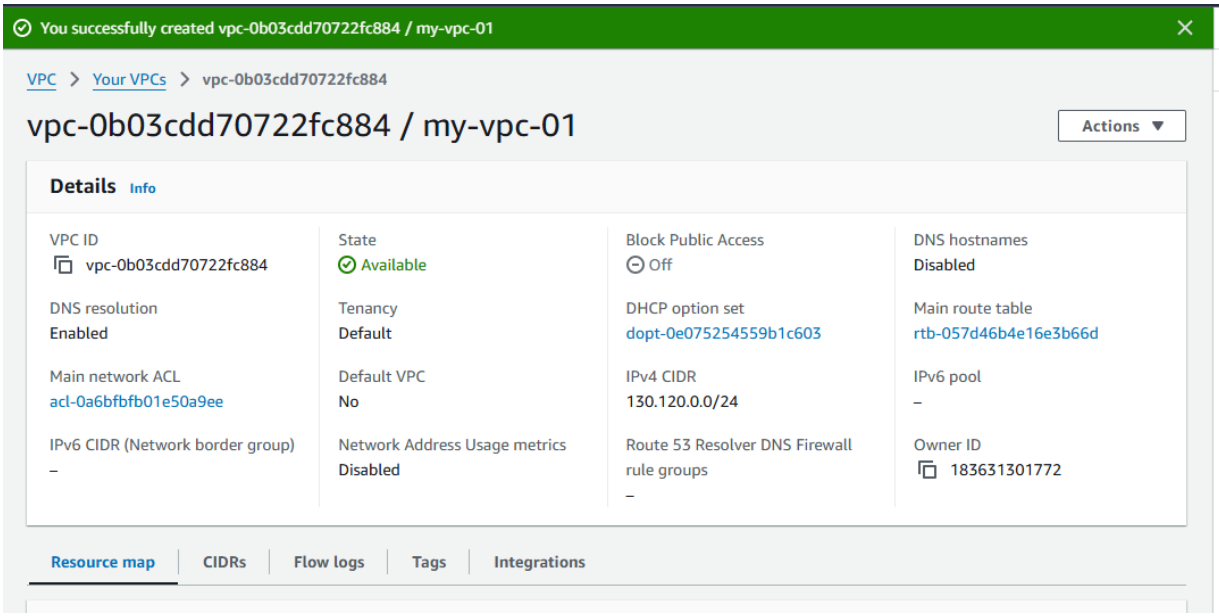
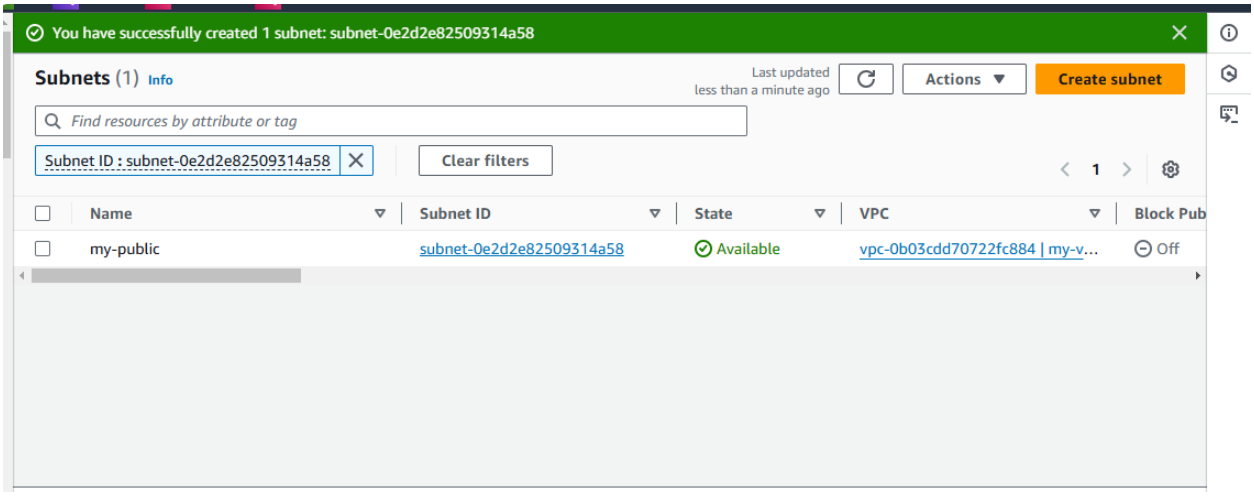
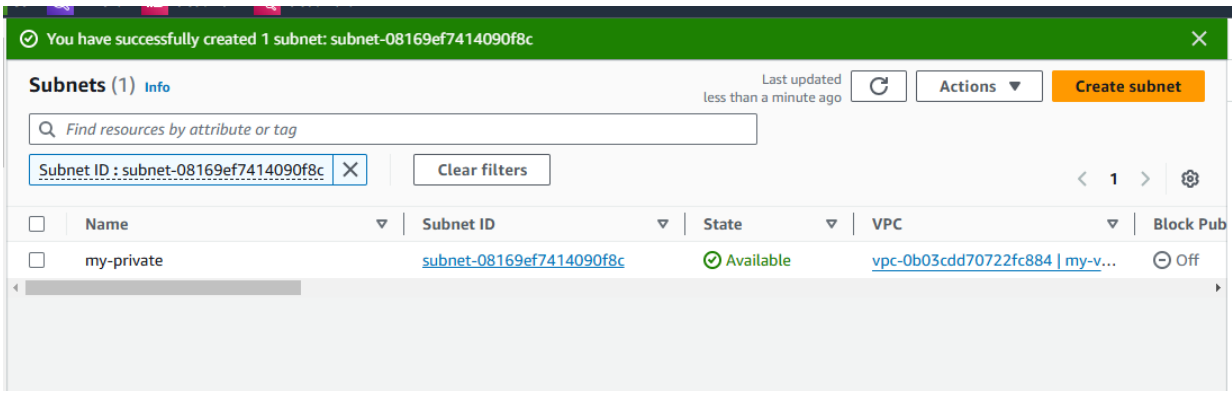
1) Create one vpc in N.virginia region.



