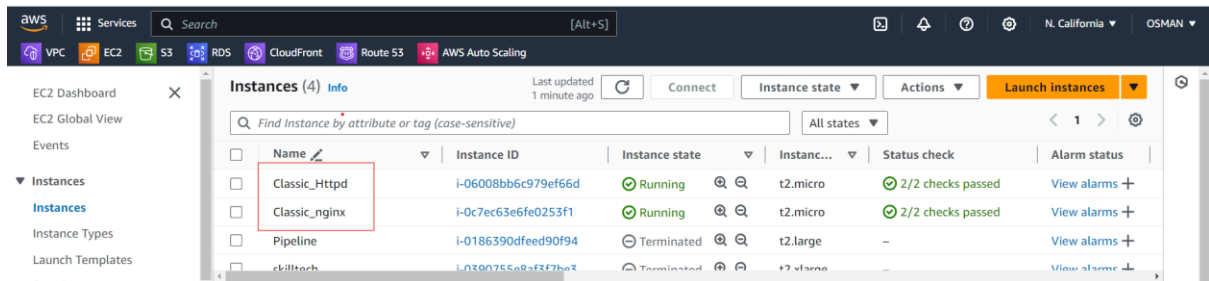
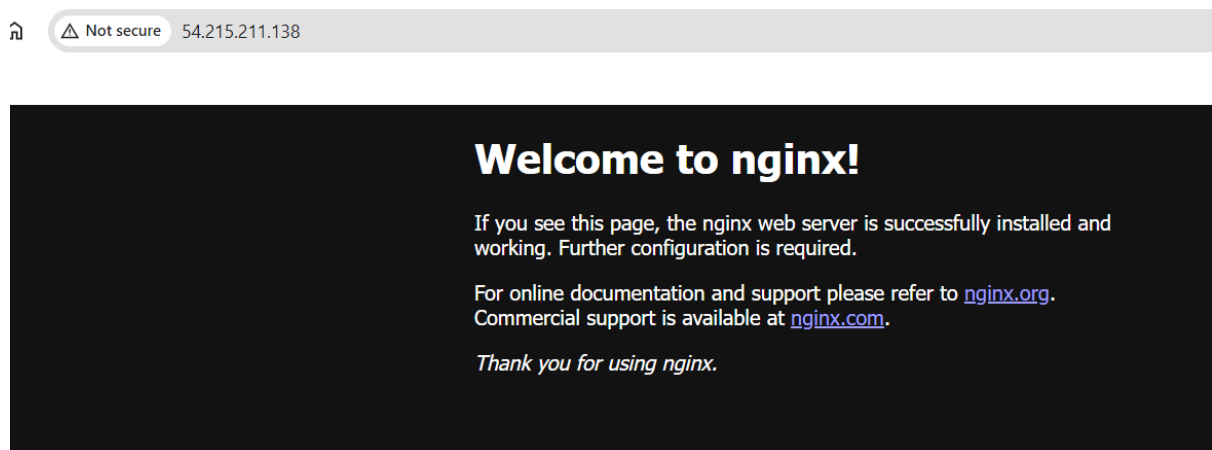


1) Configure Classic Load balancer.

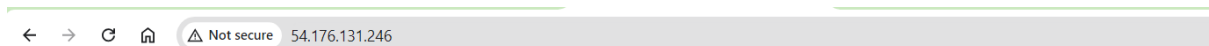
- First you need to create Two instances.
- Here one is httpd server and second one is nginx server.
- Here I am taken two instance with diff service's like httpd and nginx.
- Two understand the traffic.



The below img is nginx server.

