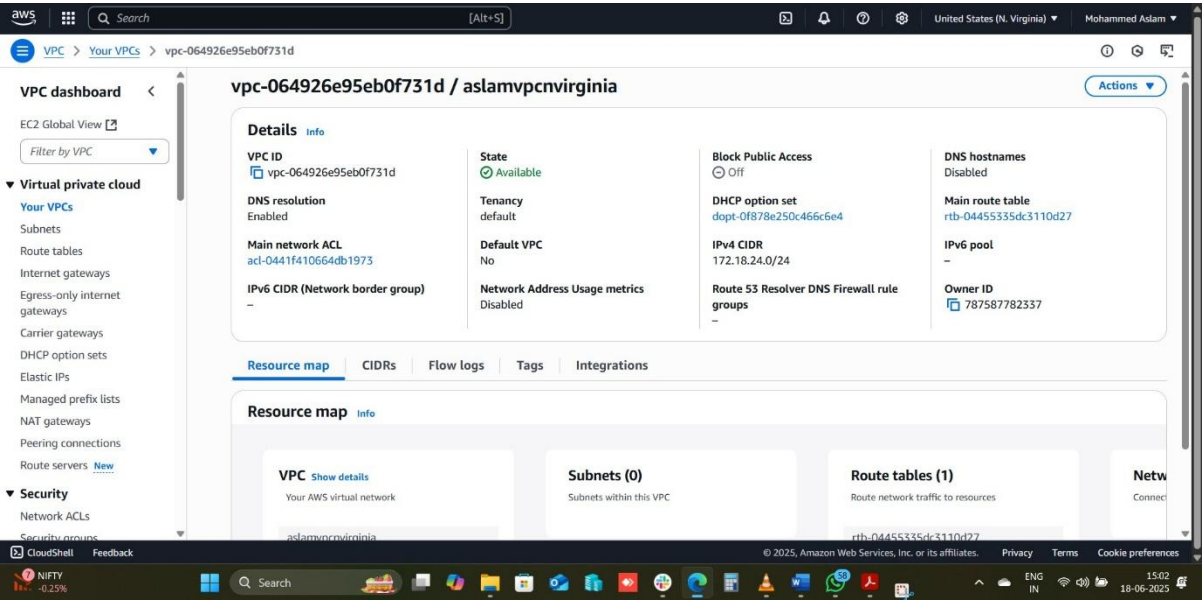


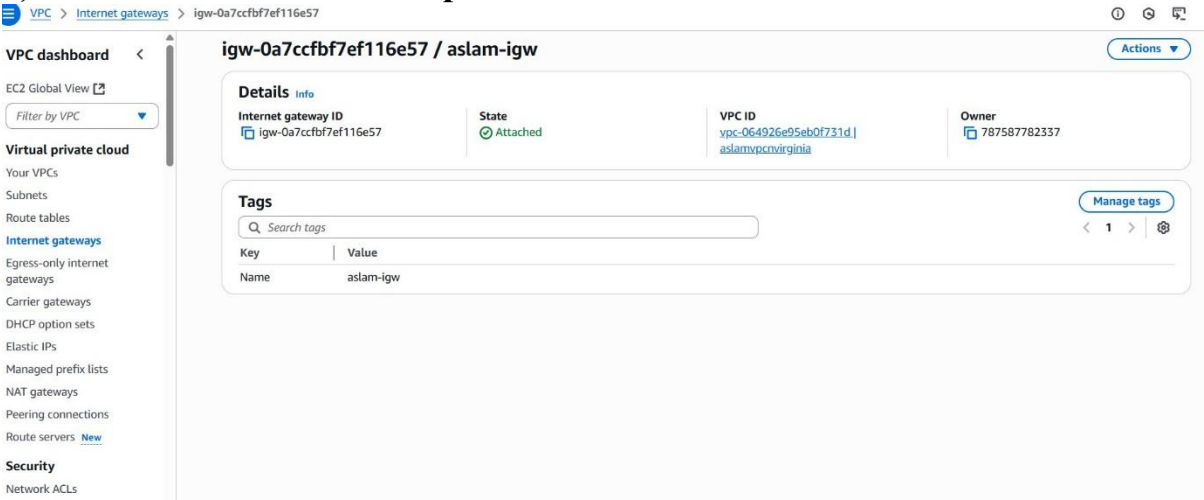
1) Create one vpc in N.virginia region.



2) Create two subnets.
One Public subnet and one private subnet.

