1. Configure Classic Load balancer.

Create 2 ec2 instances in public subnet and deploy sample appl to default path i.e., /var/www/html/index.html:

EC2-1 [in the user_data give the below script]:

#!/bin/bash

Sudo dnf install httpd -y

echo “Server-01” >> /var/www/html/index.html

sudo systemctl enable httpd

sudo systemctl start httpd

EC2-2 [in the user_data write the below script]:

#!/bin/bash

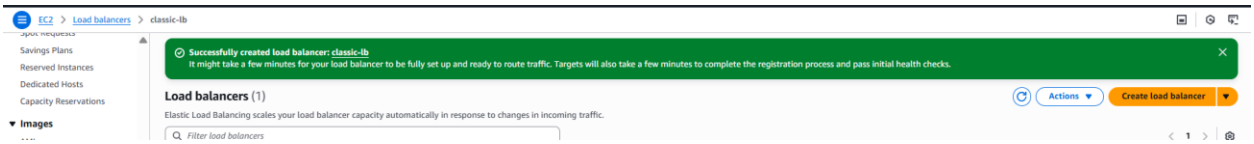
Sudo dnf install httpd -y

echo “Server-02” >> /var/www/html/index.html

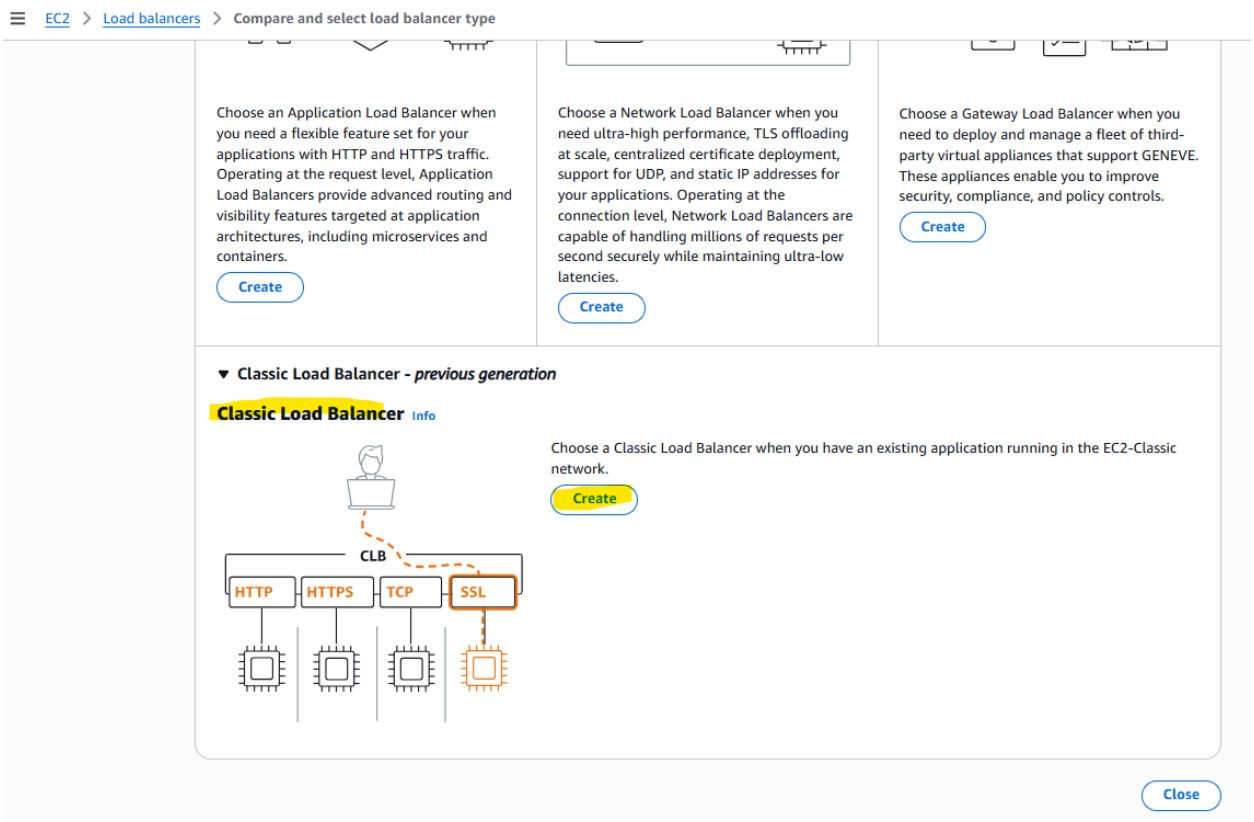
sudo systemctl enable httpd

sudo systemctl start httpd

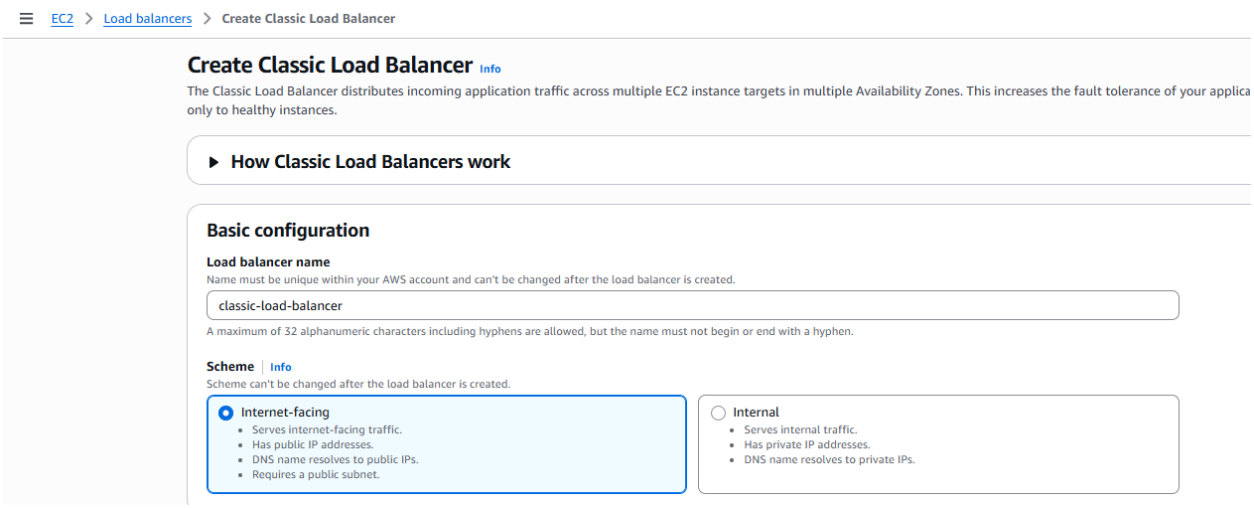
Create Load Balancer:



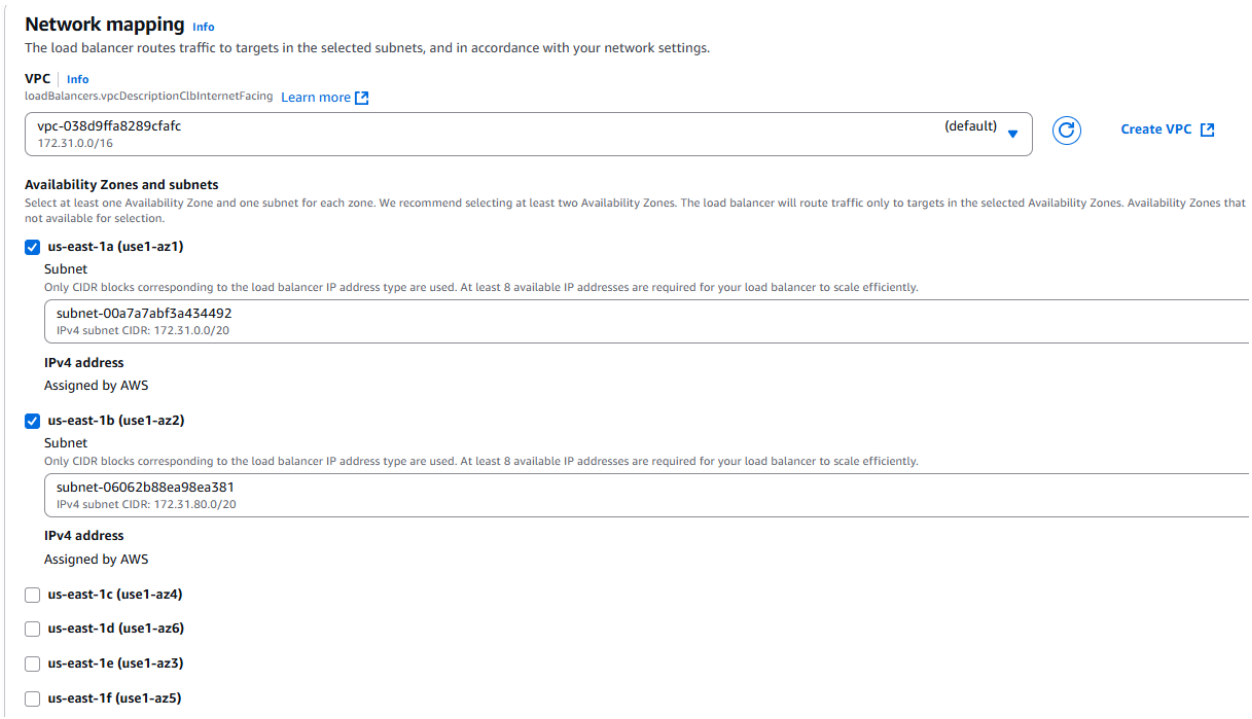
Select Classic Load Balancer:



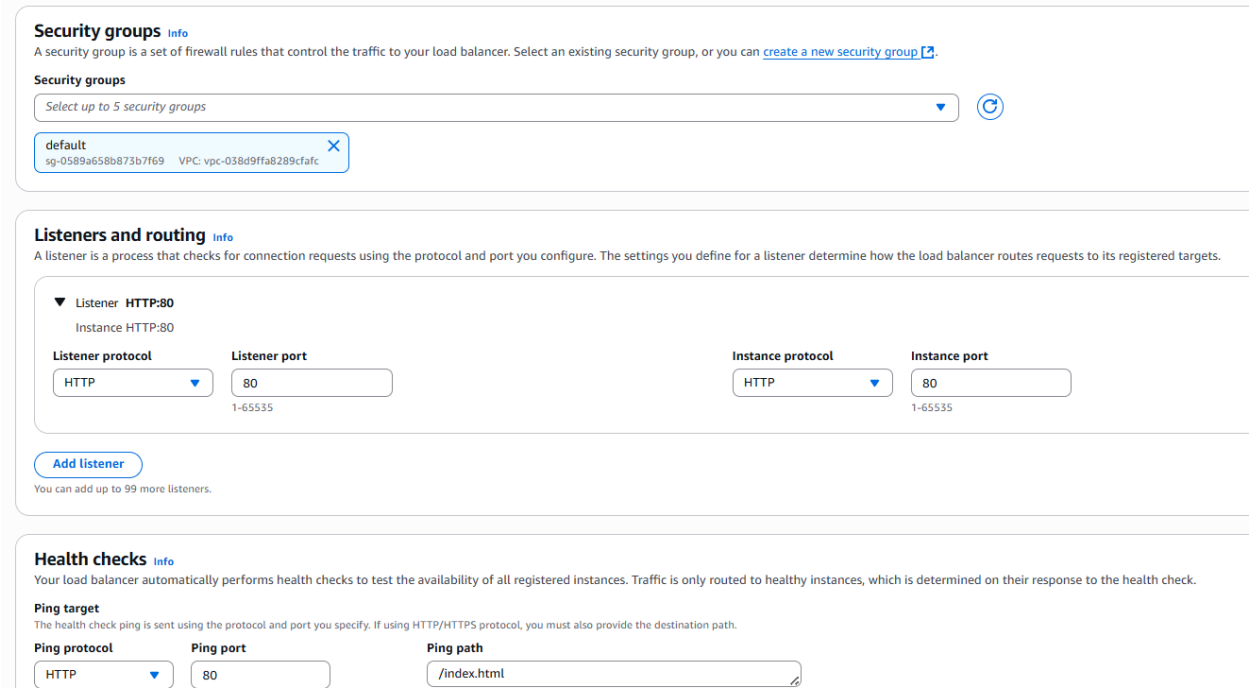
Give the name and Internet facing:



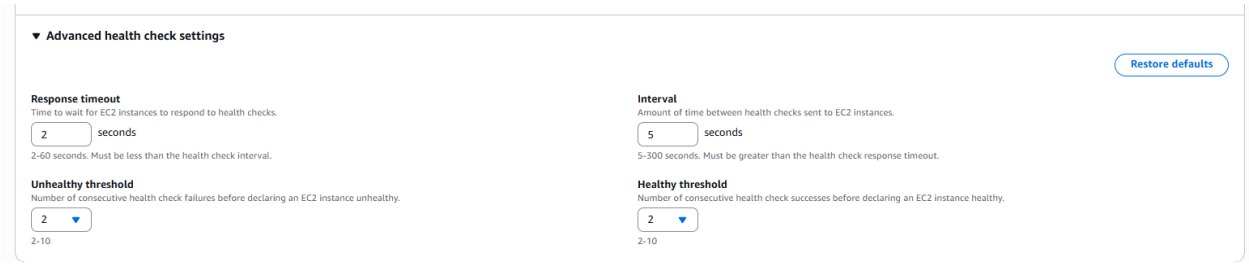
Select the vpc and the subnet in which instances are there:



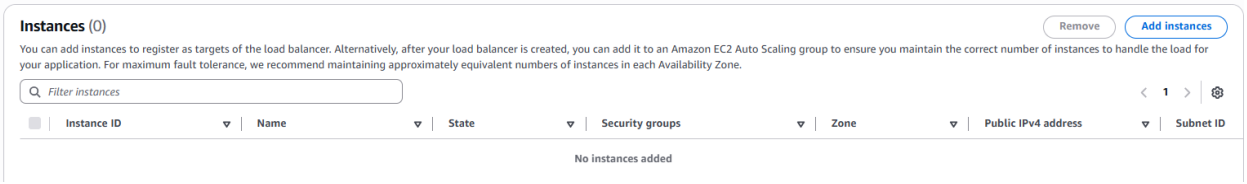
Select the 'Security group', Listeners' and health checks:



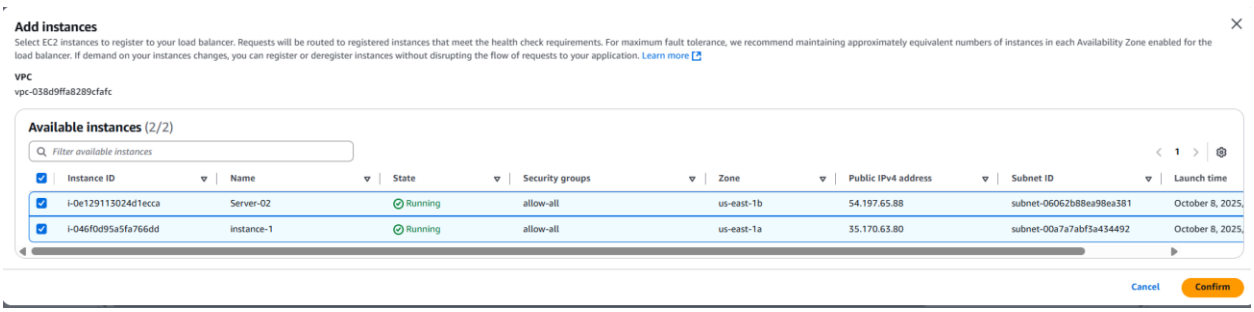
In advance health checks give your values:



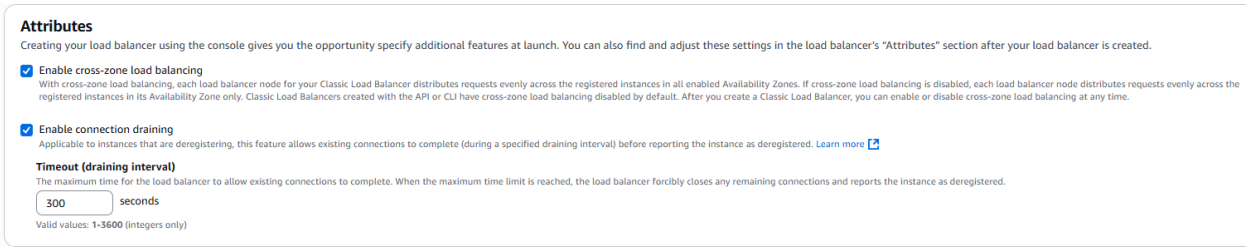
For adding the instances to this Load Balancer click on ‘Add instances’:



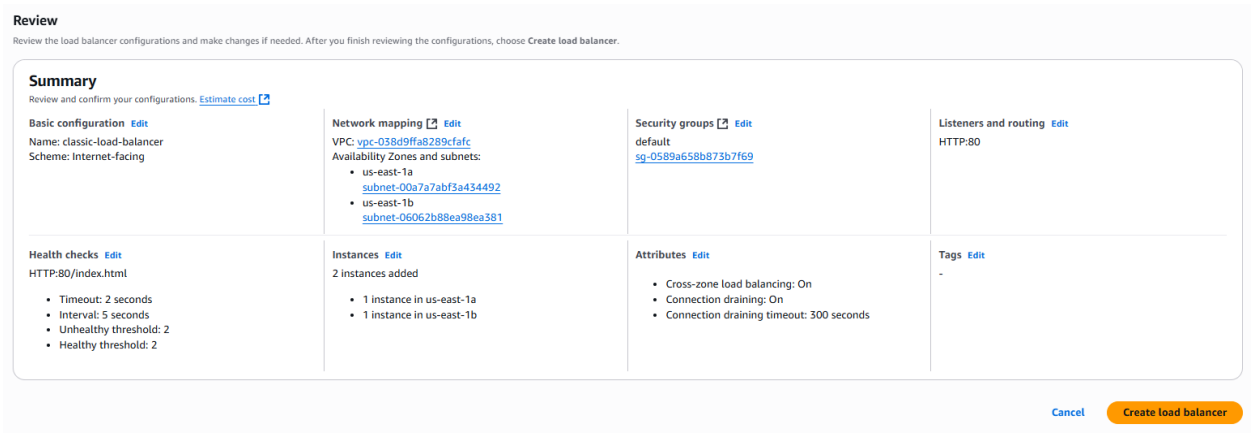
Select your required instances:



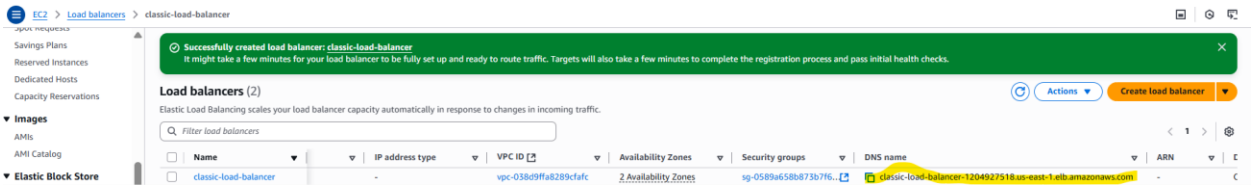
Enable cross zone load balancing, and connection Draining:



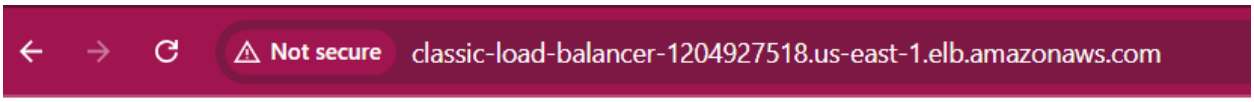
And click on Create Load Balancer:



Copy the load Balancer Domain Name:

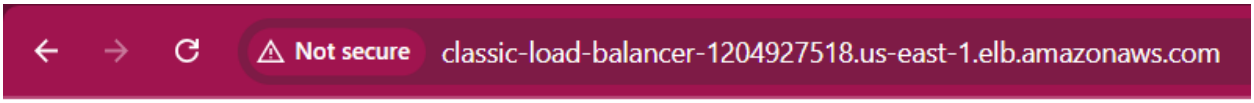


And access from the browser:



Server-01

Refresh the browser:

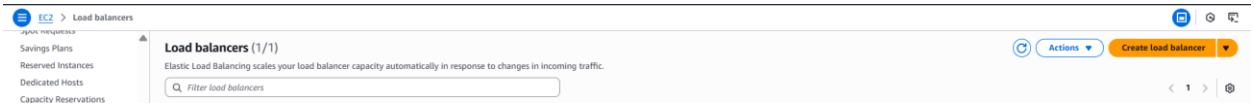


Server-02

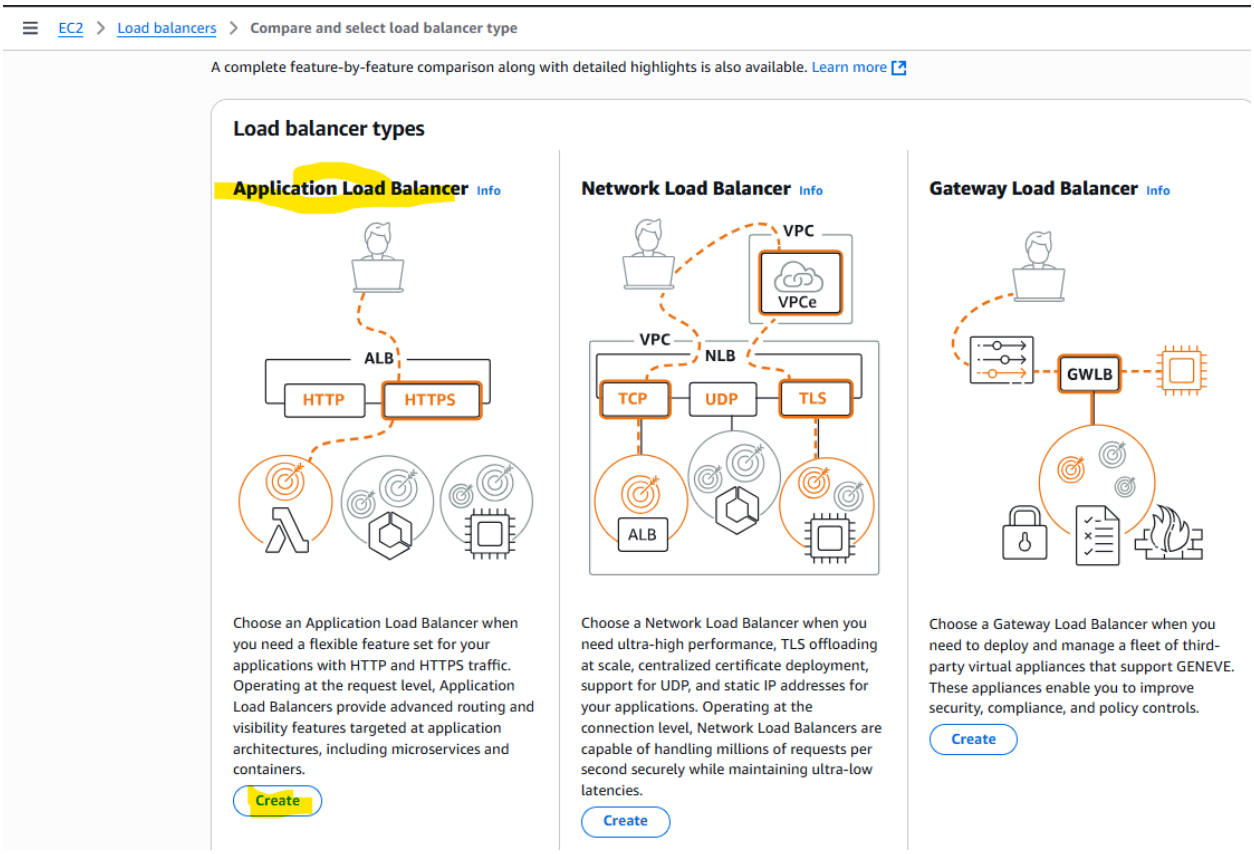
----------done----------

2. Configure Application Load balancer.

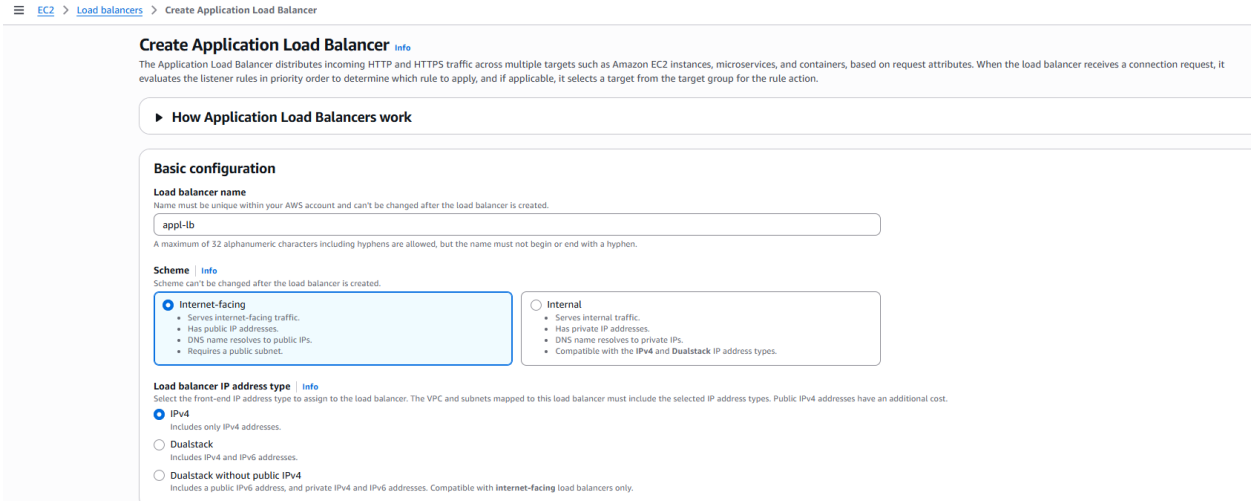
Create Load Balancer:



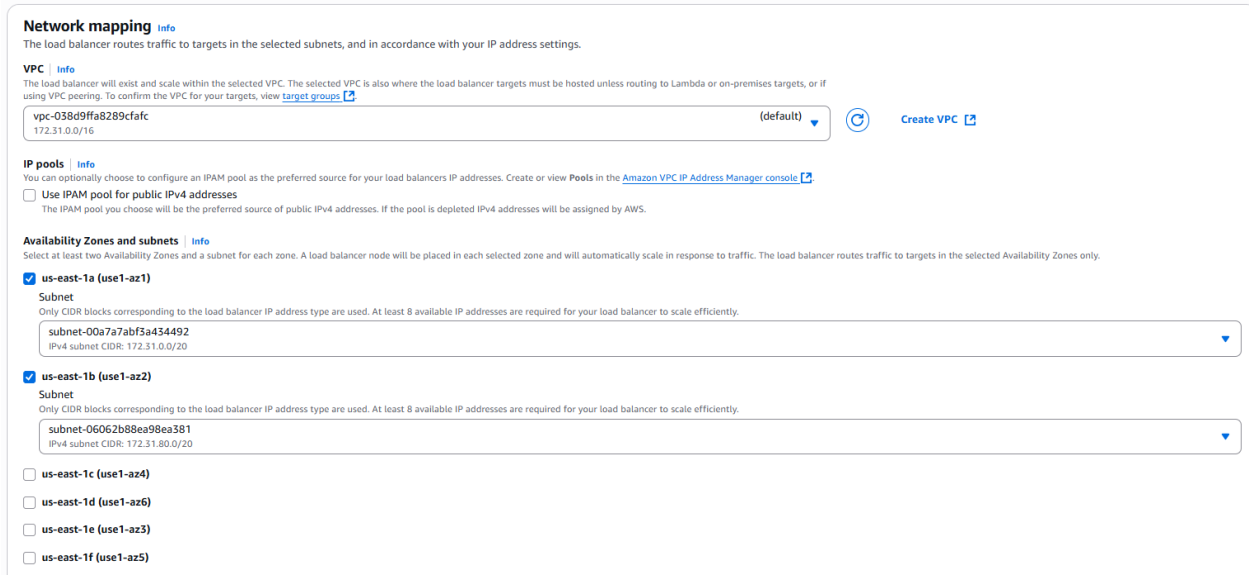
Create Application Load Balancer:



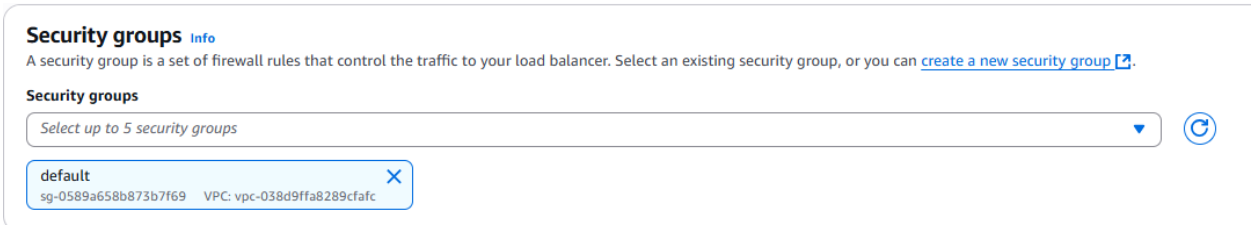
Give the name to application load balancer and select ‘internet-facing’:



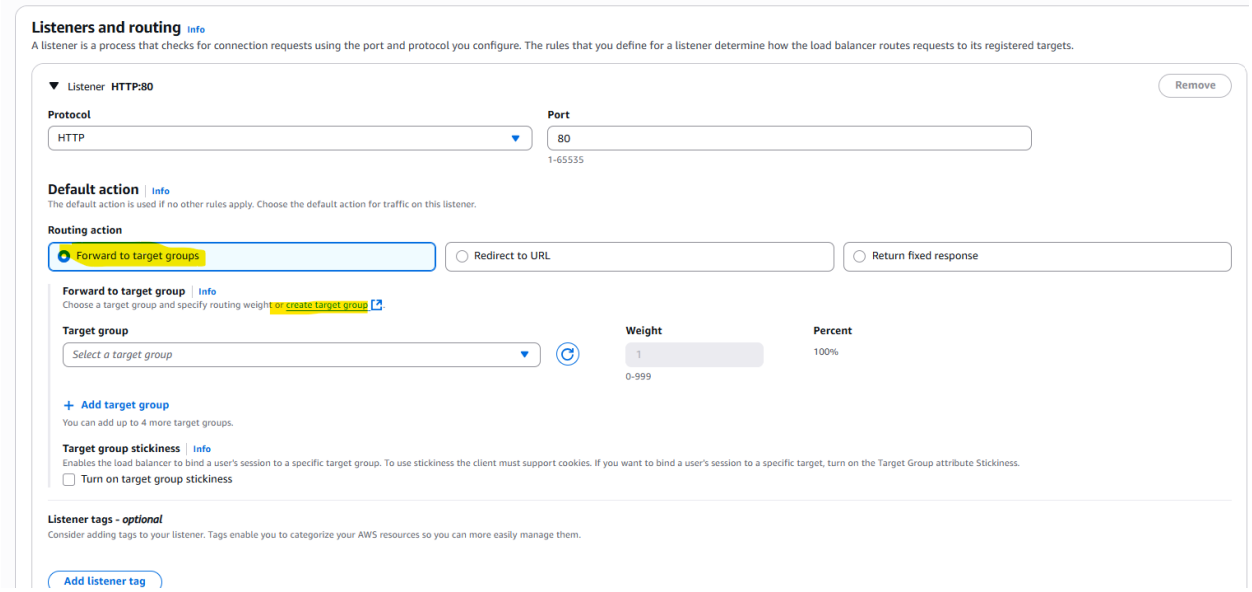
Select your vpc and AZ:



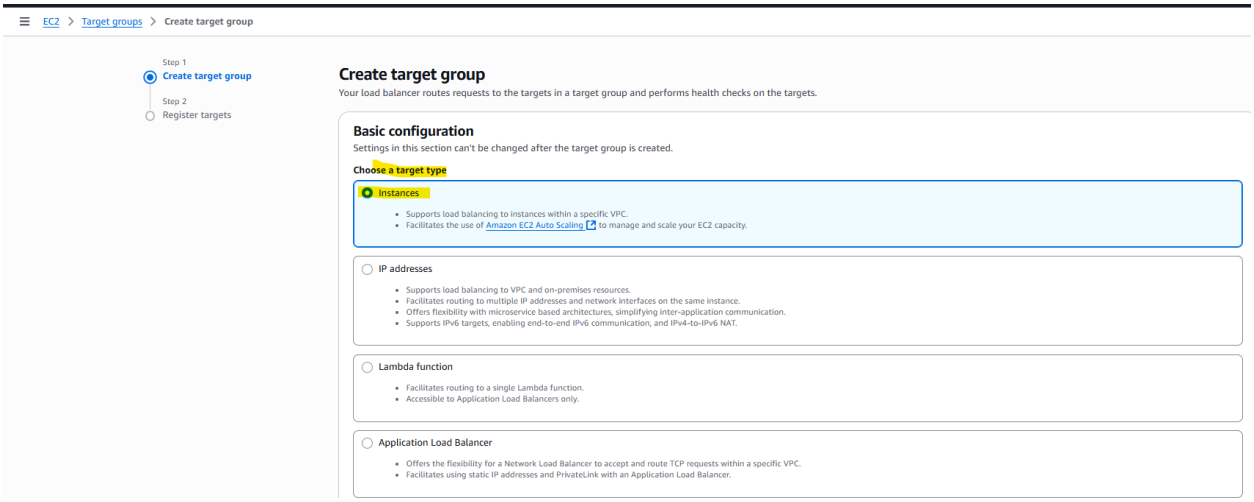
Select the Security group:



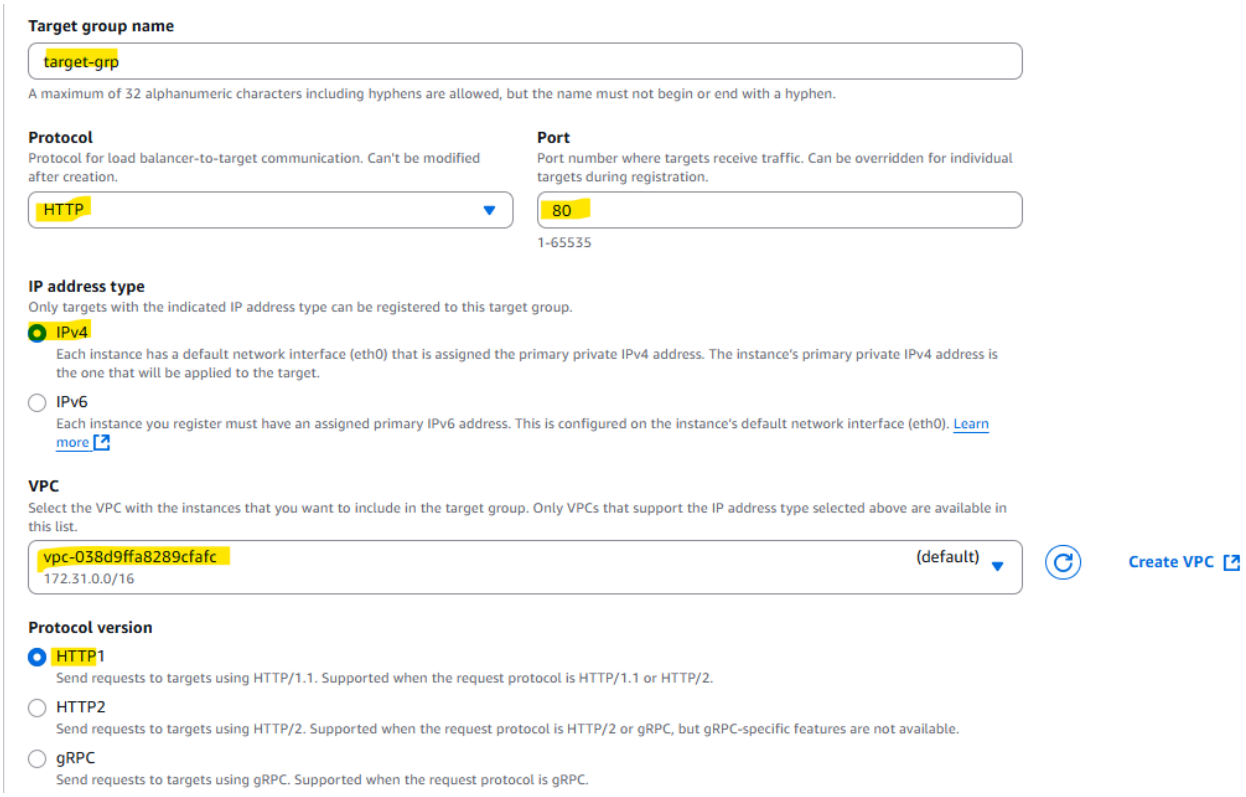
Give protocol and port and select ‘Routing action’ “Forward to target groups” and click on ‘Create target groups’:



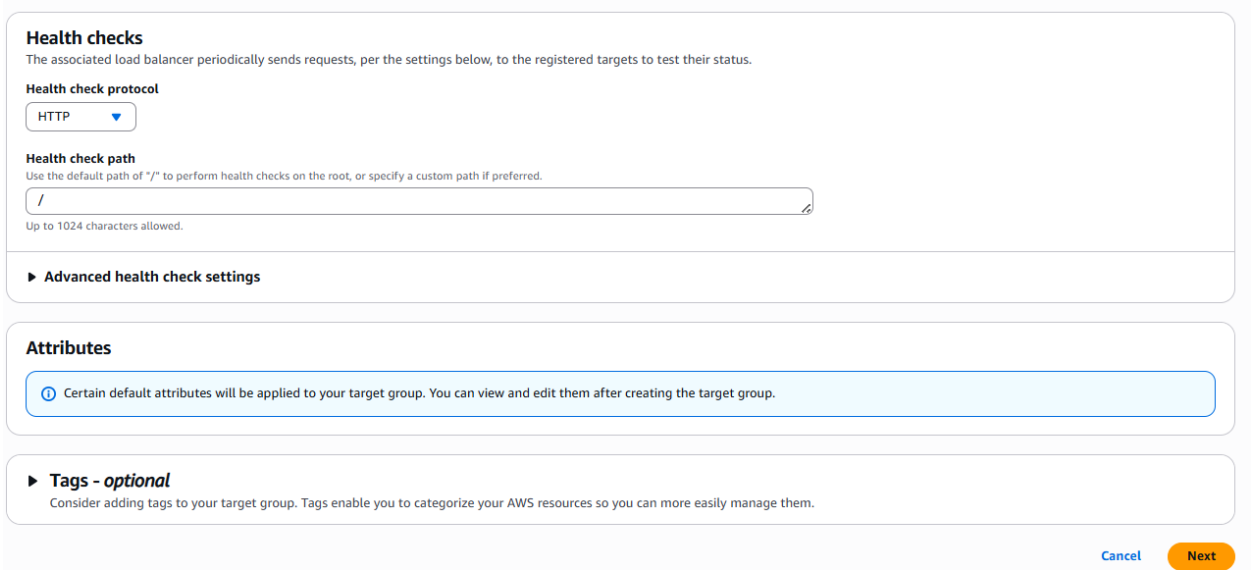
Choose ‘target type’ as ‘instances’:



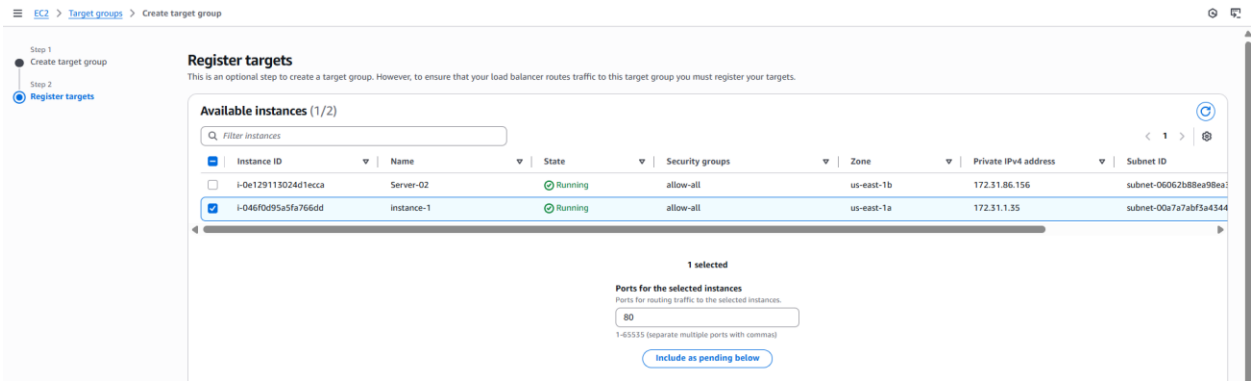
Give target group name , Protocol, port, ip address type, vpc and protocol version:



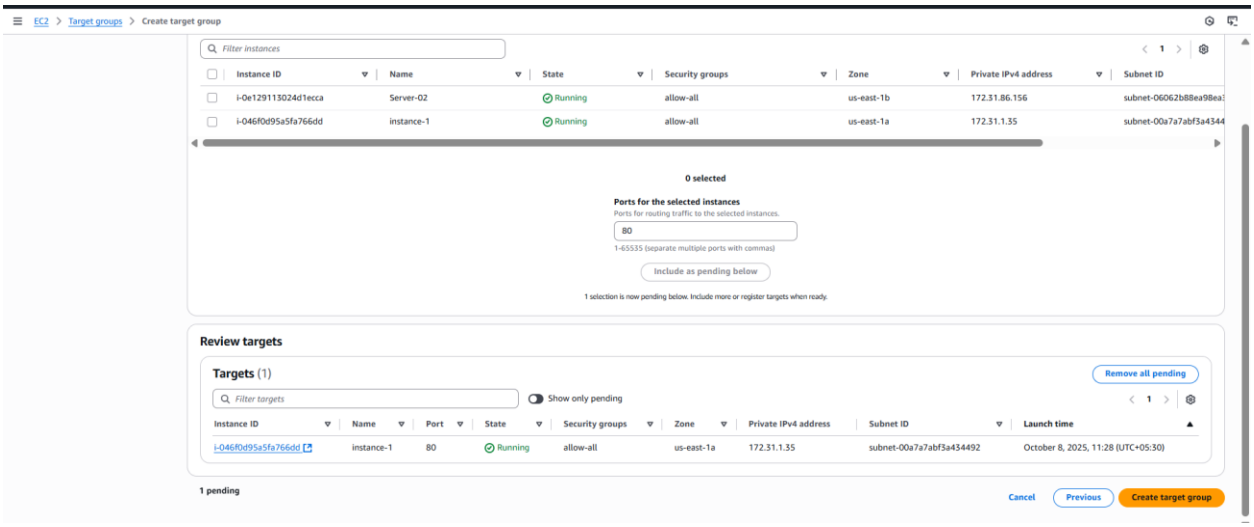
Give the health checks and health check path and click on Next:



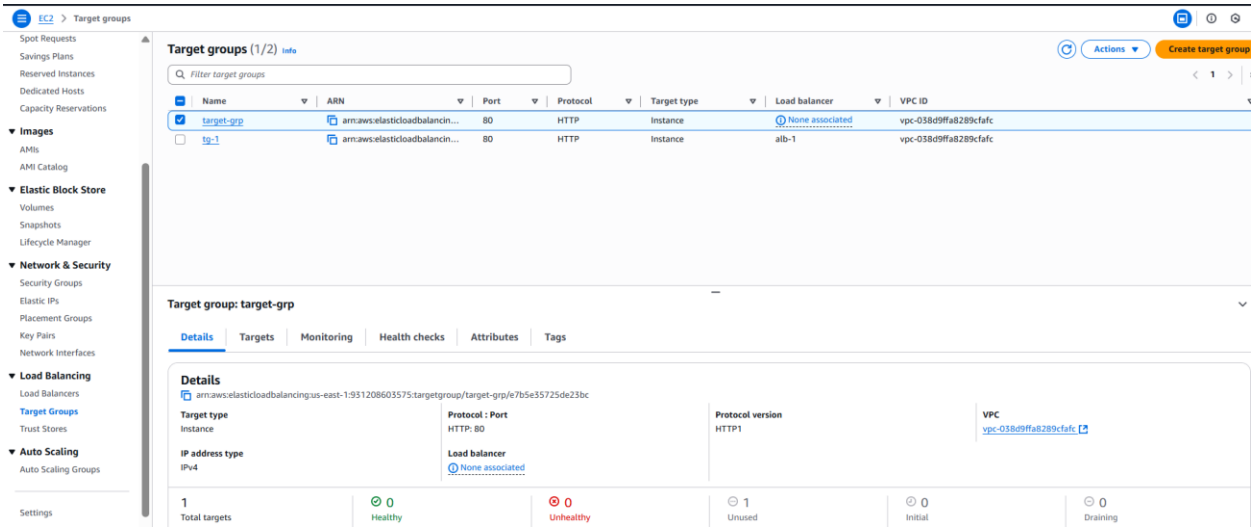
Select your required instances and click on ‘include as pending below’:



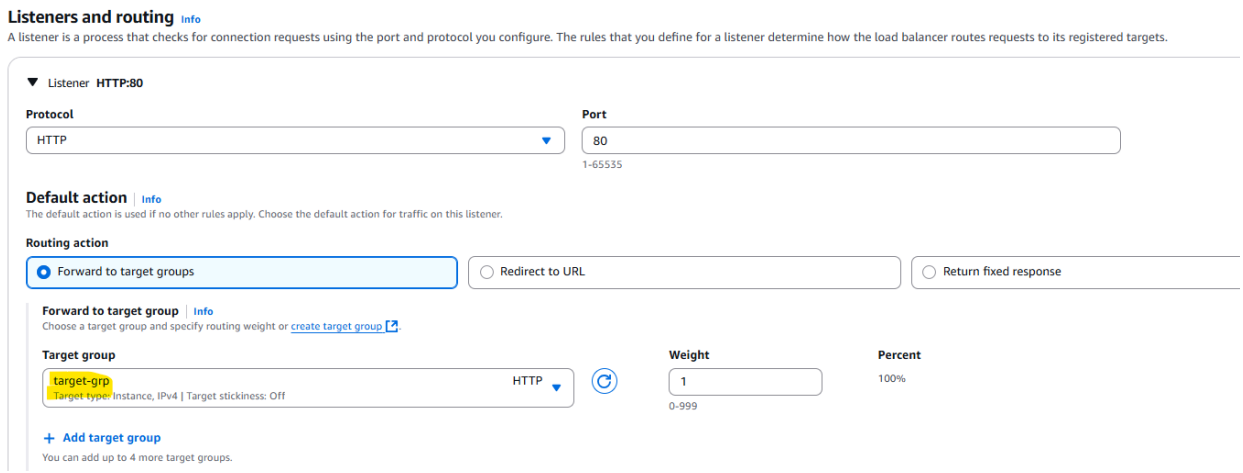
As I want only 1 instance so selected one:



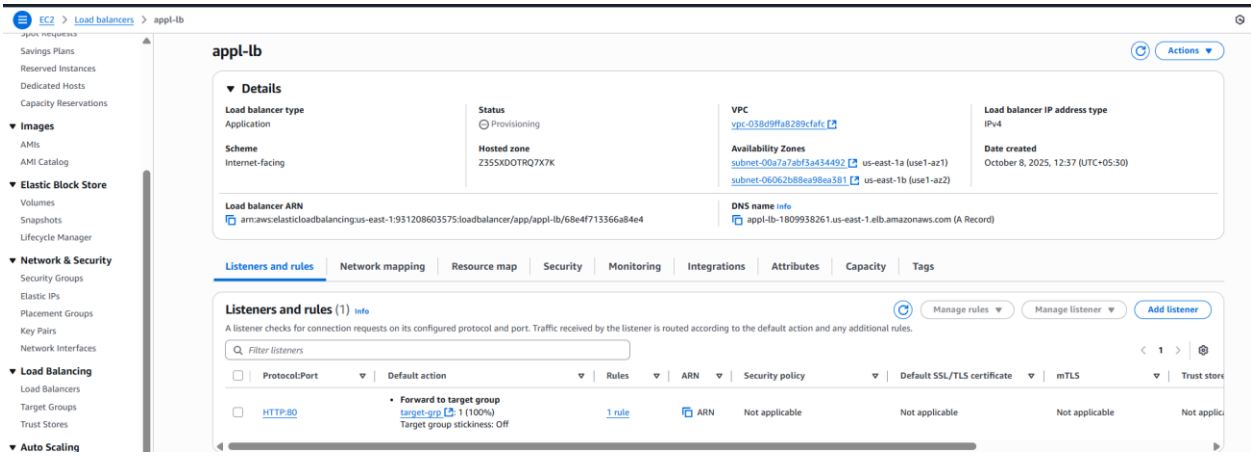
And create target group:



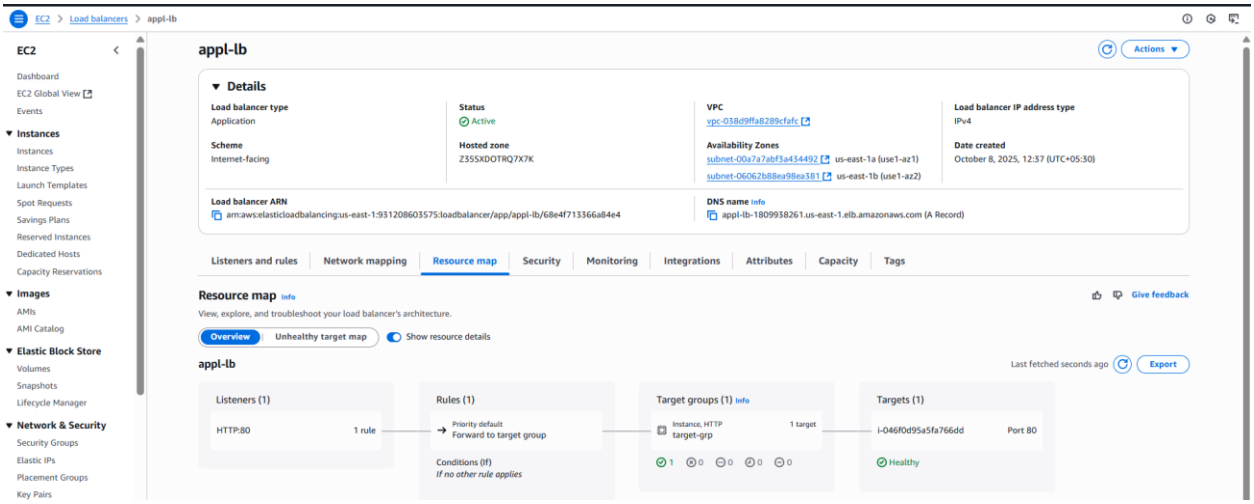
Goto Load balancer and here the target group should available in the Target group section:



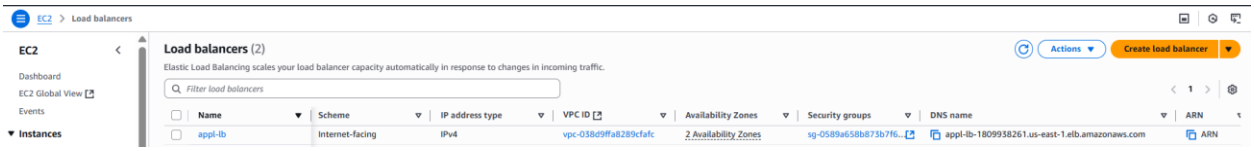
And click on Create , then you can see the status as Provisioning:



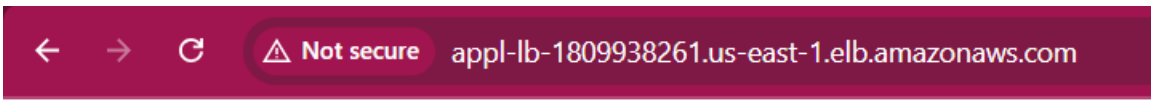
Then it should come to status as ‘Active’:



Then copy the application load balancer DNS name:



And access from the browser:



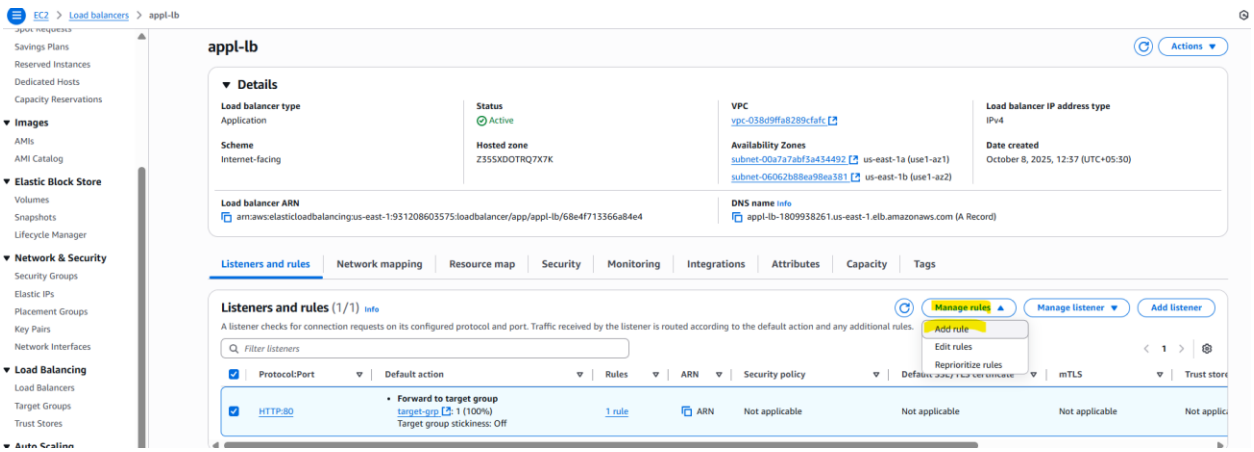
Server-01

Note: this is the default response means if anyone is trying to access our DNS without giving any path prefix then he/she will get this response.