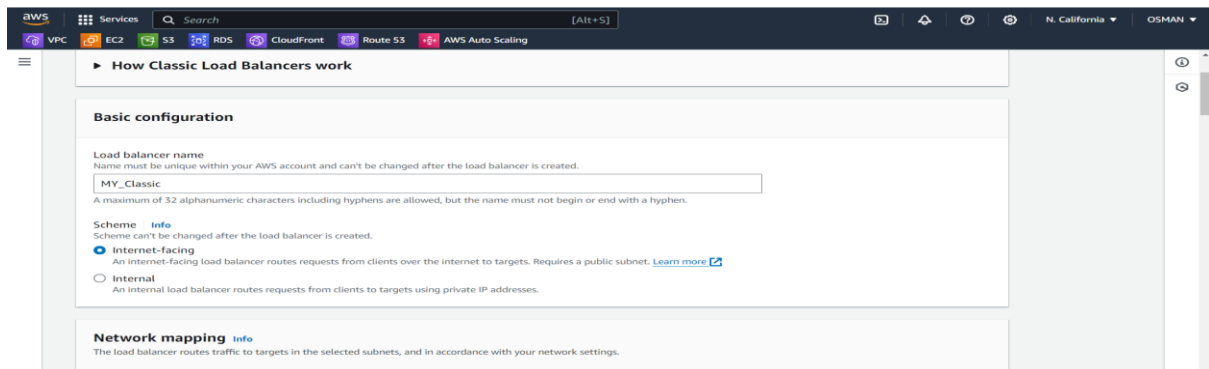


The below img is httpd server



It works!

Our servers are ready. Now I am going to the Load balancers and click on create loadbalcer and select the classic loadbalancer.



Select you VPC and AAZ

The screenshot shows the AWS Management Console interface for selecting a VPC. The top navigation bar includes the AWS logo, a search bar, and service icons for VPC, EC2, S3, RDS, CloudFront, Route 53, and AWS Auto Scaling. The right side of the header shows the region as 'N. California' and the account name 'OSMAN'.

VPC Info

Select the virtual private cloud (VPC) for your targets or you can [create a new VPC](#). Only VPCs with an internet gateway are available for selection. The selected VPC cannot be changed after the load balancer is created. When selecting a VPC for your load balancer, ensure each subnet has a CIDR block with at least a /27 bitmask and at least 8 free IP addresses. [Learn more](#)

vpc-04654fe086b2bec59
IPv4 VPC CIDR: 172.31.0.0/16

Mappings

Select at least one Availability Zone and one subnet for each zone. We recommend selecting at least two Availability Zones. The load balancer will route traffic only to targets in the selected Availability Zones. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

Availability Zones

☒ **us-west-1a (usw1-az1)**

Subnet

subnet-054b921dca0d9d196
IPv4 subnet CIDR: 172.31.16.0/20

IPv4 address
Assigned by AWS

The screenshot shows the AWS Management Console interface for configuring a Load Balancer. The top navigation bar is the same as the previous screenshot.

Listener HTTP:80 [Remove]

Instance HTTP:80

Listener protocol: HTTP : Listener port: 80 (1-65535)

Instance protocol: HTTP : Instance port: 80 (1-65535)

[Add listener]

Health checks Info

Your load balancer automatically performs health checks to test the availability of all registered instances. Traffic is only routed to healthy instances, which is determined on their response to the health check.

Ping target

The health check ping is sent using the protocol and port you specify. If using HTTP/HTTPS protocol, you must also provide the destination path.

Ping protocol: HTTP : Ping port: 80 (1-65535)

Ping path: /index.html

Here iam selecting the two instances.

The screenshot shows the AWS Management Console interface for selecting instances for the Load Balancer. The top navigation bar is the same as the previous screenshots.

Instances (2) [Remove] [Add instances]

You can add instances to register as targets of the load balancer. Alternatively, after your load balancer is created, you can add it to an Amazon EC2 Auto Scaling group to ensure you maintain the correct number of instances to handle the load for your application. For maximum fault tolerance, we recommend maintaining approximately equivalent numbers of instances in each Availability Zone.

Filter instances

<input type="checkbox"/>	Instance ID	Name	State	Security groups
<input type="checkbox"/>	i-06008bb6c979ef66d	Classic_Httpd	Running	launch-wizard-11
<input type="checkbox"/>	i-0c7ec63e6fe0253f1	Classic_nginx	Running	SSH AND Tomcat

Attributes

Creating your load balancer using the console gives you the opportunity specify additional features at launch. You can also find and adjust these settings in the load balancer's "Attributes" section after your load balancer is created.