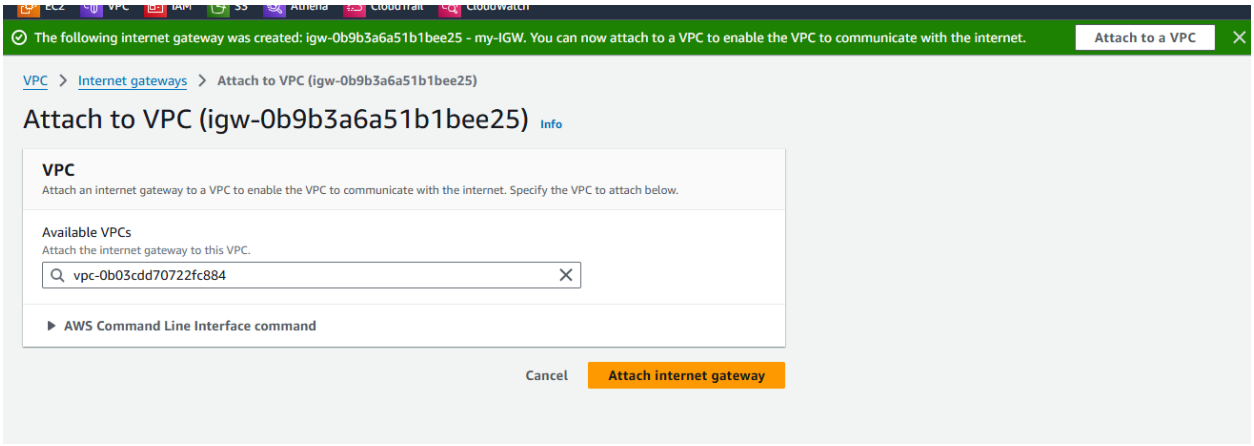
2) Create two subnets.

One Public subnet and one private subnet.