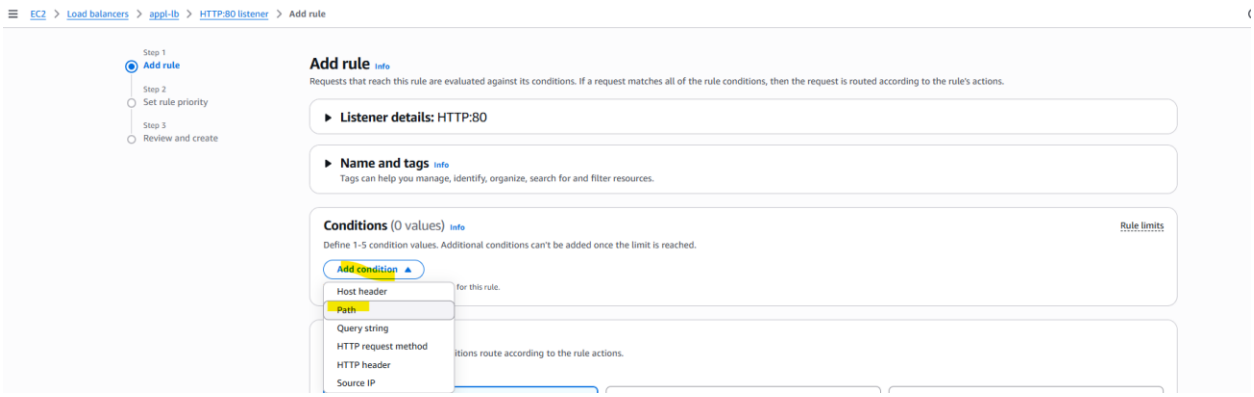
Next, if anyone is giving the path prefix like after DNS/images then it should route to that particular path so for that login to server and create an images directory in the /var/www/html/ and goto images directory and create an ‘index.html’ file and give sample content in it:

```
[ec2-user@ip-172-31-1-35 /]$ cd
[ec2-user@ip-172-31-1-35 ~]$ ls
[ec2-user@ip-172-31-1-35 ~]$ ls -l /var/www/html/
total 4
drwxr-xr-x. 2 root root 24 Oct  8 06:47 images
-rw-r--r--. 1 root root 10 Oct  8 05:59 index.html
[ec2-user@ip-172-31-1-35 ~]$ ls -l /var/www/html/images/
total 4
-rw-r--r--. 1 root root 29 Oct  8 06:47 index.html
[ec2-user@ip-172-31-1-35 ~]$ cat /var/www/html/images/
cat: /var/www/html/images/: Is a directory
[ec2-user@ip-172-31-1-35 ~]$ cat /var/www/html/images/index.html
<h1>Welcome to Images </h1>
```

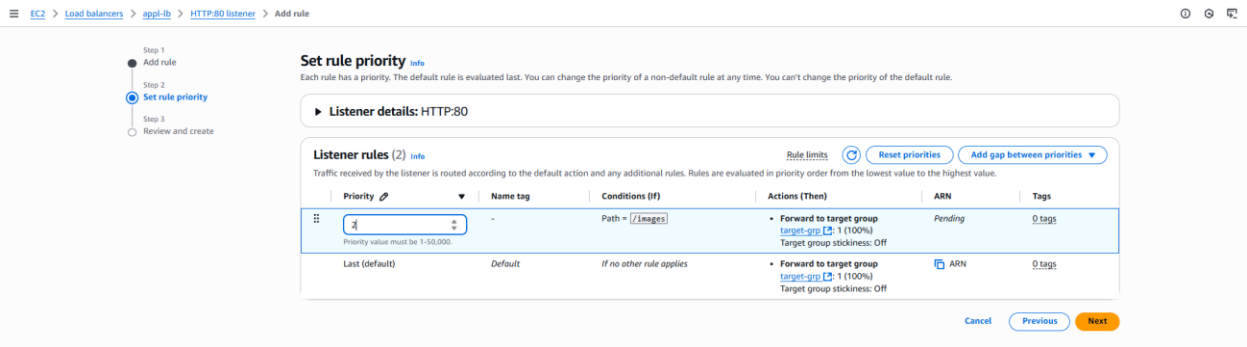
Select your Load Balancer and goto ‘Listeners and Rules’ tab and click on Manage rules->Add rule:



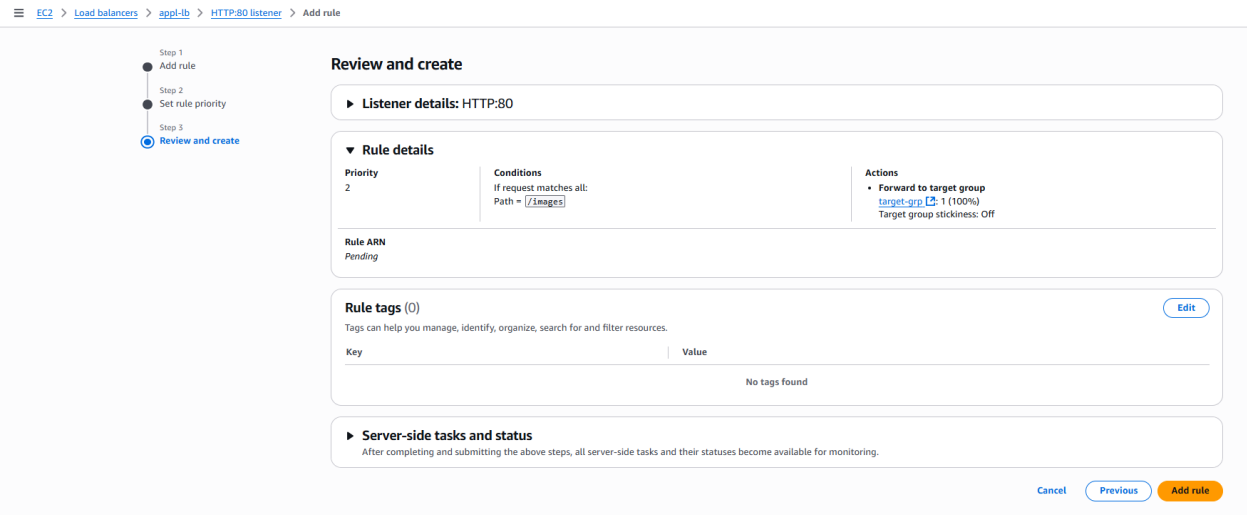
Click on Add condition and select ‘Path’:



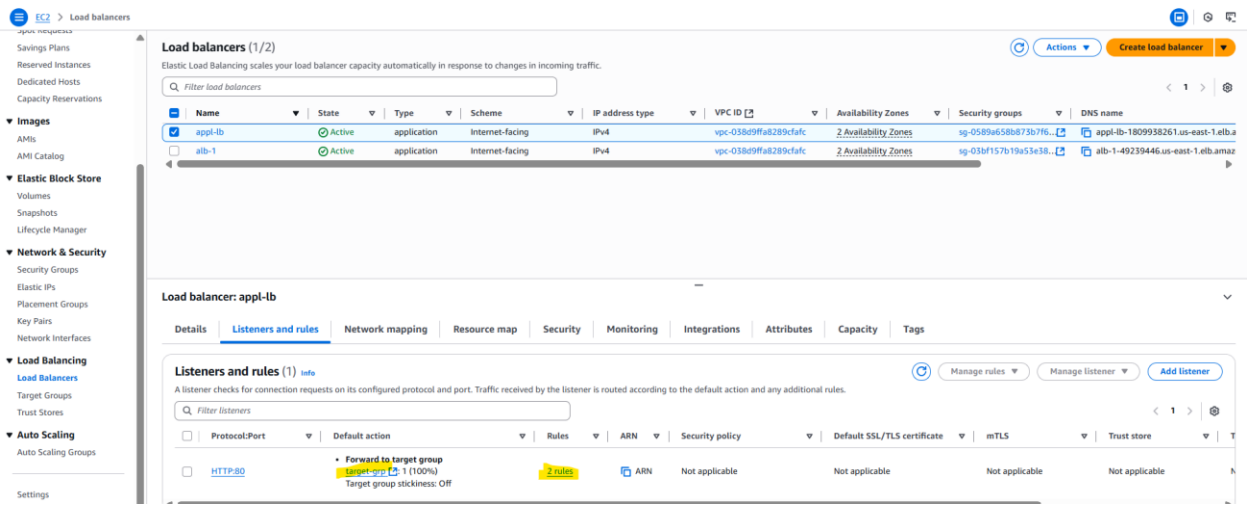
Give the priority as any number:

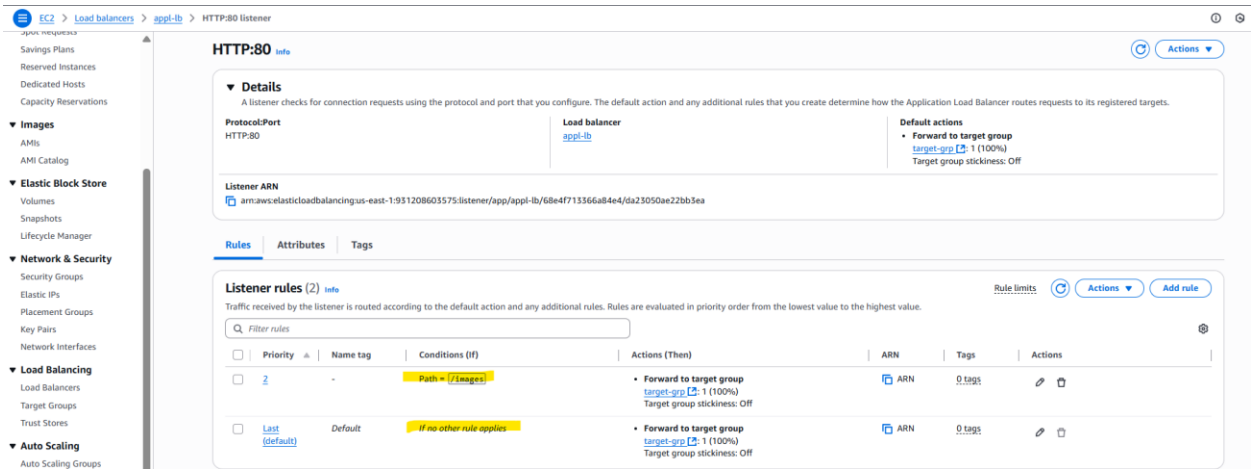


Click on Add rule:



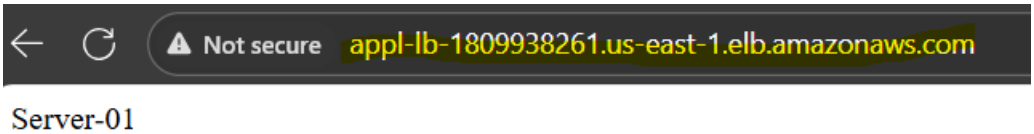
We can see there are 2 rules:





Copy the DNS of load balancer and browse with /images:

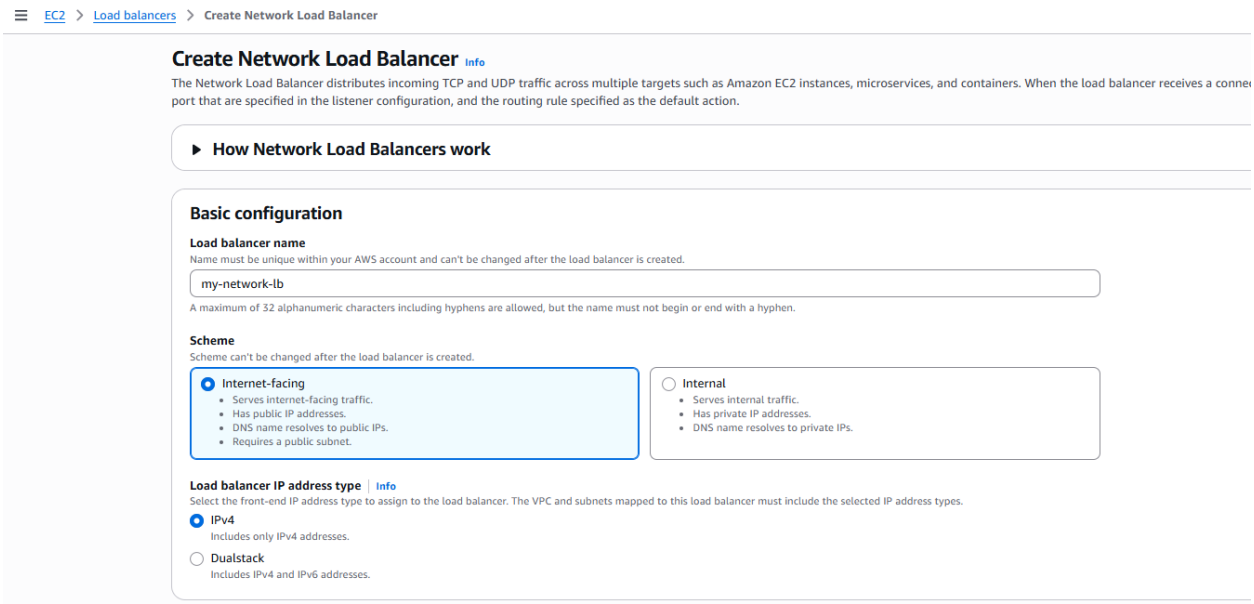
Without /images when you browse the load balancer DNS:



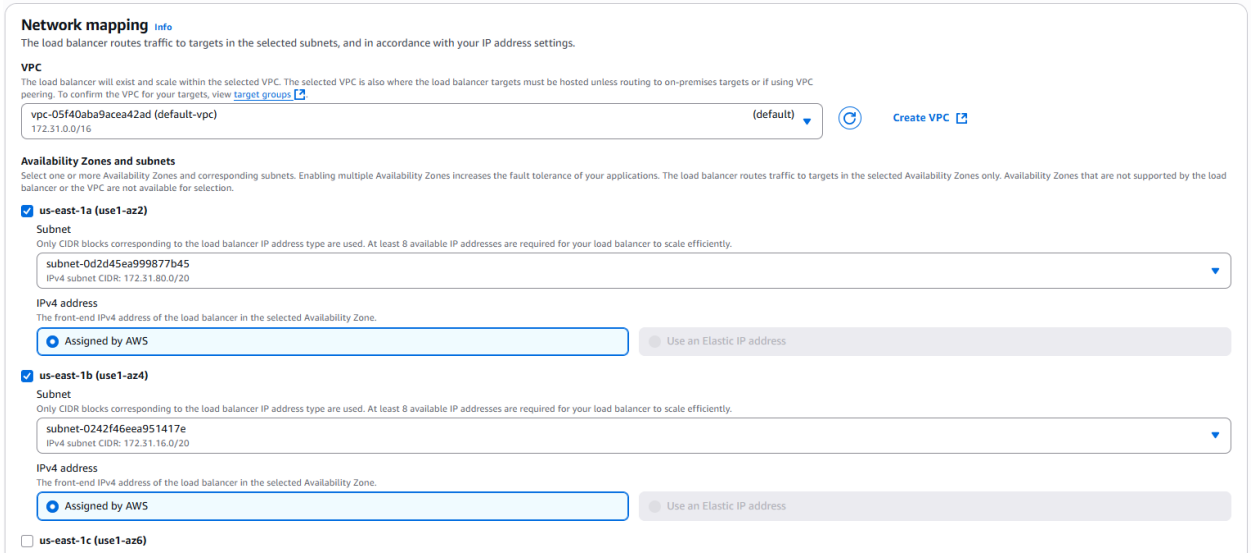
----------done----------

3. Configure Network Load balancer.

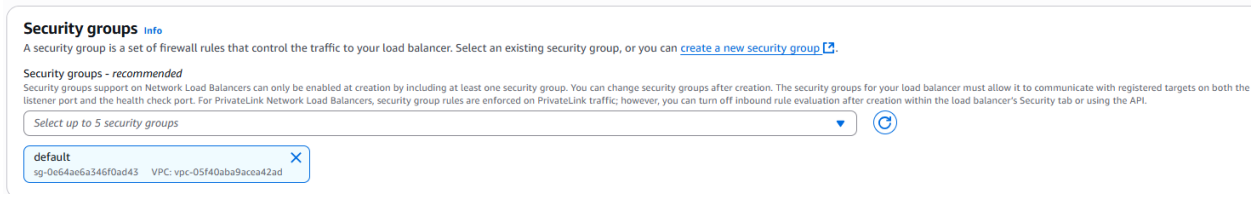
   Goto Load Balancer and click on Create Load Balancer, and give the name and select 'Internet facing' or 'internal':



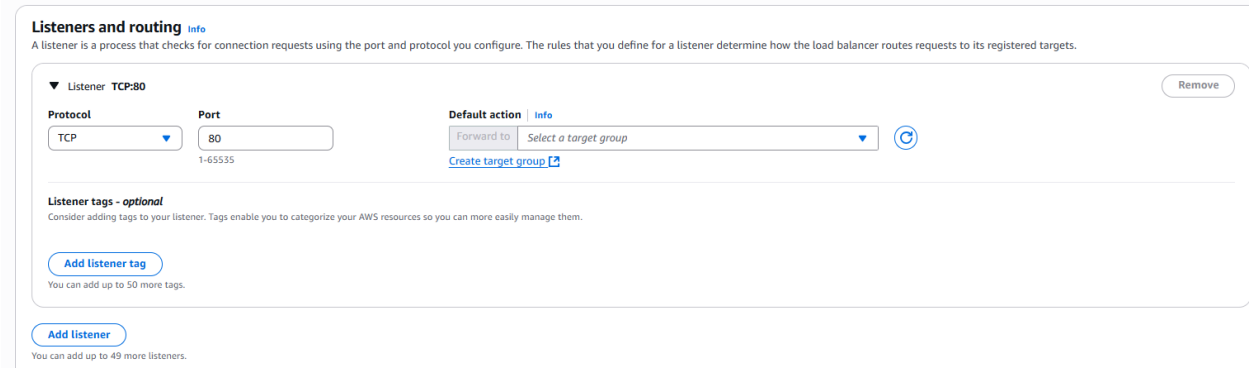
Select the vpc and the subnet where instances are deployed:



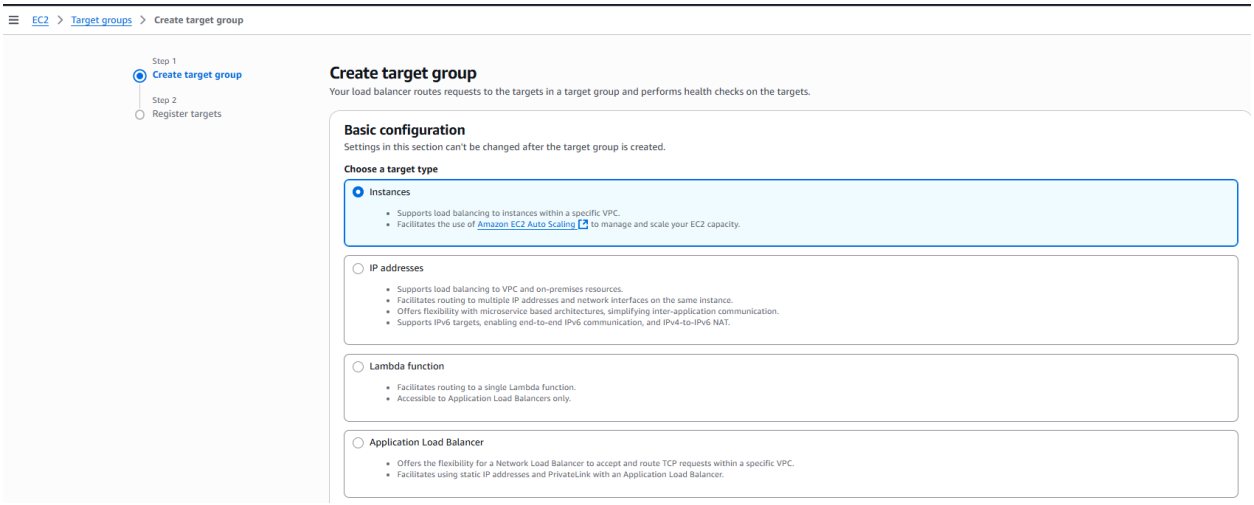
Select security group:



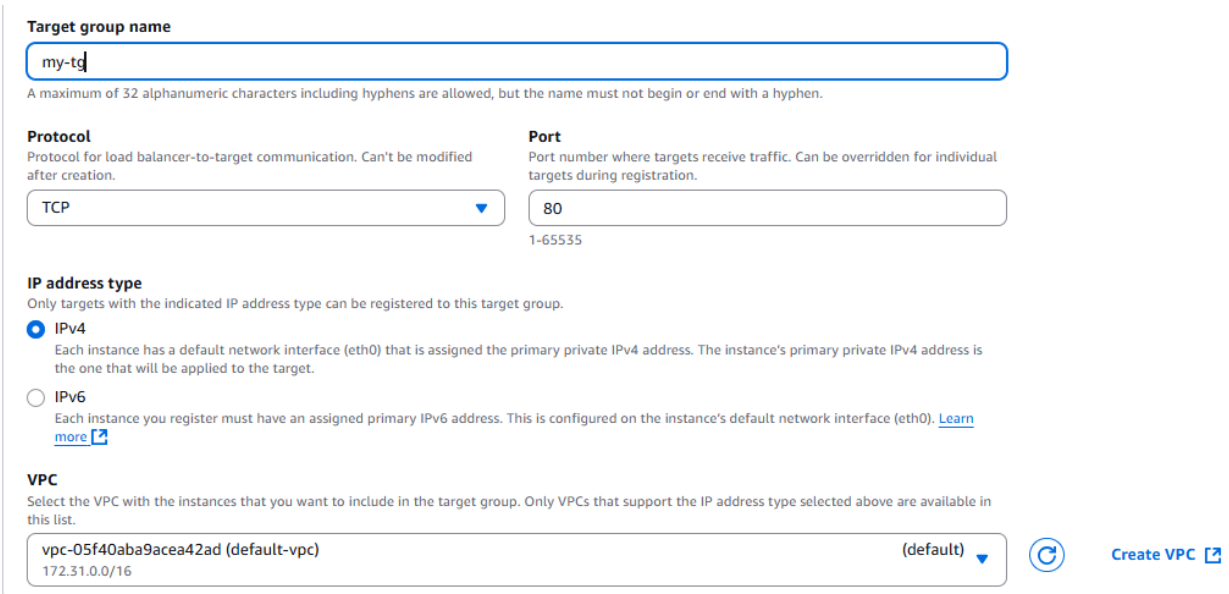
Provide protocol and port:



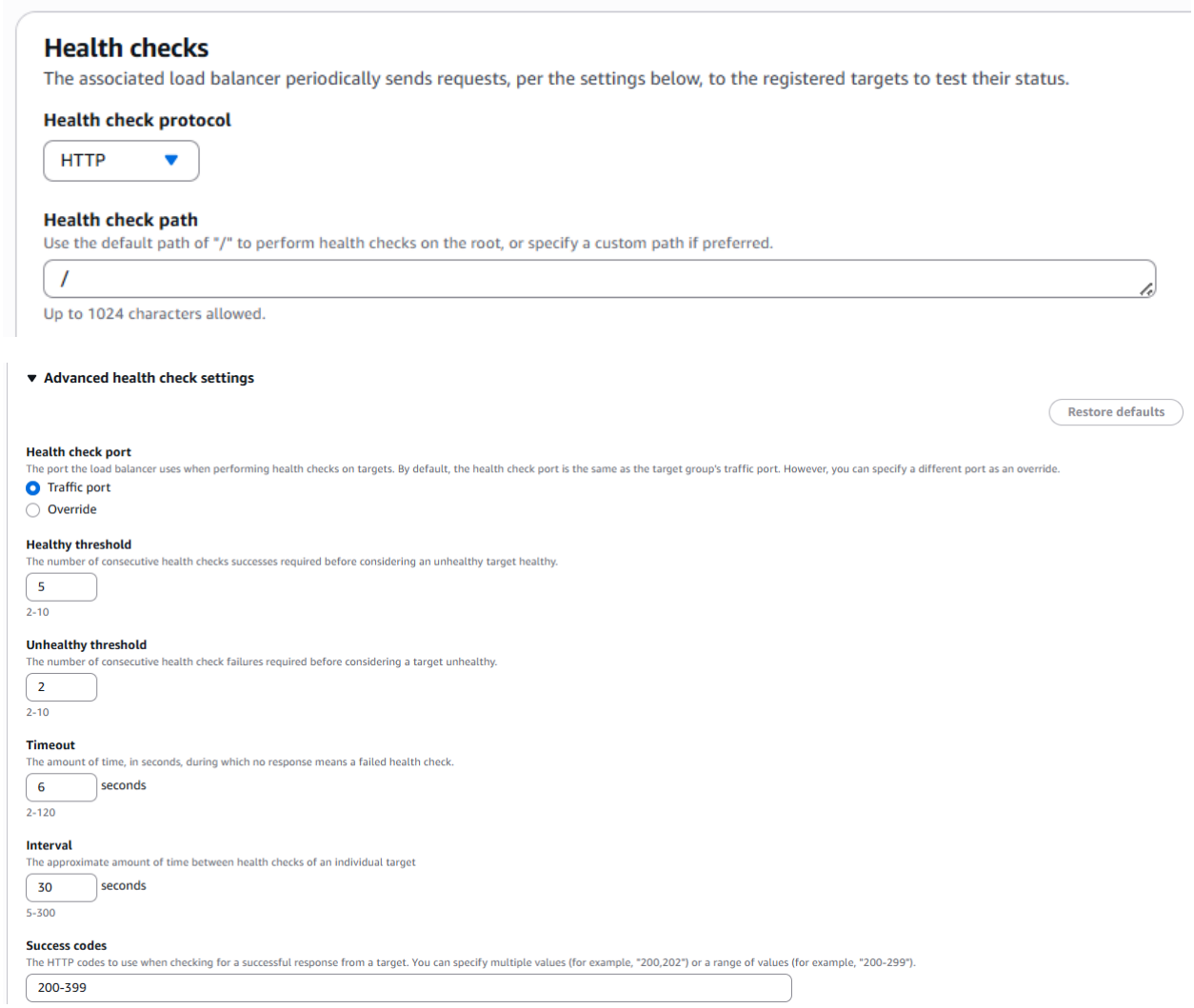
And click on Create target group and select ‘Instances’:



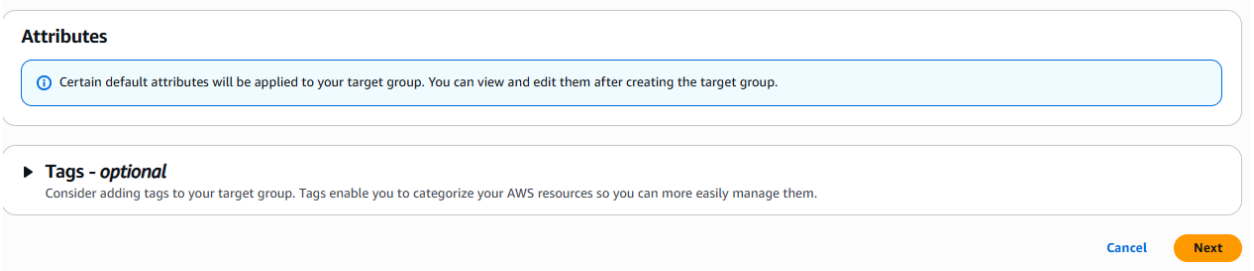
And give the target group name:



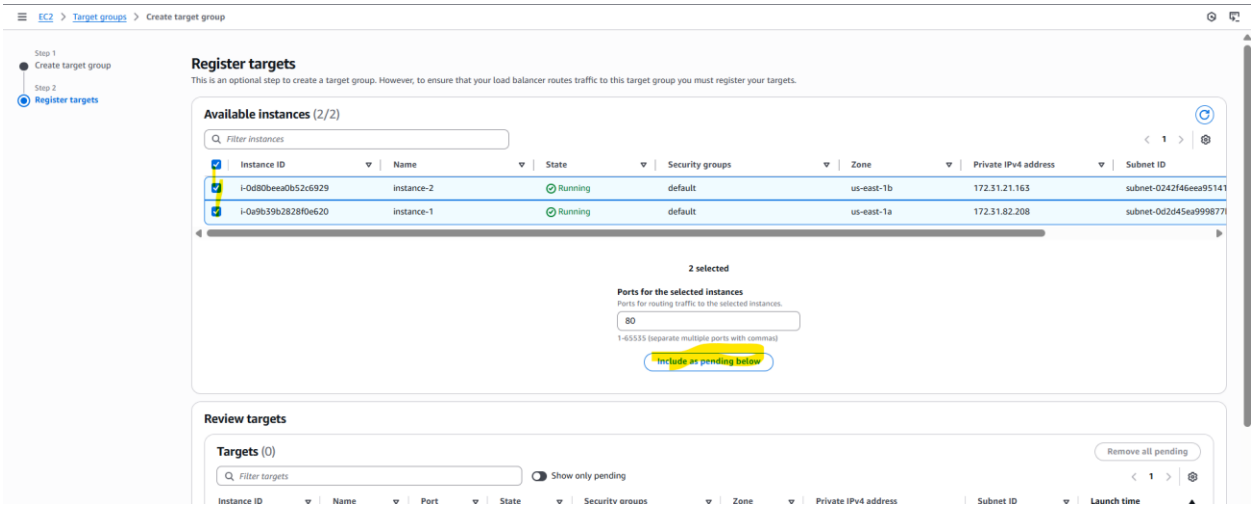
Select Health checks:



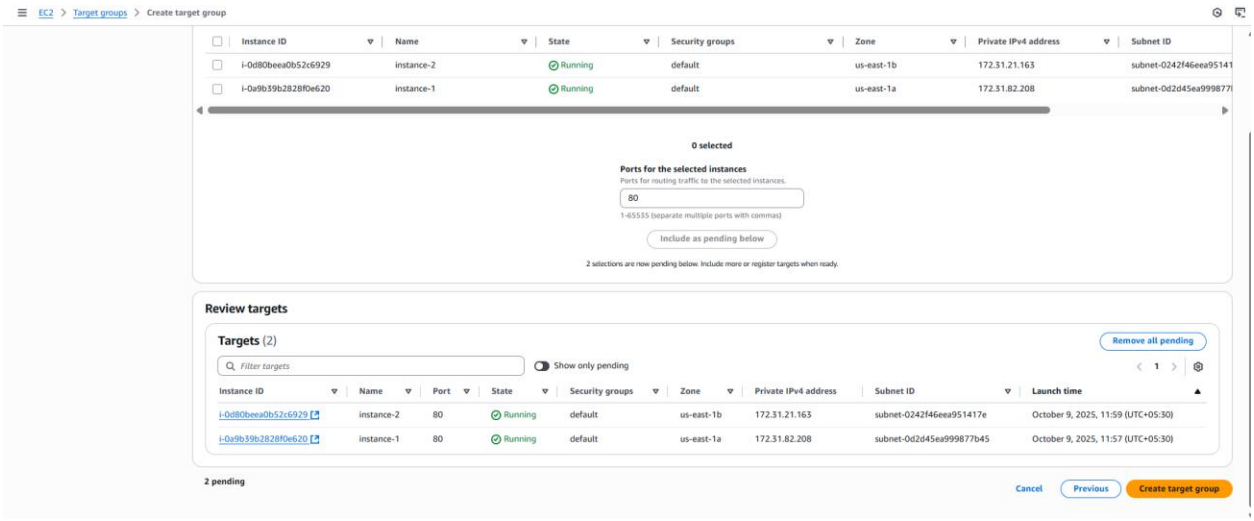
And click on Next



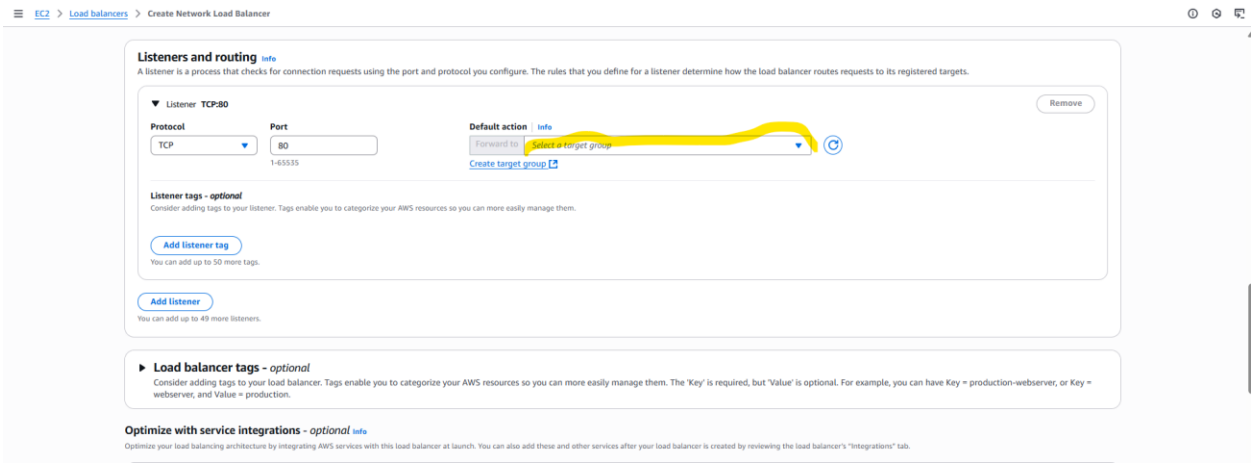
And add the required instances by clicking on ‘Include as pending below’:



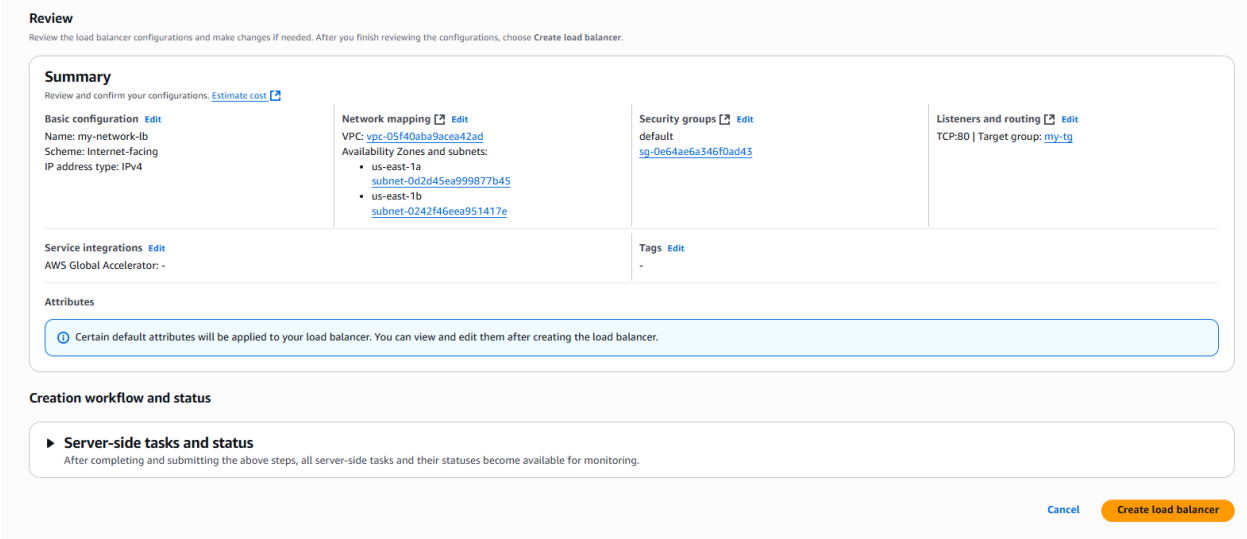
And click on Target group:



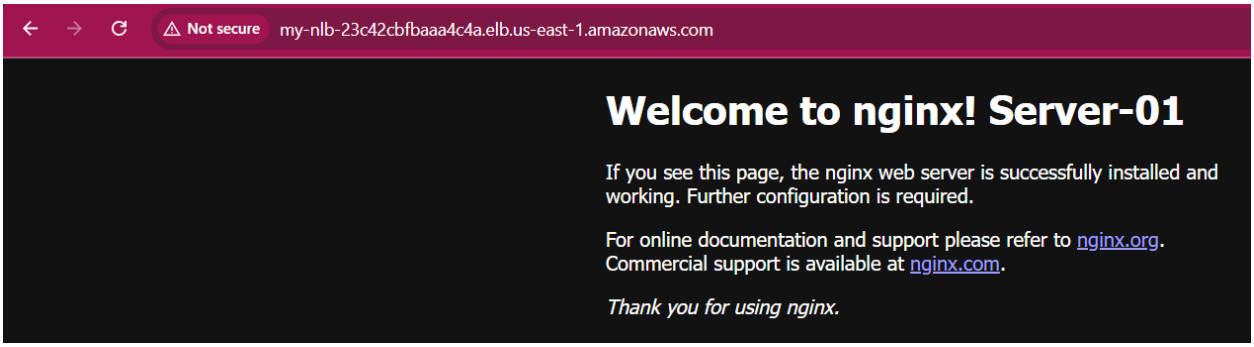
Goto load balancer and select your target group:

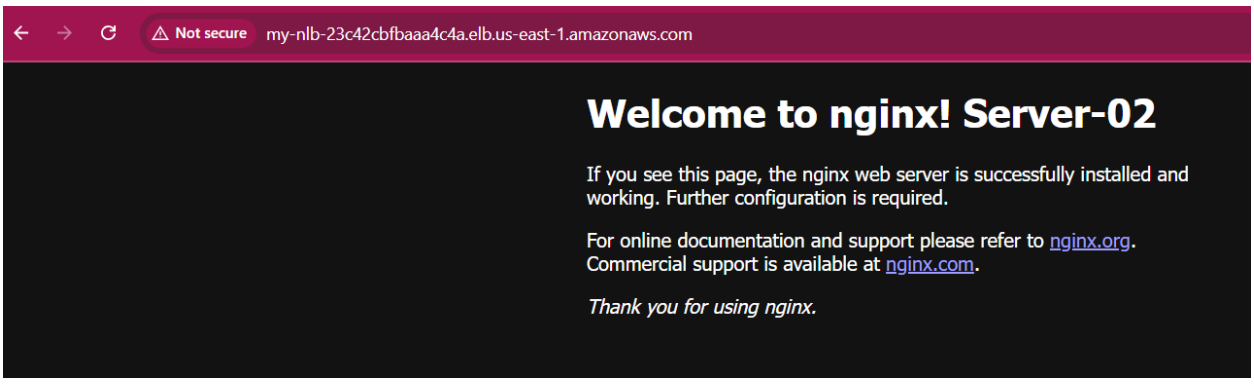


And click on ‘Create Load Balancer’:



Access from the browser using load balancer DNS:





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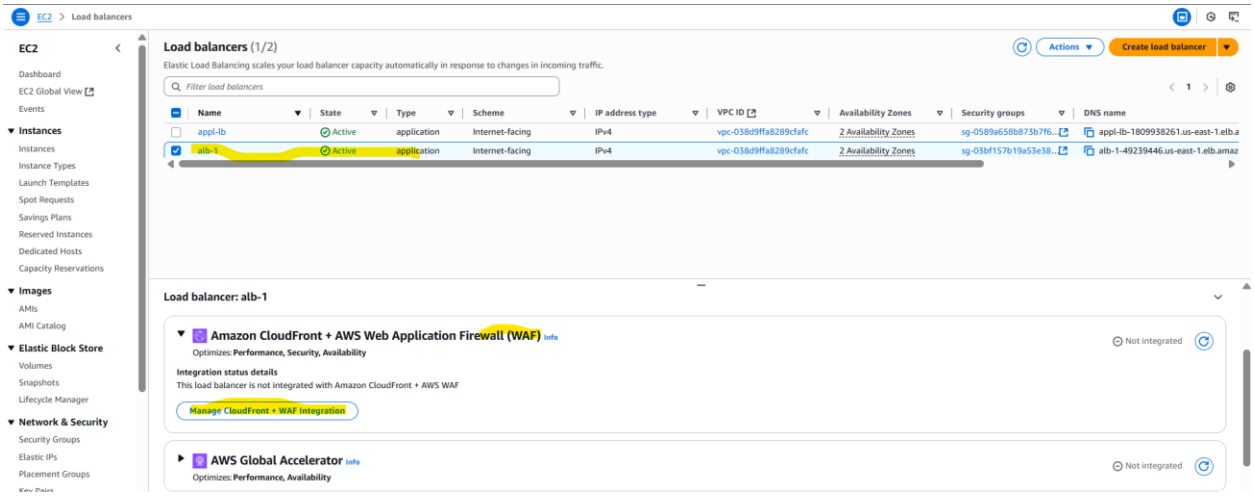
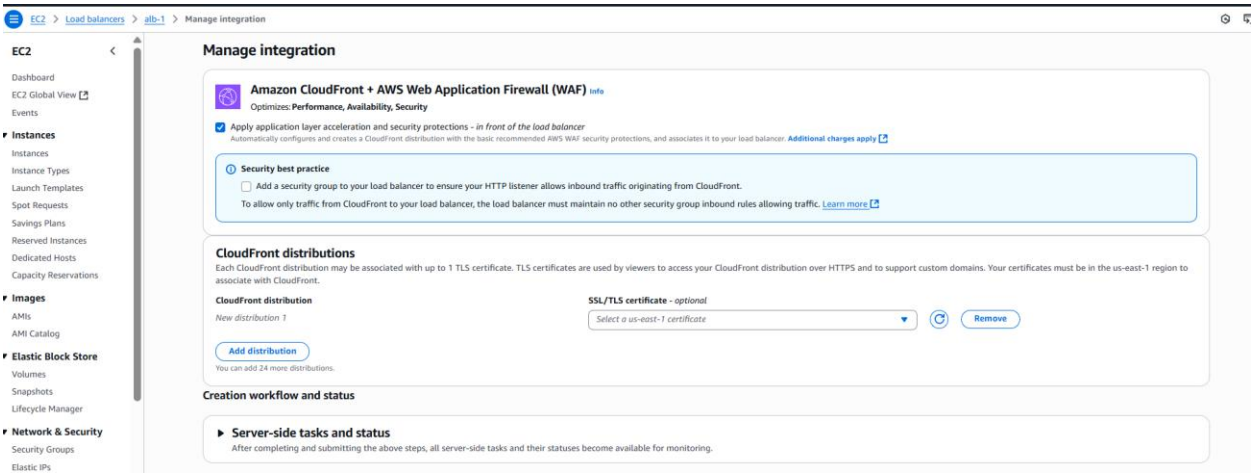
4. Attach SSL for application load balancer.