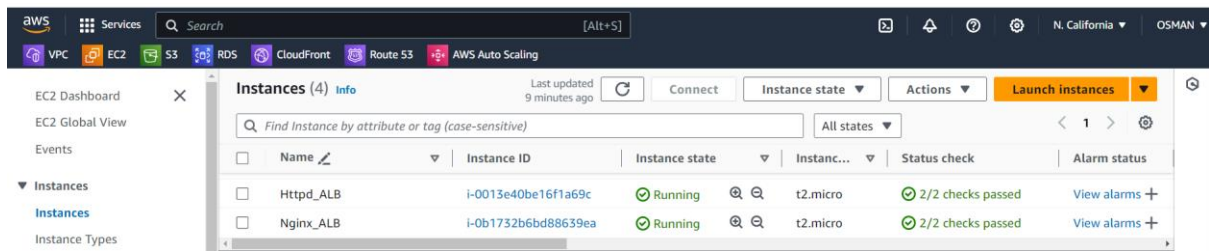
☒ **Enable cross-zone load balancing**

With cross-zone load balancing, each load balancer node for your Classic Load Balancer distributes requests evenly across the registered instances in all enabled Availability Zones. If cross-zone load balancing is disabled, each load balancer node distributes requests evenly across the registered instances in its Availability Zone only. Classic Load Balancers created with the API or CLI have cross-zone load balancing disabled by default. After you create a Classic Load Balancer, you can enable or disable cross-zone load balancing at any time.

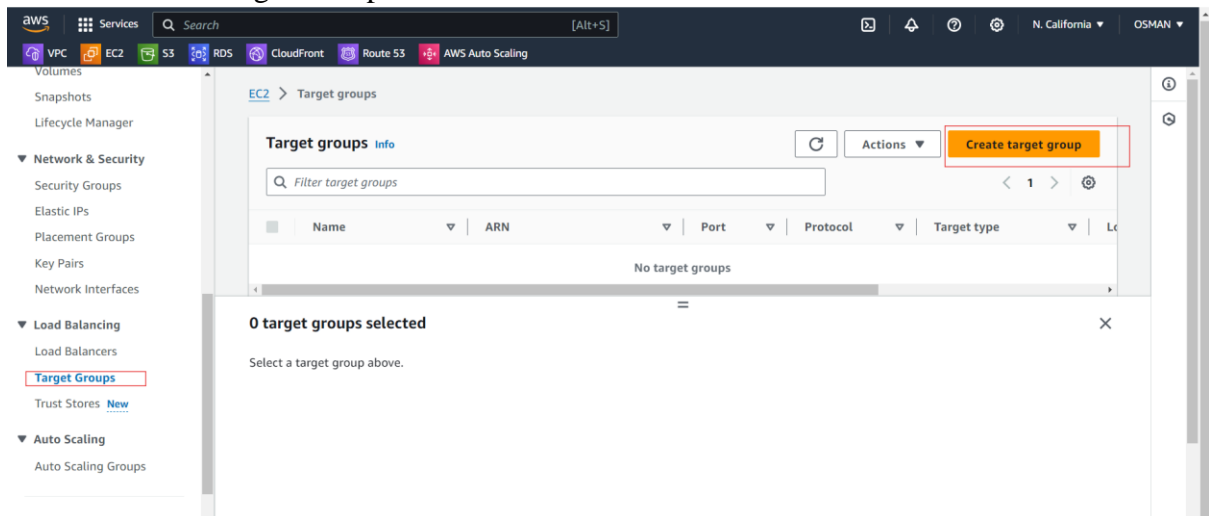
Click on create load balancer.

2) Configure Application Load balancer.