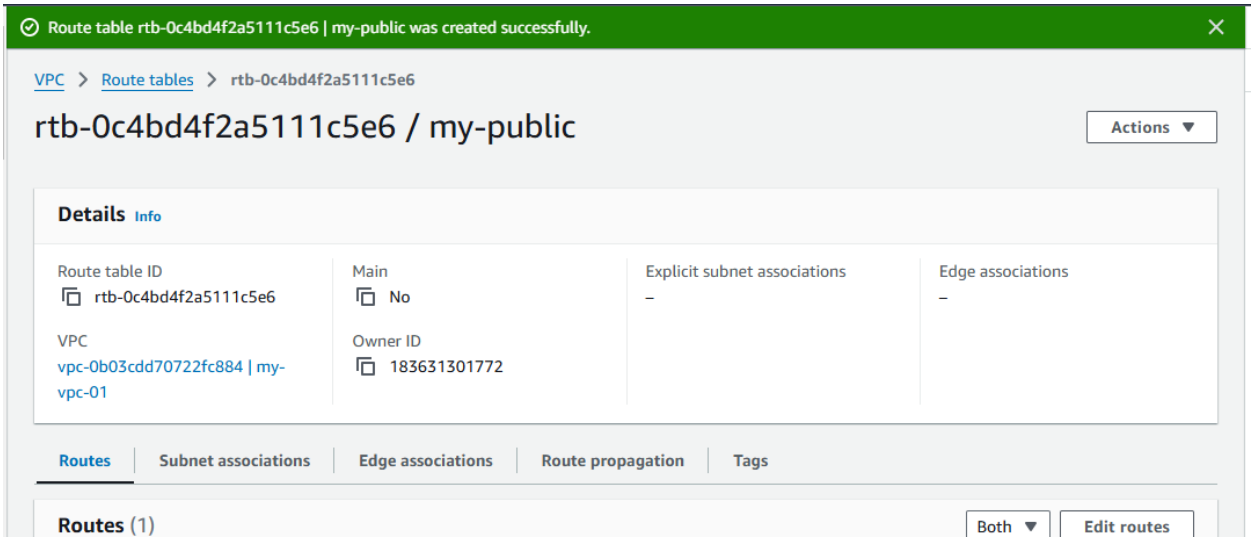


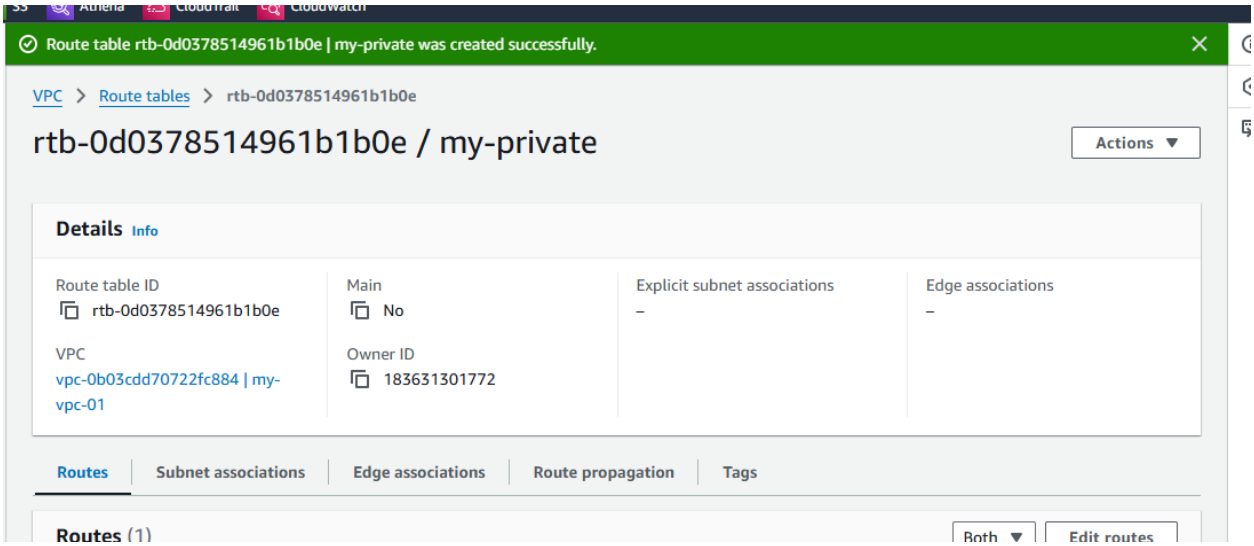


3) Provide the IGW to the vpc.