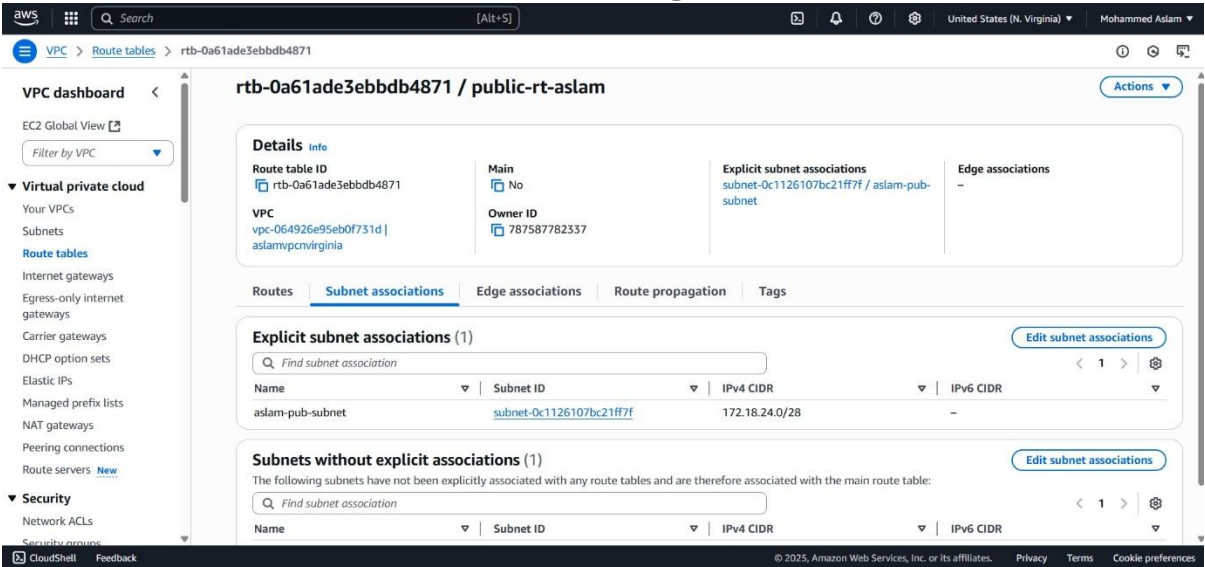
	Name	Subnet ID	State	VPC	Block Public...	IPv4 CIDR
	aslam-pub-subnet	subnet-0c1126107bc21ff7f	Available	vpc-064926e95eb0f731d asla...	Off	172.18.24.0/
	aslam-private-subnet	subnet-03faa22f09c729f33	Available	vpc-064926e95eb0f731d asla...	Off	172.18.24.16

3) Provide the IGW to the vpc.

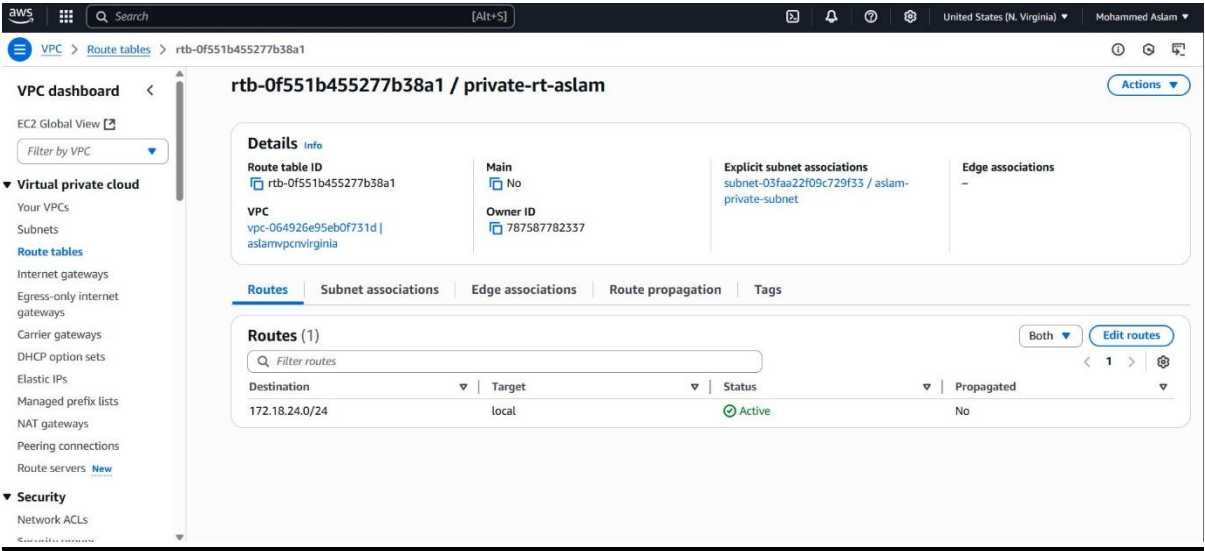


3) Create One public RT and one private RT.