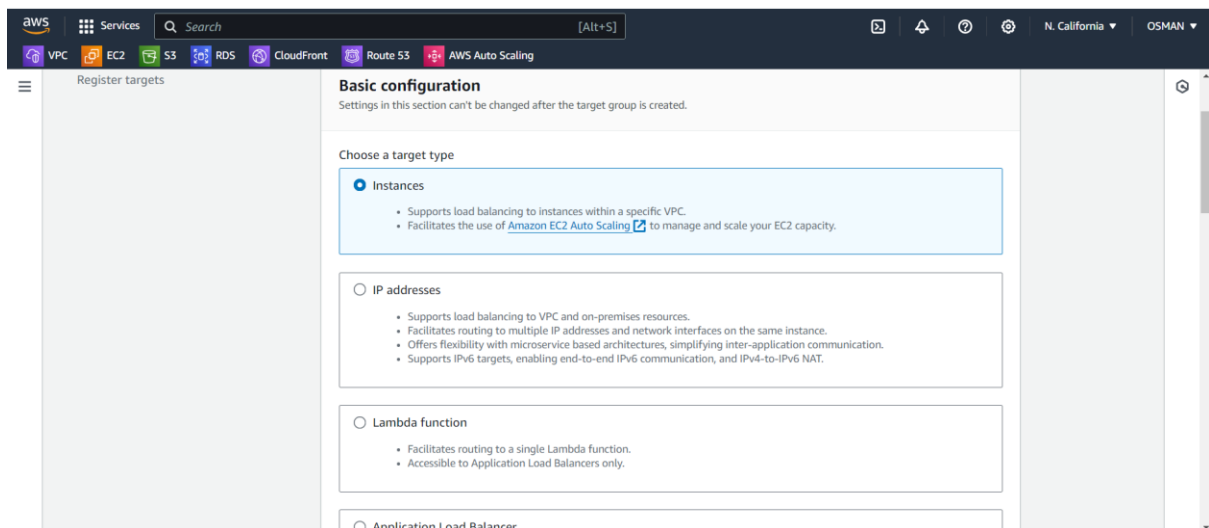
Here I have two instances.



After Go to the Target Groups and create.



Target type is ---- instances.



Give target group name and protocol is httpd-80.

Ip address is IpV4.

Target group name

MY_TARGET

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Protocol : Port

Choose a protocol for your target group that corresponds to the Load Balancer type that will route traffic to it. Some protocols now include anomaly detection for the targets and you can set mitigation options once your target group is created. This choice cannot be changed after creation

HTTP 80

1-65535

IP address type

Only targets with the indicated IP address type can be registered to this target group.

☒ IPv4

Each instance has a default network interface (eth0) that is assigned the primary private IPv4 address. The instance's primary private IPv4 address is the one that will be applied to the target.

☐ IPv6

Each instance you register must have an assigned primary IPv6 address. This is configured on the instance's default network interface (eth0). [Learn more](#)

Leave it as it's and click on Next.

Click on Available instances and include as pending below.

Available instances (2/2)

Filter instances

<input checked="" type="checkbox"/>	Instance ID	Name	State	Security groups
<input checked="" type="checkbox"/>	i-0b1732b6bd88639ea	Ngix_ALB	Running	SSH AND Tomcat
<input checked="" type="checkbox"/>	i-0013e40be16f1a69c	Httpd_ALB	Running	SSH AND Tomcat

2 selected

Ports for the selected instances

Ports for routing traffic to the selected instances.

80

1-65535 (separate multiple ports with commas)

Include as pending below

2 selections are now pending below. Include more or register targets when ready.

Review the Target groups and click on create target group.

Review targets

Targets (2)