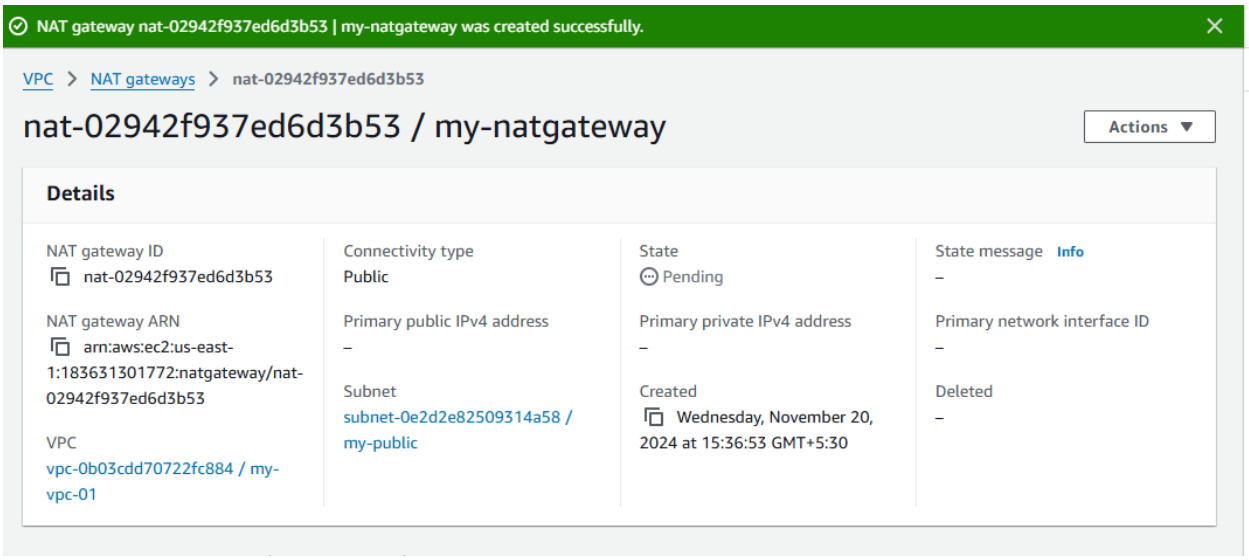


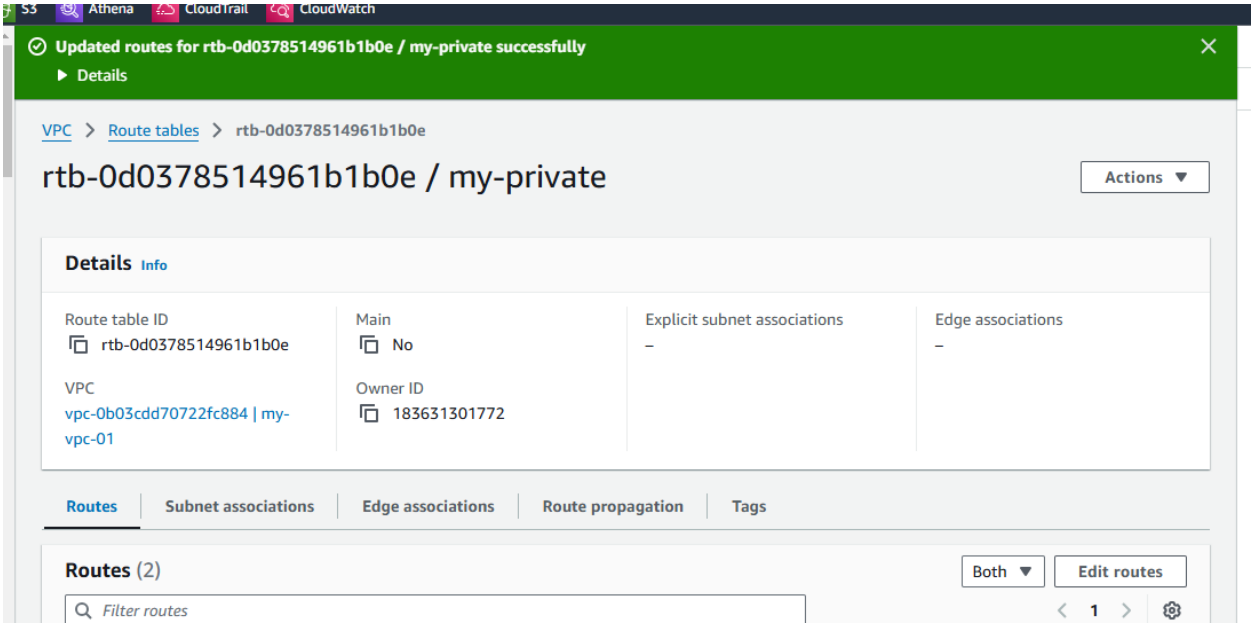
4) Create One public RT and one private RT.



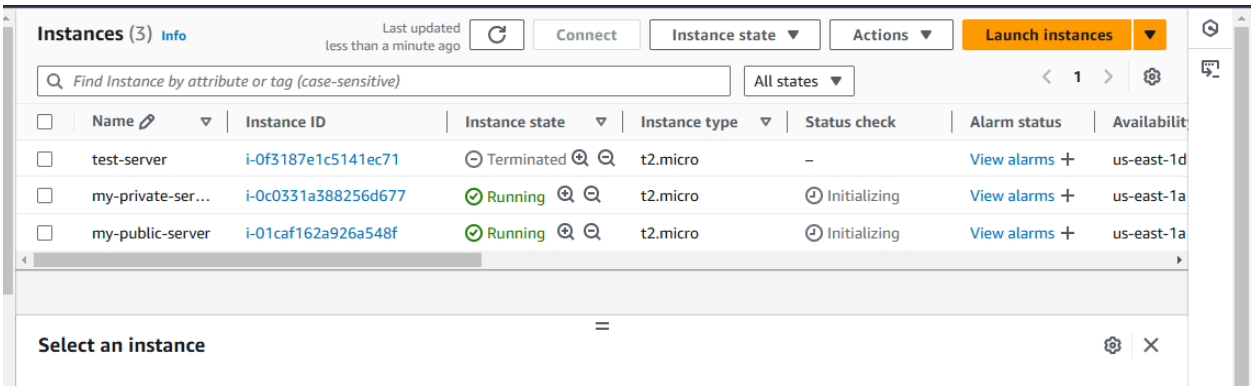


5) Deploy NAT gateway on public subnet and attach the NAT gatewat to private subnet.





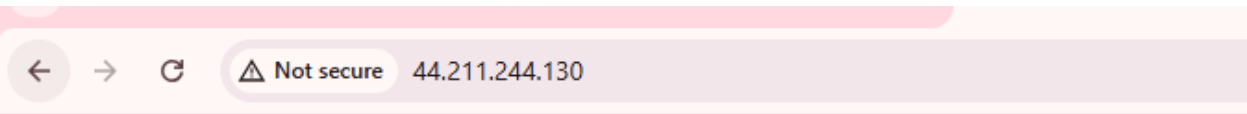
6) Create Two instances,one in public subnet and one in private subnet.