Public routing table

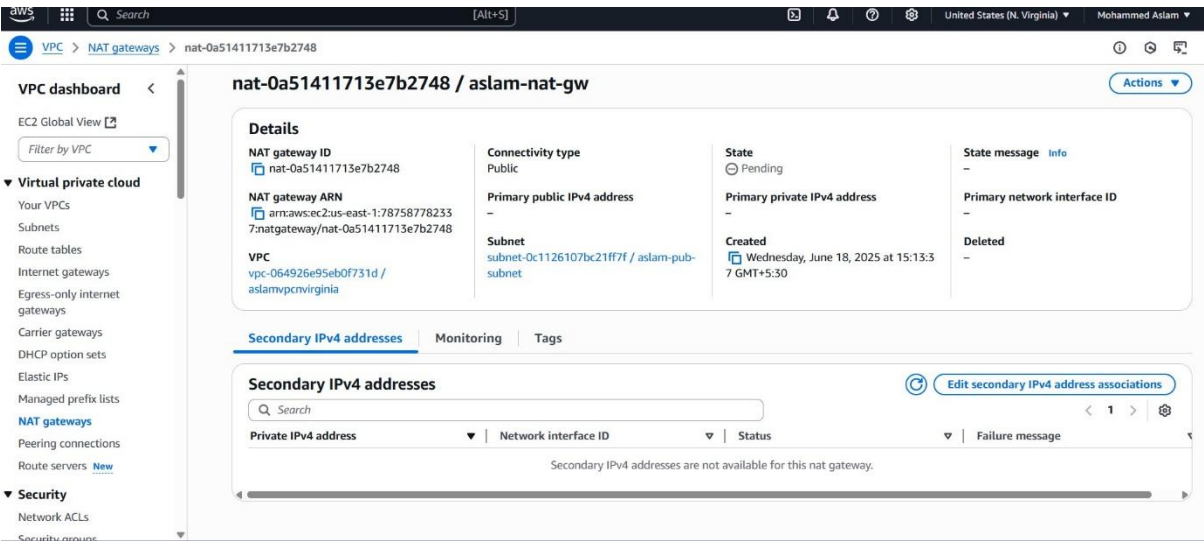


Private routing table

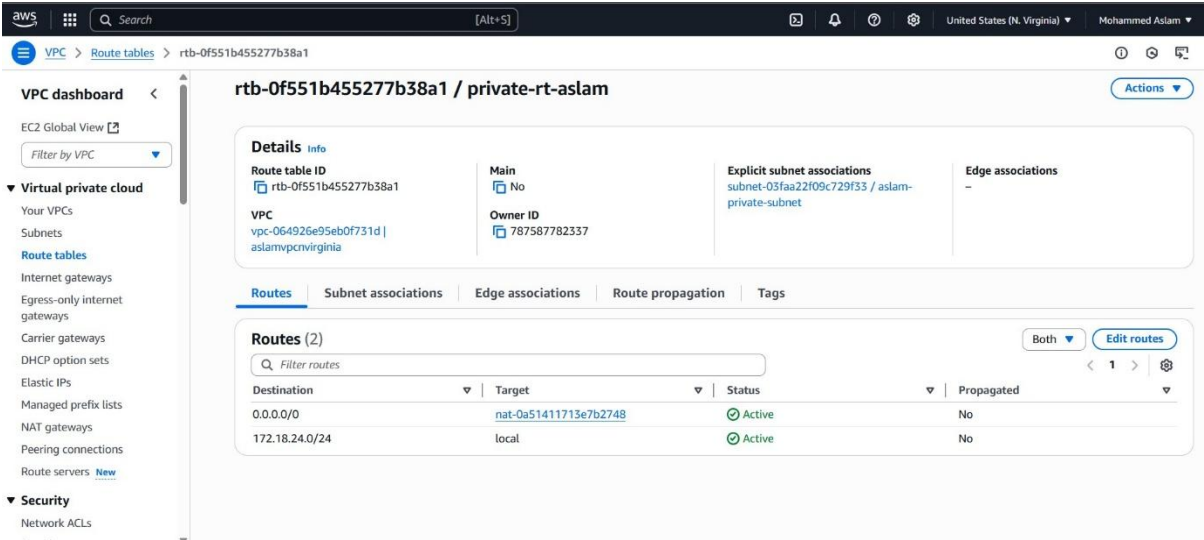


5) Deploy NAT gateway on public subnet and attach the NAT gateway to private subnet.