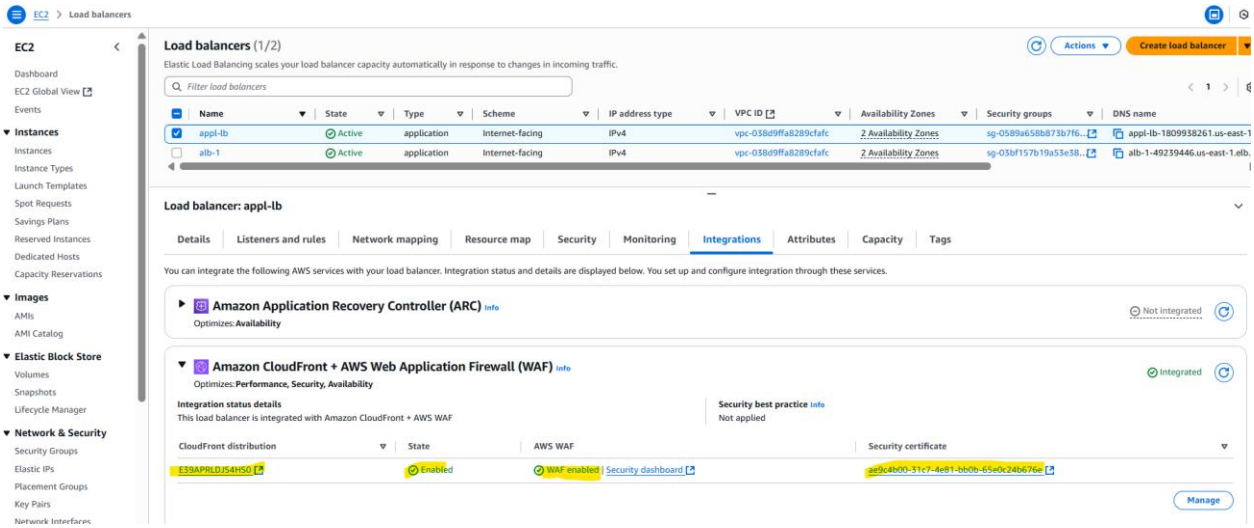
Select your Load Balancer and goto ‘Integration’ tab and ->WAF and click on ‘Manage CloudFront+WAF Integration’:



And select your SSL certificate:



And follow the steps what has shown then your certificate will get added and DNS will be created in CloudFront:



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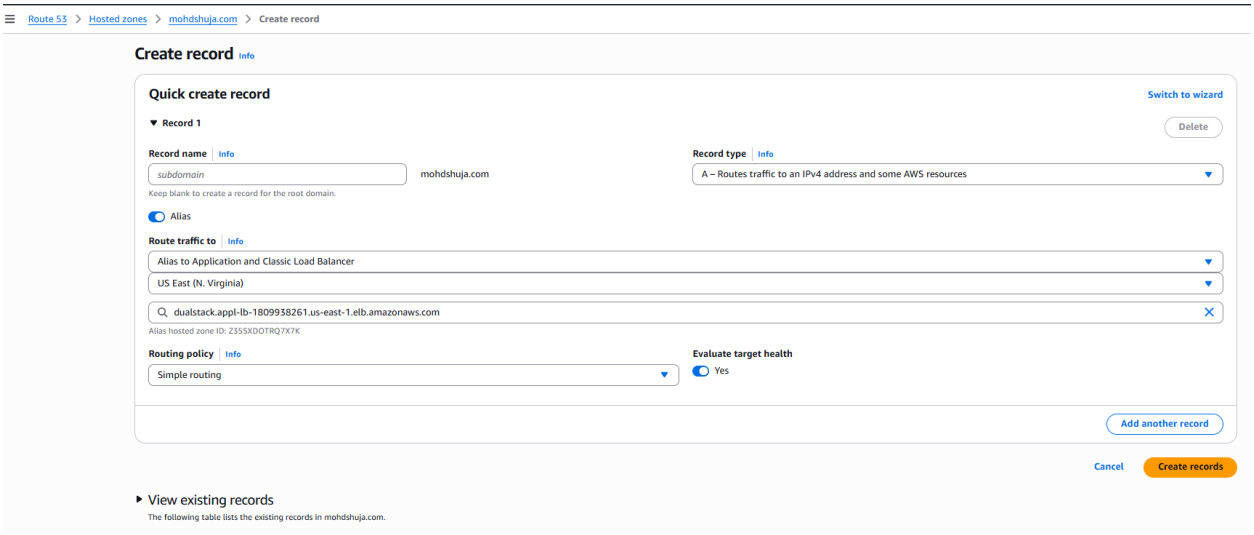
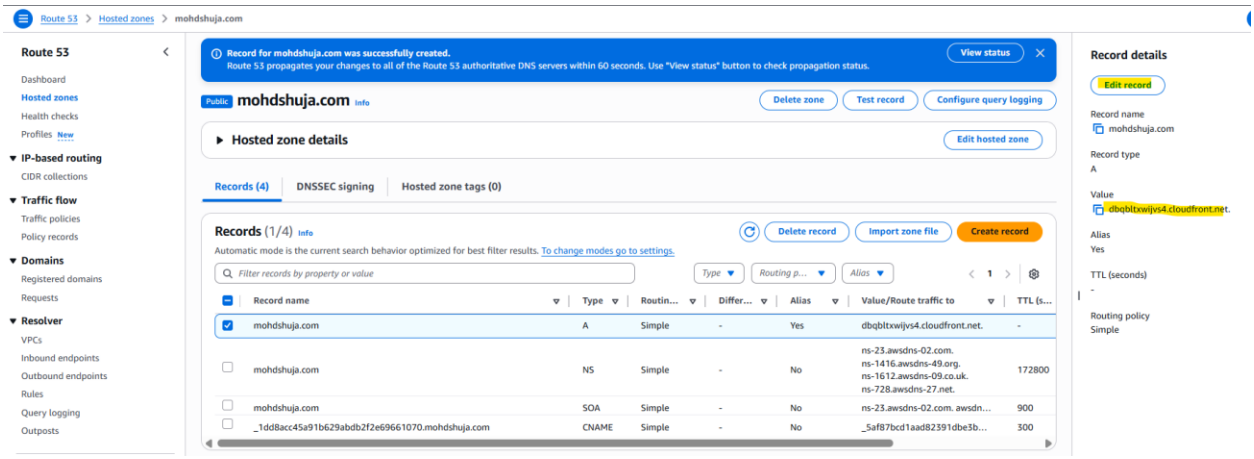
5. Map Application load balancer to R53.

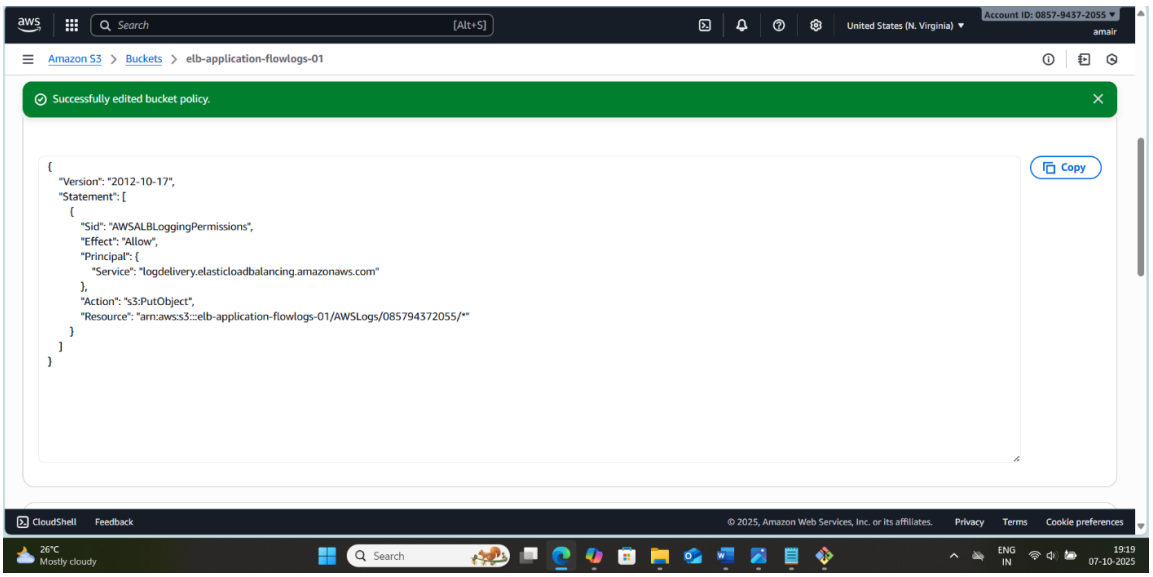


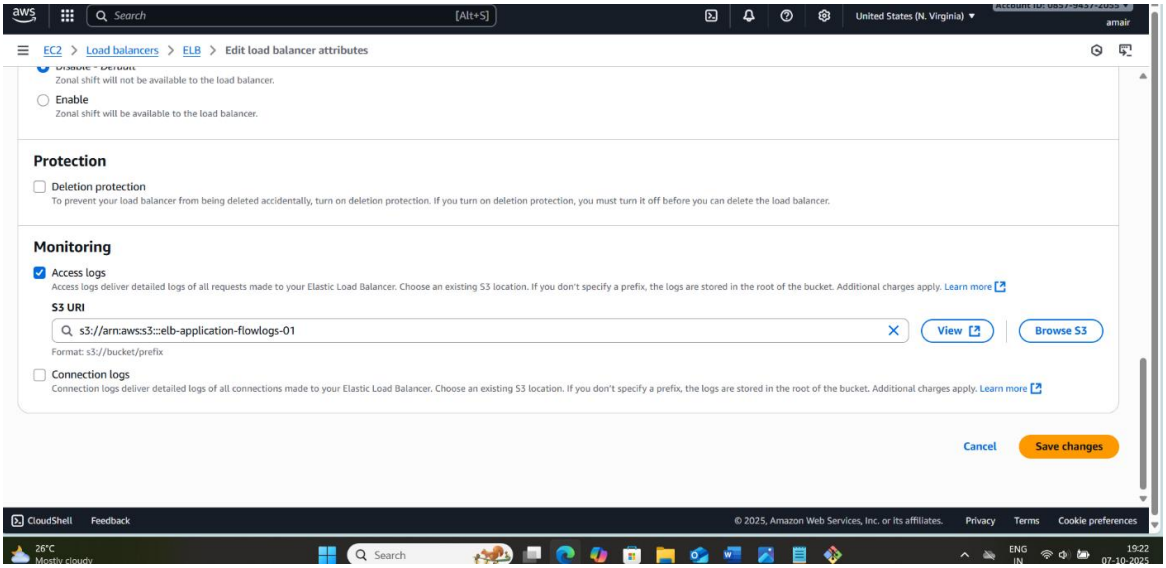


6. Push the application load balancer logs to S3.

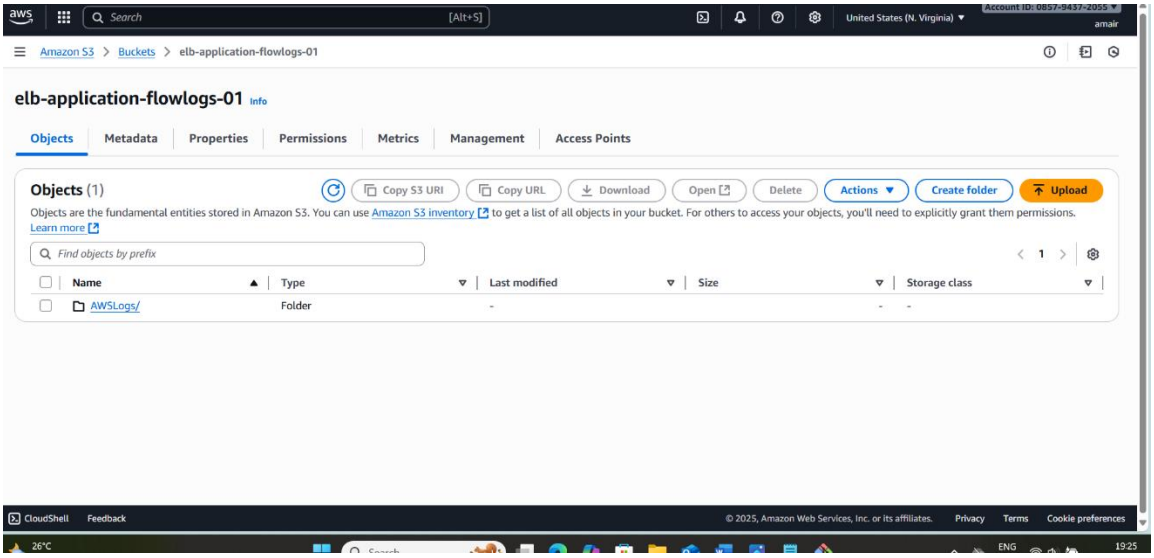
7. Select already creaated bucket
8. Set Bucket Policy for ALB Logging

   Go to the bucket → Permissions → Bucket Policy → Add





9. Go to EC2 Dashboard → Load Balancers → Select your ALB
    1. Description tab → “Edit attributes”
    2. Enable Access logs



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