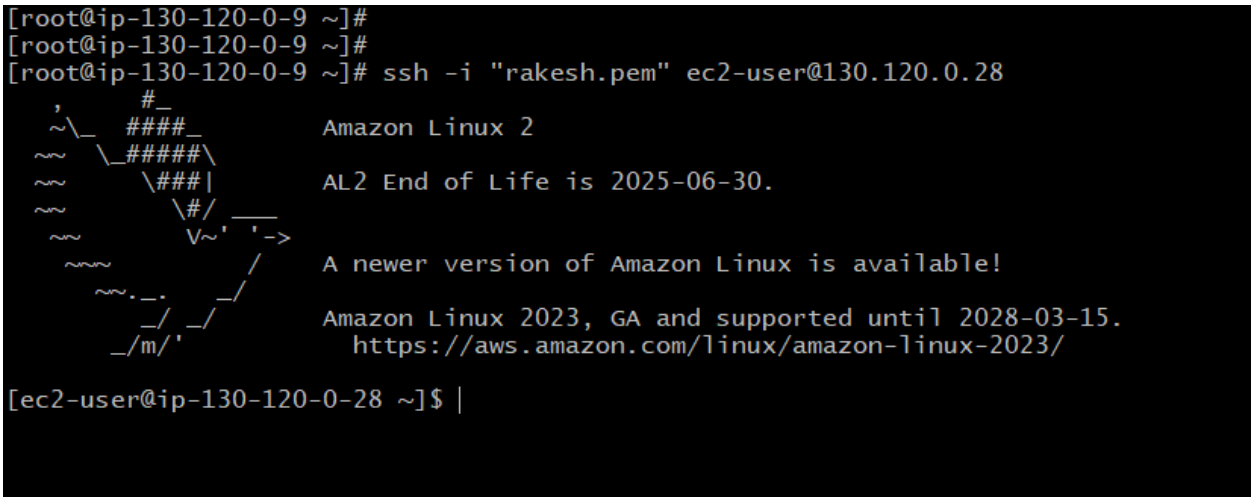
7) Deploy Apache server on both the ec2 instances with sample index.html file.

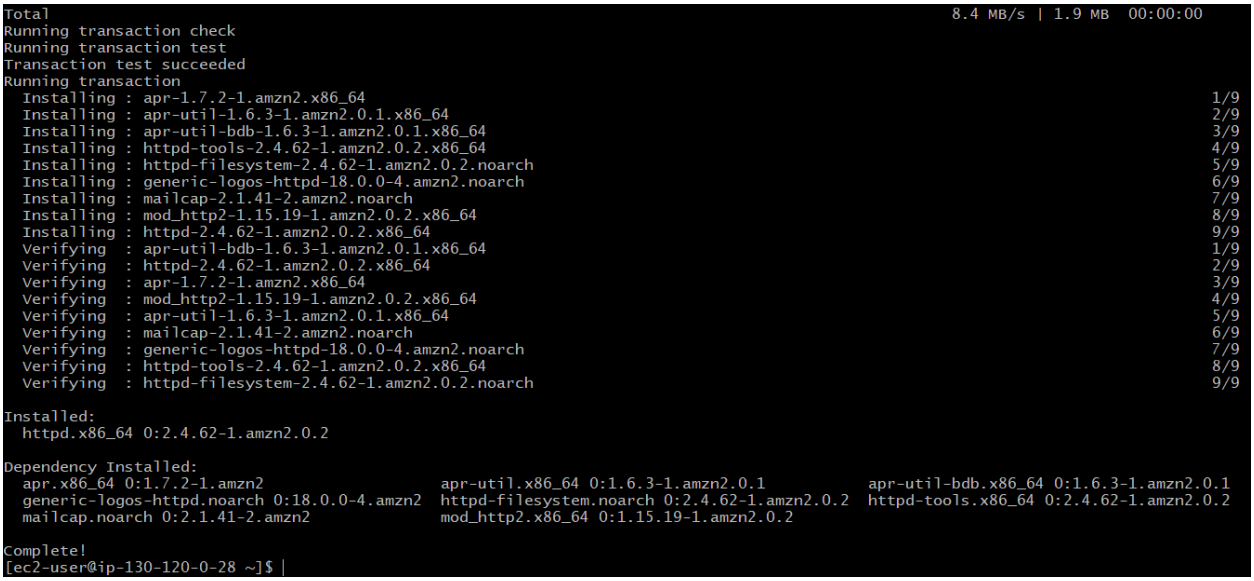
\

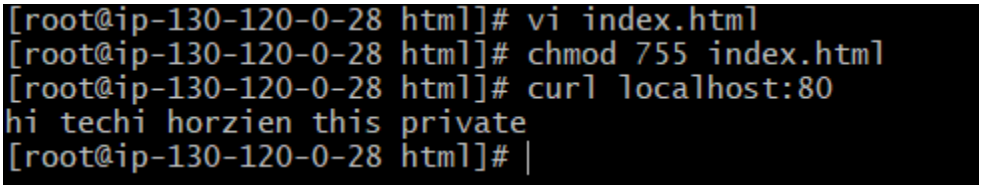
```
[root@ip-130-120-0-9 html]# ls
[root@ip-130-120-0-9 html]# vi index.html
[root@ip-130-120-0-9 html]# chmod 755 index.html
[root@ip-130-120-0-9 html]# ls
index.html
[root@ip-130-120-0-9 html]# systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
   Active: inactive (dead)
     Docs: man:httpd.service(8)
[root@ip-130-120-0-9 html]# systemctl start httpd
[root@ip-130-120-0-9 html]# systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
   Active: active (running) since Wed 2024-11-20 10:48:52 UTC; 8s ago
     Docs: man:httpd.service(8)
 Main PID: 3534 (httpd)
   Status: "Processing requests..."
   CGroup: /system.slice/httpd.service
           ├─3534 /usr/sbin/httpd -DFOREGROUND
           ├─3535 /usr/sbin/httpd -DFOREGROUND
           ├─3536 /usr/sbin/httpd -DFOREGROUND
           ├─3537 /usr/sbin/httpd -DFOREGROUND
           ├─3538 /usr/sbin/httpd -DFOREGROUND
           └─3539 /usr/sbin/httpd -DFOREGROUND

Nov 20 10:48:52 ip-130-120-0-9.ec2.internal systemd[1]: Starting The Apache HTTP Server...
Nov 20 10:48:52 ip-130-120-0-9.ec2.internal systemd[1]: Started The Apache HTTP Server.
[root@ip-130-120-0-9 html]#
```