Deployed NAT gateway on public subnet

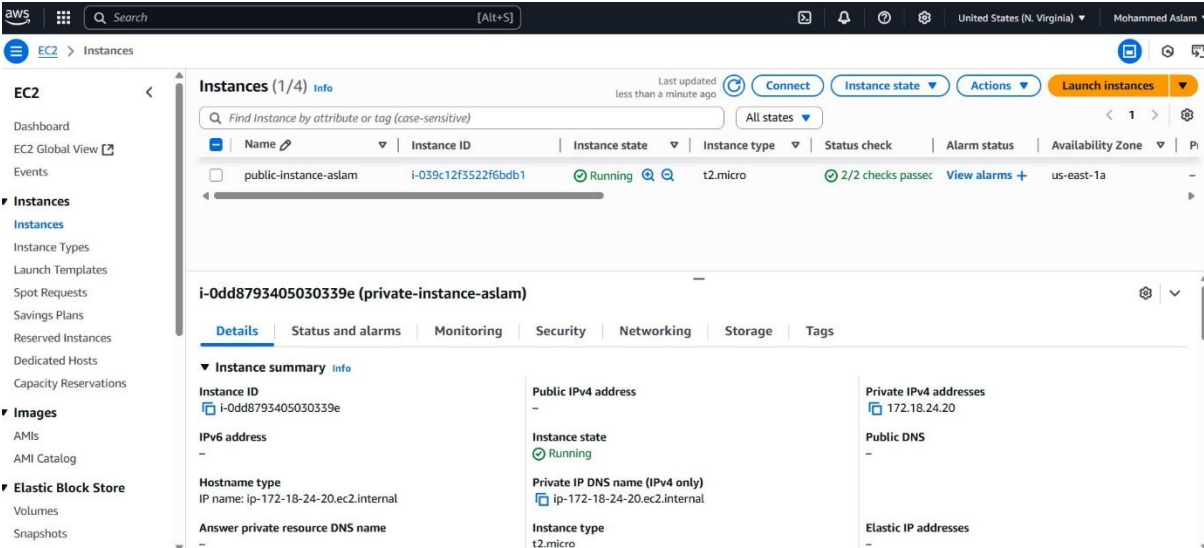


Attached NAT gateway to private subnet

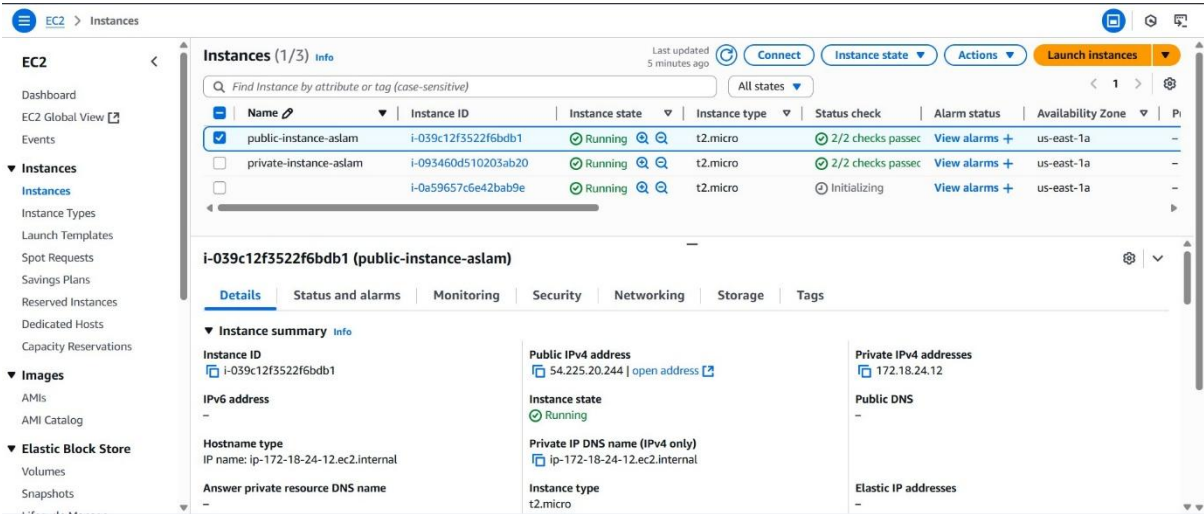


6) Create Two instances,one in public subnet and one in private subnet.