Remove all pending

Filter targets

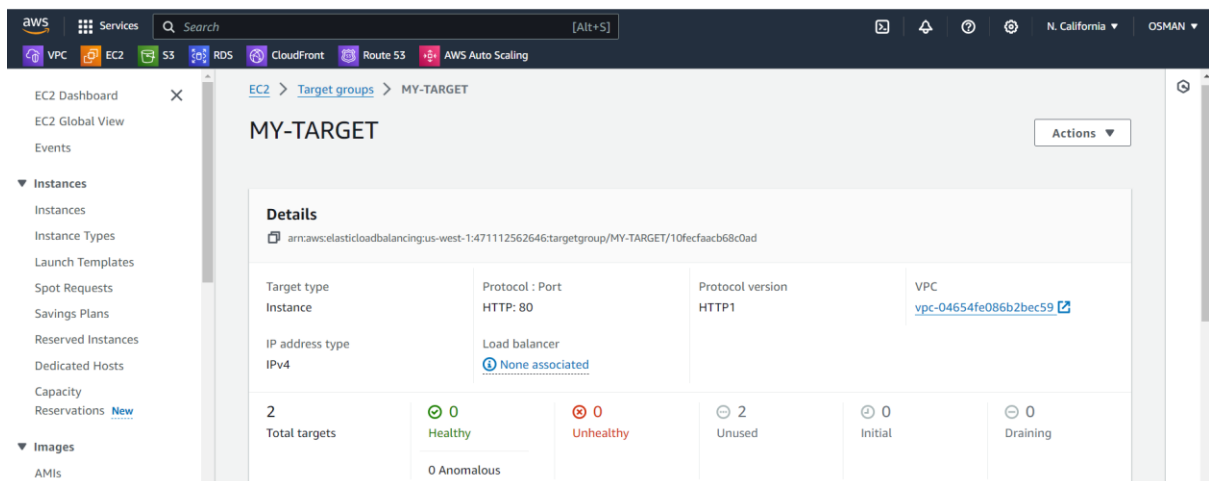
Show only pending

Instance ID	Name	Port	State	Security groups	Zone	Private IPv4 add
i-0b1732b6bd88639ea	Ngix_ALB	80	Running	SSH AND Tomcat	us-west-1c	172.31.7.4
i-0013e40be16f1a69c	Httpd_ALB	80	Running	SSH AND Tomcat	us-west-1a	172.31.27.161

2 pending

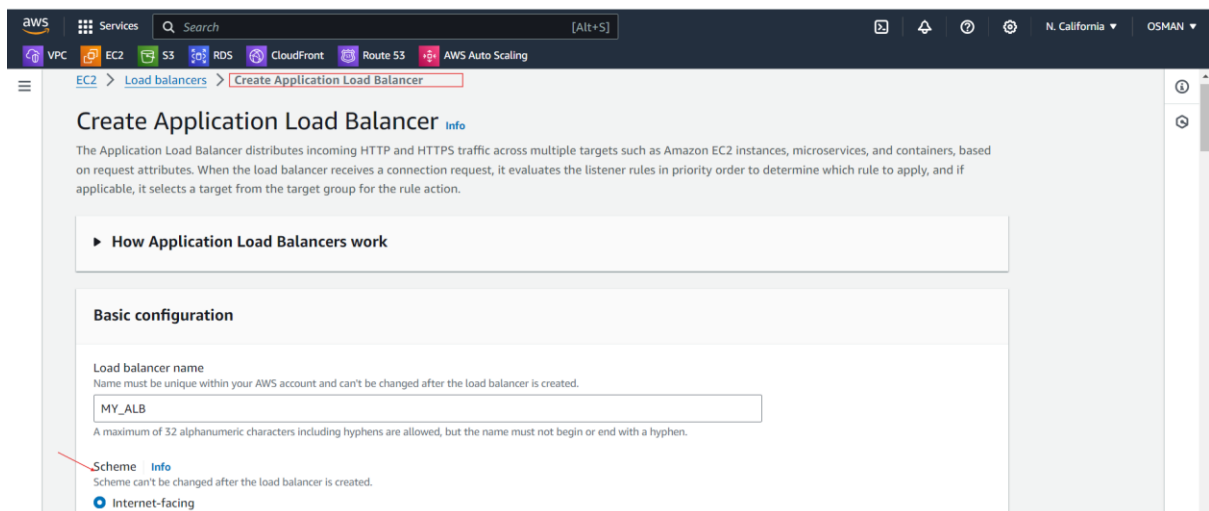
Cancel Previous Create target group

Target group is created.