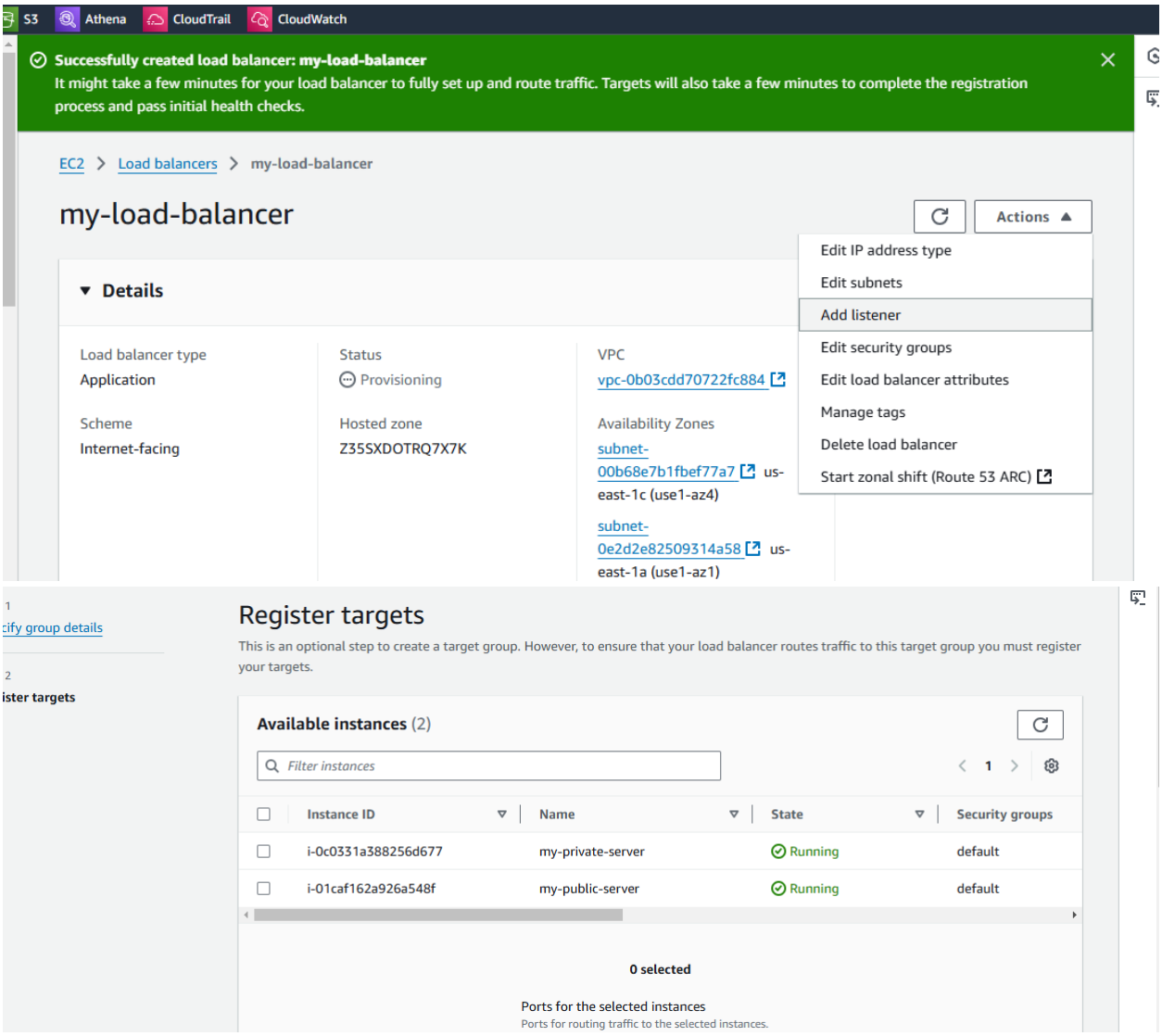
hello world techihorize



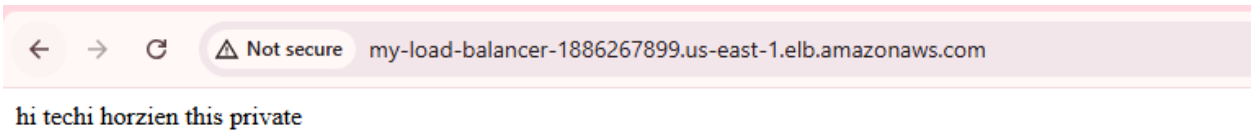


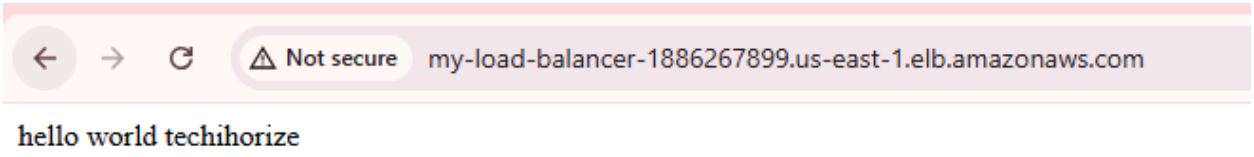


8) Create one application load balancer and attach the load balancer to both the ec2 instances.

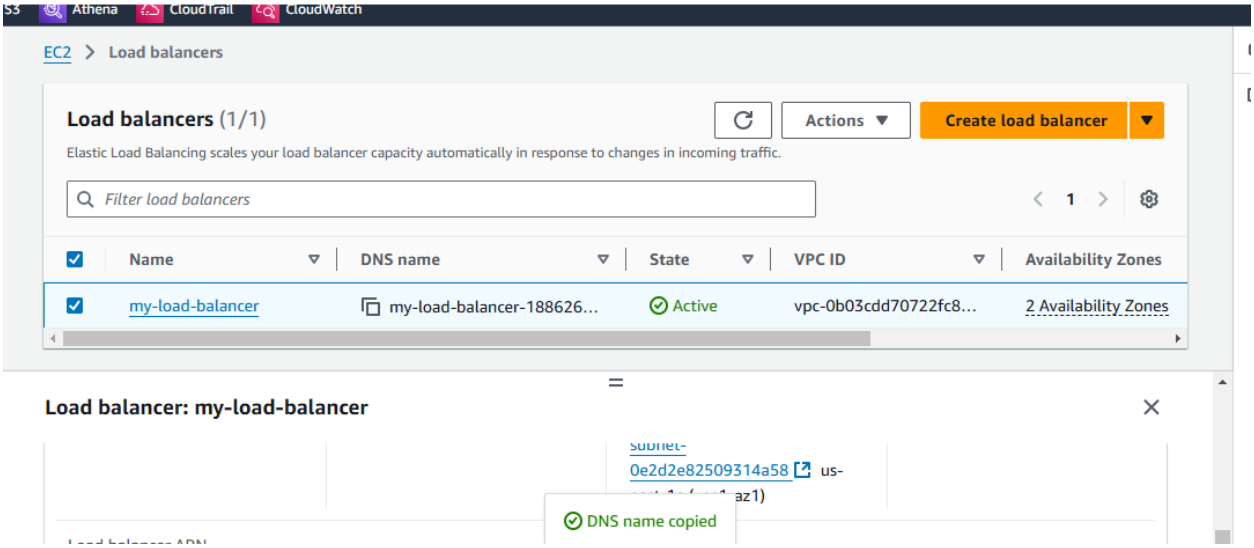

S3
Athena
CloudTrail
CloudWatch
Successfully created load balancer: my-load-balancer
It might take a few minutes for your load balancer to fully set up and route traffic. Targets will also take a few minutes to complete the registration process and pass initial health checks.
EC2 > Load balancers > my-load-balancer
my-load-balancer
Actions
Edit IP address type
Edit subnets
Add listener
Edit security groups
Edit load balancer attributes
Manage tags
Delete load balancer
Start zonal shift (Route 53 ARC)
Details
Load balancer type
Application
Status
Provisioning
VPC
vpc-0b03cdd70722fc884
Scheme
Internet-facing
Hosted zone
Z35SXDOTRQ7X7K
Availability Zones
subnet-00b68e7b1fbef77a7 us-east-1c (use1-az4)
subnet-0e2d2e82509314a58 us-east-1a (use1-az1)