Private instance



Public-instance



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

Public instance apache

```
root@ip-172-18-24-12 ~]# systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
   Active: active (running) since Wed 2025-06-18 10:02:07 UTC; 15min ago
     Docs: man:httpd.service(8)
  Main PID: 3507 (httpd)
   Status: "Total requests: 5; Idle/Busy workers 100/0; Requests/sec: 0.00543; Bytes served/sec: 4 B/sec"
    CGroup: /system.slice/httpd.service
            └─3507 /usr/sbin/httpd -DFOREGROUND
            └─3508 /usr/sbin/httpd -DFOREGROUND
            └─3509 /usr/sbin/httpd -DFOREGROUND
            └─3510 /usr/sbin/httpd -DFOREGROUND
            └─3511 /usr/sbin/httpd -DFOREGROUND
            └─3512 /usr/sbin/httpd -DFOREGROUND
            └─3564 /usr/sbin/httpd -DFOREGROUND

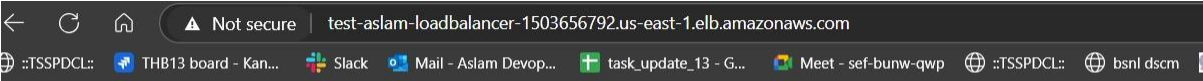
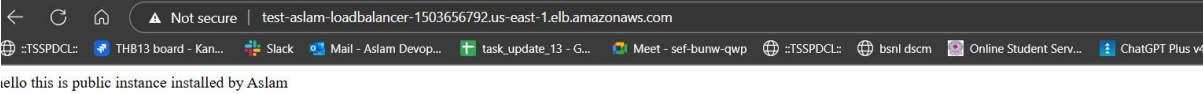
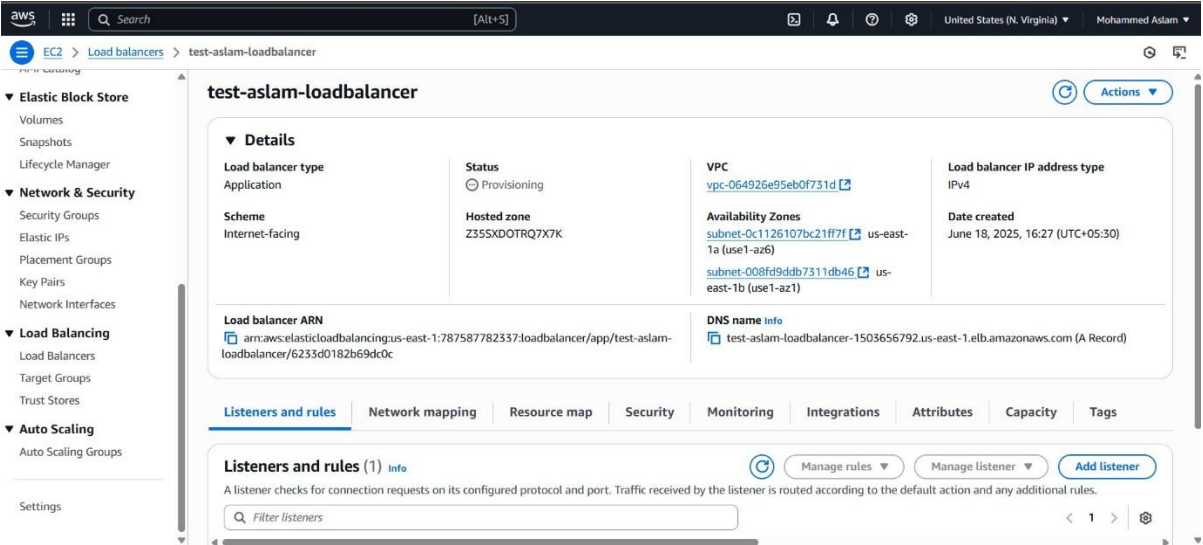
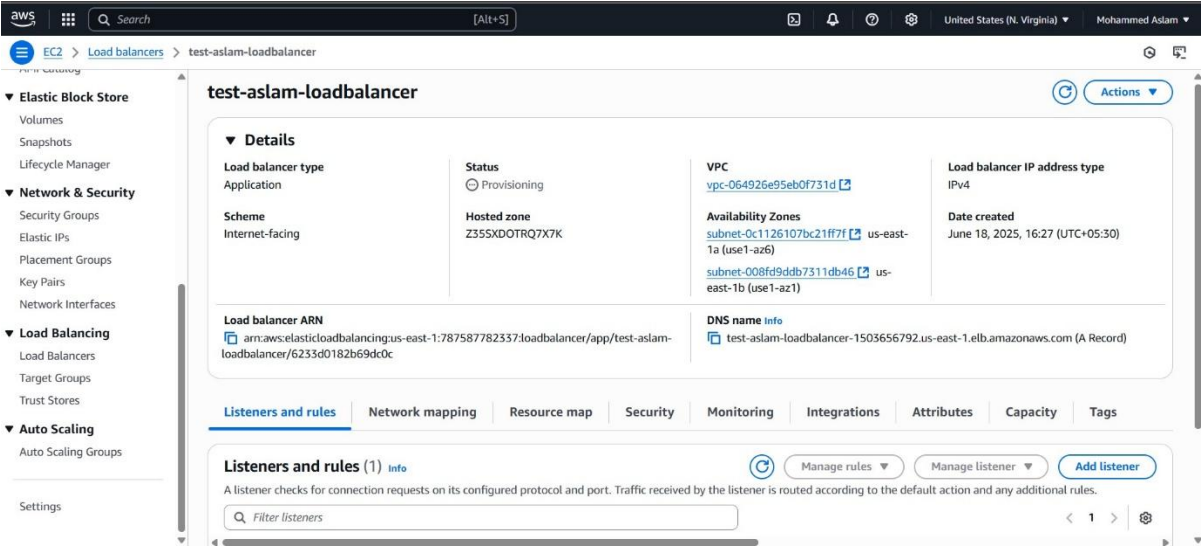
Jun 18 10:02:07 ip-172-18-24-12.ec2.internal systemd[1]: Starting The Apache ...
Jun 18 10:02:07 ip-172-18-24-12.ec2.internal systemd[1]: Started The Apache H...
Hint: Some lines were ellipsized, use -l to show in full.
root@ip-172-18-24-12 ~]#
```