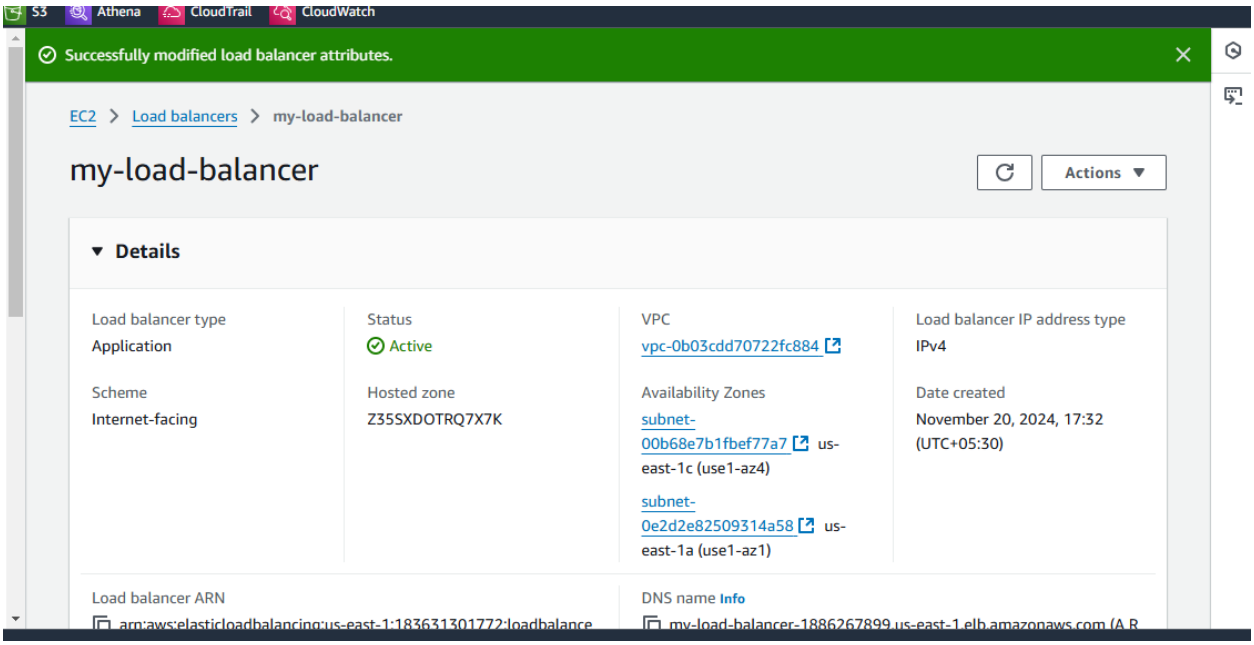
1
cify group details
2
ister targets
Register targets
This is an optional step to create a target group. However, to ensure that your load balancer routes traffic to this target group you must register your targets.
Available instances (2)
Filter instances
1
Instance ID
Name
State
Security groups
i-0c0331a388256d677
my-private-server
Running
default
i-01caf162a926a548f
my-public-server
Running
default
0 selected
Ports for the selected instances
Ports for routing traffic to the selected instances.





9) Store Application load balancer logs to s3.





Off

Monitoring

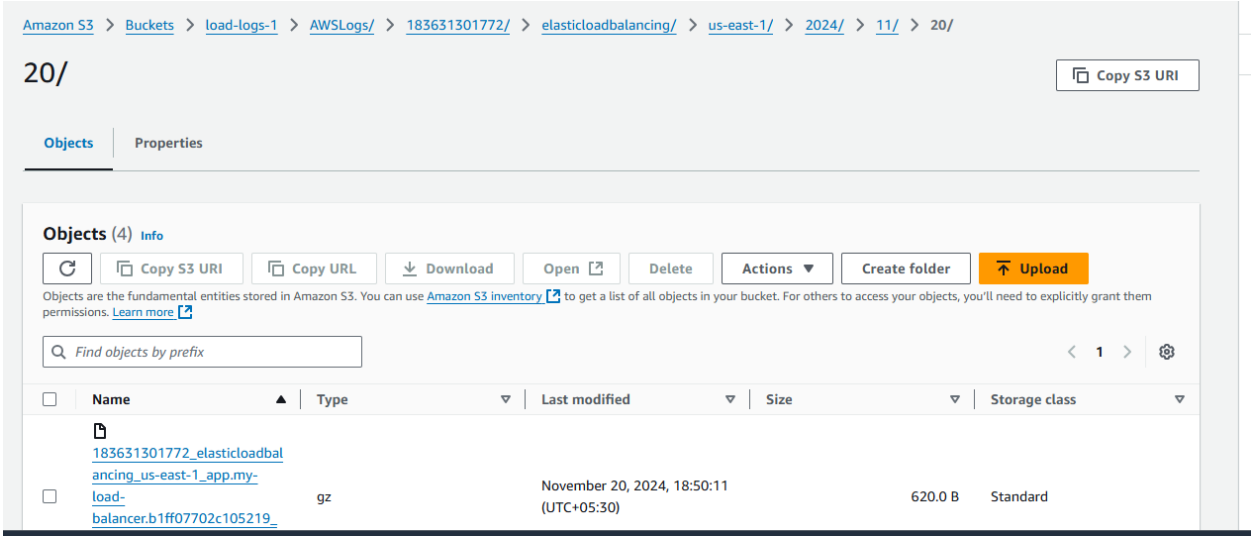
Access logs

S3 location: load-logs-1

Connection logs

Off

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
        "AWS": "arn:aws:iam::127311923021:root"
      },
      "Action": "s3:PutObject",
      "Resource": "arn:aws:s3:::load-logs-1/AWSLogs/183631301772/*"
    }
  ]
}
```

10) Store the vpc flow logs to cloudwtach group.

11) Create Monitoring Dashboards to monitor cpu utilization and to monitor apache service.

12) CPU utilizationis more than 70% then it should triggere Autoscaling and launch new instance.