Private instance apache

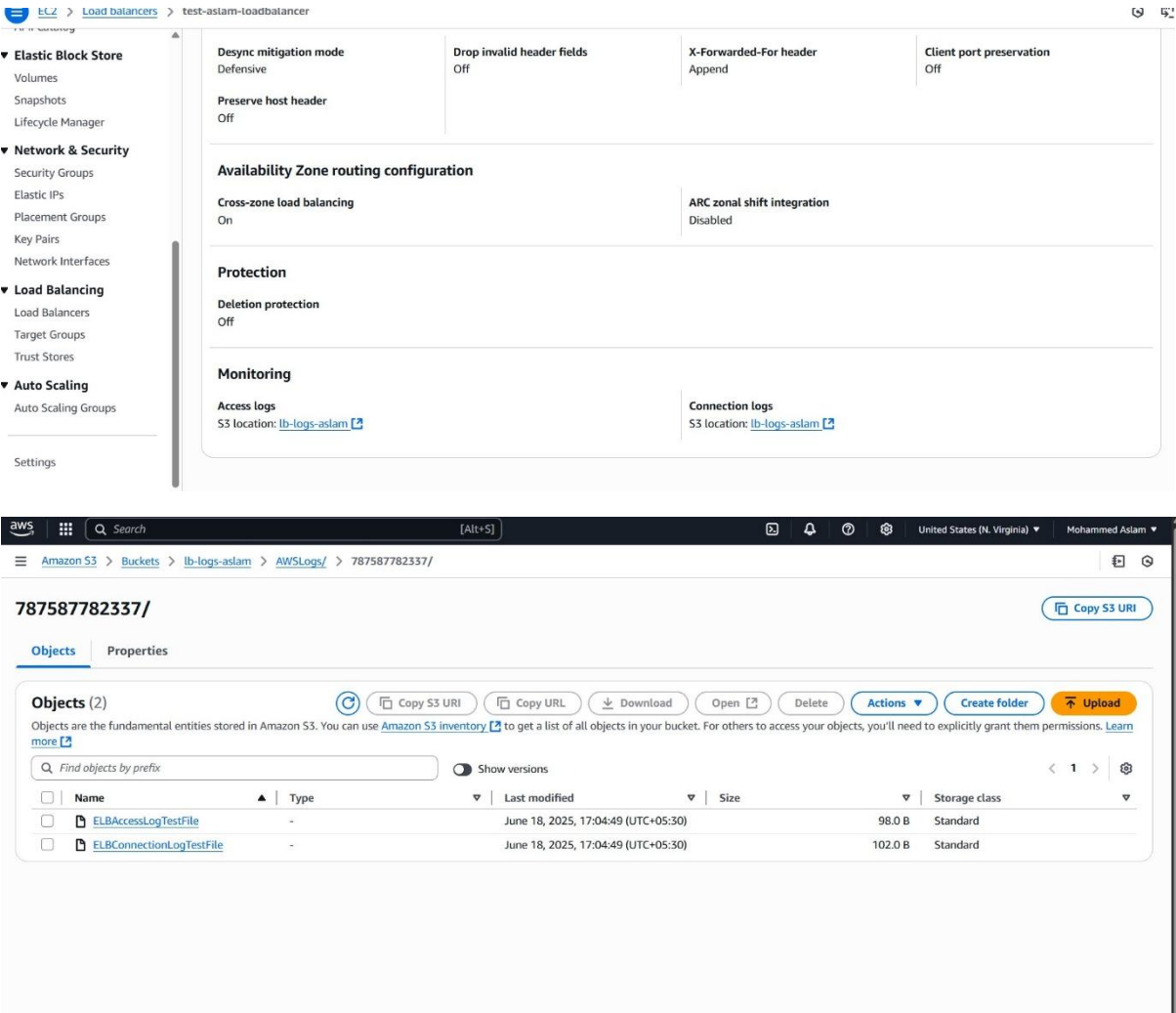
```
root@ip-172-18-24-20 html]# systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
   Active: active (running) since Wed 2025-06-18 10:19:36 UTC; 1min 30s ago
     Docs: man:httpd.service(8)
  Main PID: 3464 (httpd)
   Status: "Total requests: 0; Idle/Busy workers 100/0; Requests/sec: 0; Bytes served/sec: 0 B/sec"
    CGroup: /system.slice/httpd.service
            └─3464 /usr/sbin/httpd -DFOREGROUND
            └─3465 /usr/sbin/httpd -DFOREGROUND
            └─3466 /usr/sbin/httpd -DFOREGROUND
            └─3467 /usr/sbin/httpd -DFOREGROUND
            └─3468 /usr/sbin/httpd -DFOREGROUND
            └─3469 /usr/sbin/httpd -DFOREGROUND

Jun 18 10:19:36 ip-172-18-24-20.ec2.internal systemd[1]: Starting The Apache HTTP Server...
Jun 18 10:19:36 ip-172-18-24-20.ec2.internal systemd[1]: Started The Apache HTTP Server.
root@ip-172-18-24-20 html]#
```

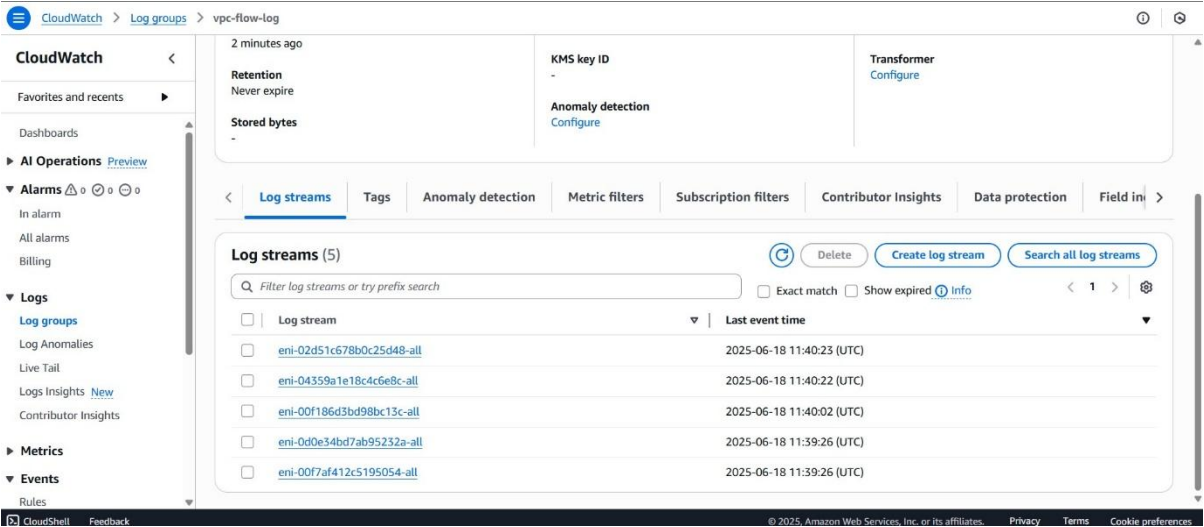

8) Create one application load balancer and attach the load balancer to both the ec2 instances.



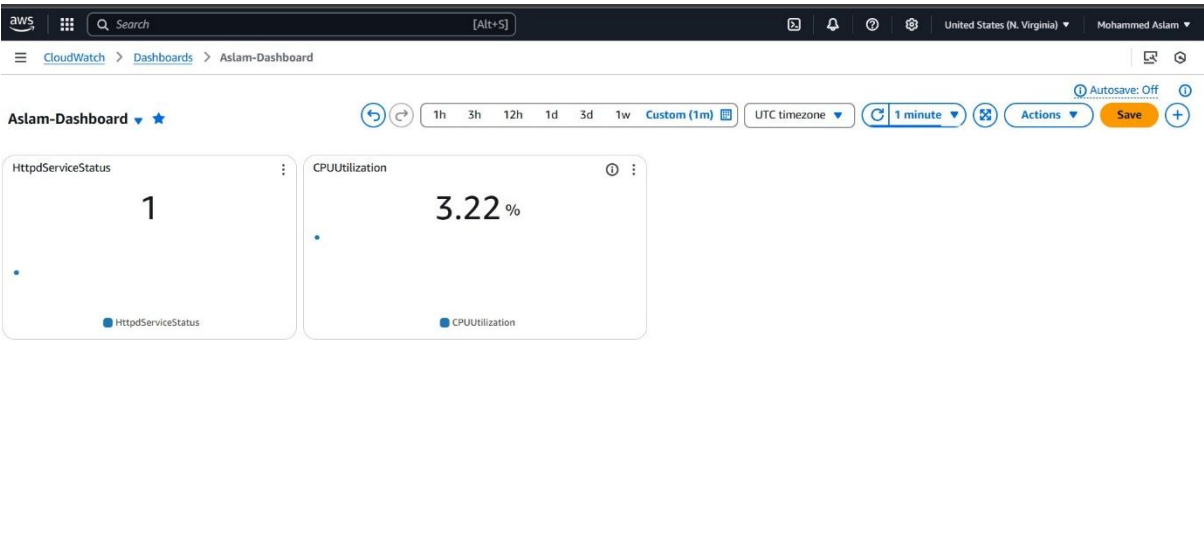
9) Store Application load balancer logs to s3.



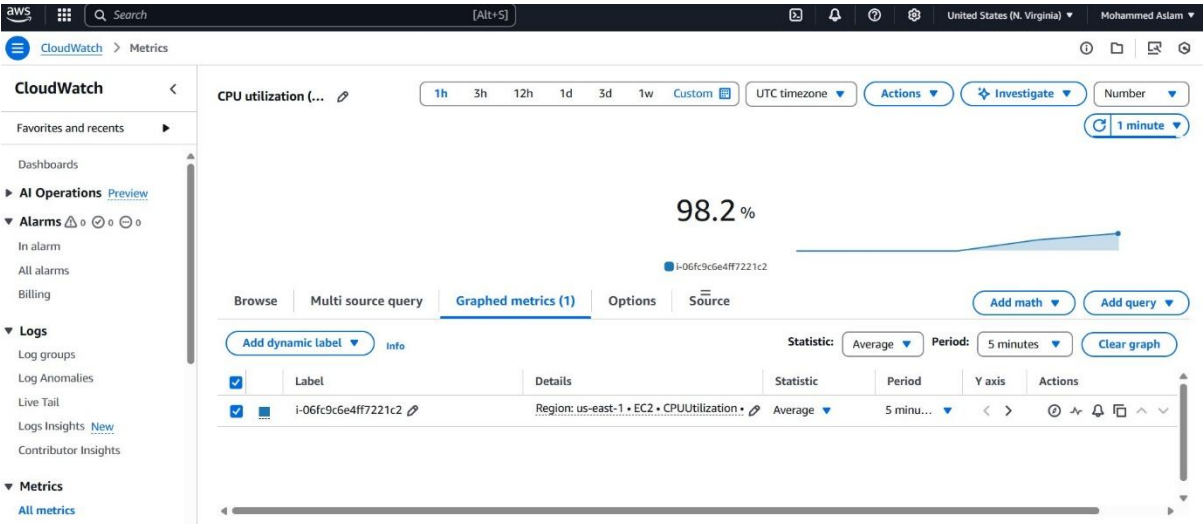
10) Store the vpc flow logs to cloudwtach group.



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



12) CPU utilization is more than 70% then it should trigger Autoscaling and launch new instance



```
ec2-user@ip-172-31-13-164:~
top - 13:51:52 up 23 min, 1 user, load average: 212.06, 132.13, 59.72
Tasks: 313 total, 221 running, 49 sleeping, 0 stopped, 0 zombie
%Cpu(s): 97.8 us, 0.6 sy, 0.0 ni, 0.0 id, 0.0 wa, 0.0 hi, 0.0 si, 1.5 st
KiB Mem : 975524 total, 293064 free, 111836 used, 570624 buff/cache
KiB Swap: 0 total, 0 free, 0 used. 726148 avail Mem

  PID USER      PR  NI   VIRT   RES    SHR  S  %CPU  %MEM    TIME+  COMMAND
 3351 ec2-user   20   0  114648    780    692  R   0.7   0.1   0:02.74  yes
 3416 ec2-user   20   0  114648    772    708  R   0.7   0.1   0:02.64  yes
 3430 ec2-user   20   0  114648    732    668  R   0.7   0.1   0:02.49  yes
 3351 ec2-user   20   0  114648    780    716  R   0.5   0.1   0:17.46  yes
 3352 ec2-user   20   0  114648    812    748  R   0.5   0.1   0:15.96  yes
 3353 ec2-user   20   0  114648    768    708  R   0.5   0.1   0:15.63  yes
 3354 ec2-user   20   0  114648    744    680  R   0.5   0.1   0:15.32  yes
 3355 ec2-user   20   0  114648    768    704  R   0.5   0.1   0:15.13  yes
 3356 ec2-user   20   0  114648    772    708  R   0.5   0.1   0:14.99  yes
 3357 ec2-user   20   0  114648    728    664  R   0.5   0.1   0:14.77  yes
 3358 ec2-user   20   0  114648    720    656  R   0.5   0.1   0:14.45  yes
 3359 ec2-user   20   0  114648    744    680  R   0.5   0.1   0:09.30  yes
 3360 ec2-user   20   0  114648    768    704  R   0.5   0.1   0:09.22  yes
 3361 ec2-user   20   0  114648    788    724  R   0.5   0.1   0:09.15  yes
 3364 ec2-user   20   0  114648    780    716  R   0.5   0.1   0:07.94  yes
 3365 ec2-user   20   0  114648    760    700  R   0.5   0.1   0:07.88  yes
 3366 ec2-user   20   0  114648    732    668  R   0.5   0.1   0:07.82  yes
```

aws

load balancers

United States (N. Virginia)

Mohammed Aslam

EC2 > Instances

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

Elastic Block Store

Volumes

Snapshots

Instances (2) Info

Last updated 1 minute ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

All states

Instance state = running

Clear filters

< 1 >

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Pl
<input type="checkbox"/>		i-06fc9c6e4ff7221c2	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1b	ec
<input type="checkbox"/>		i-0c0a9a0a550a845e2	Running	t2.micro	Initializing	View alarms +	us-east-1b	ec

Select an instance