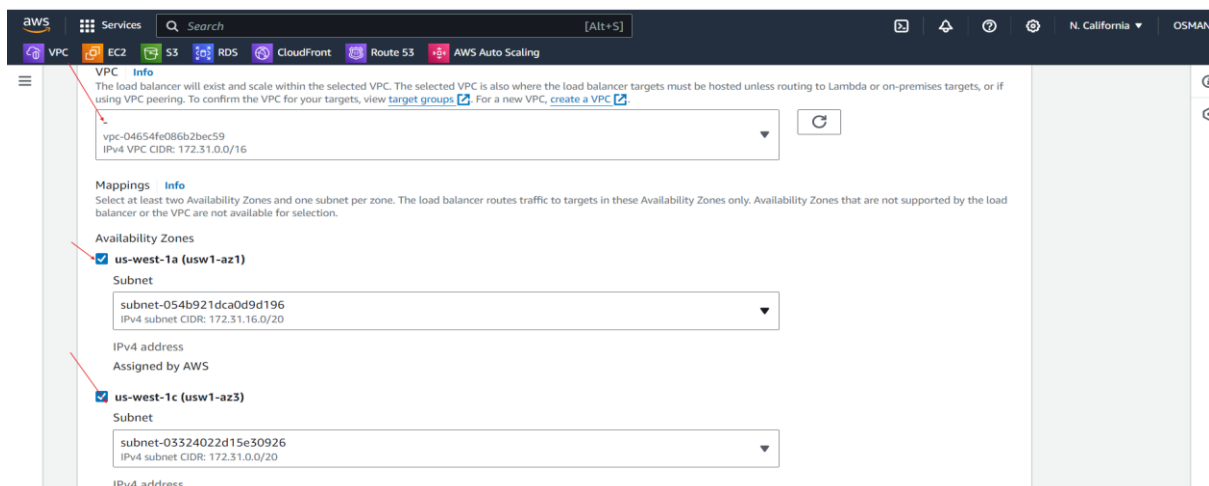
Now we have to Go Load balanceres and create the Application Load balancer.

Give Name and scheme is --- internet Facing

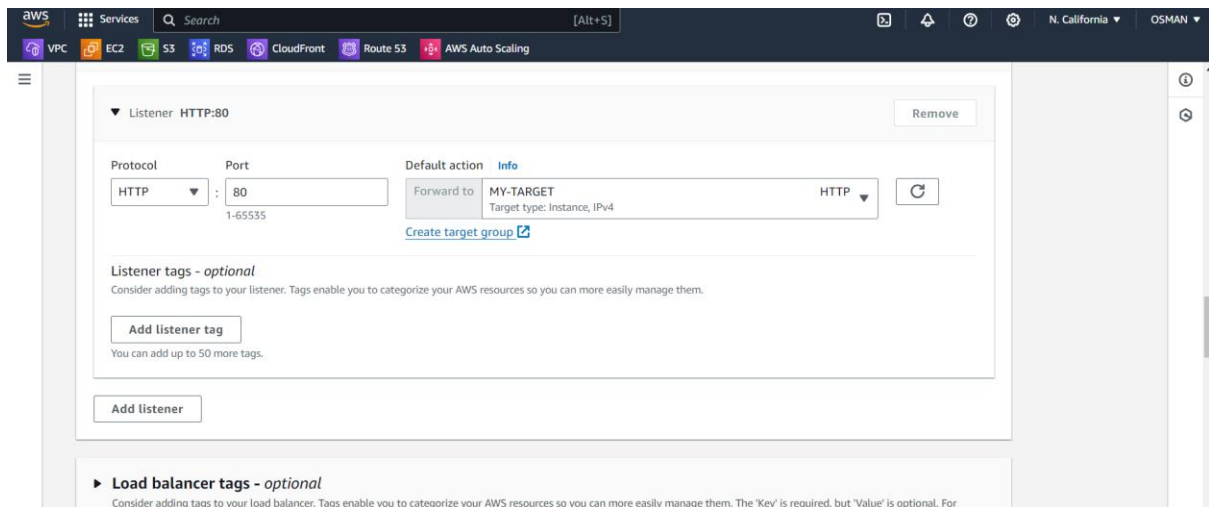


Select--- VPC and Subnets.

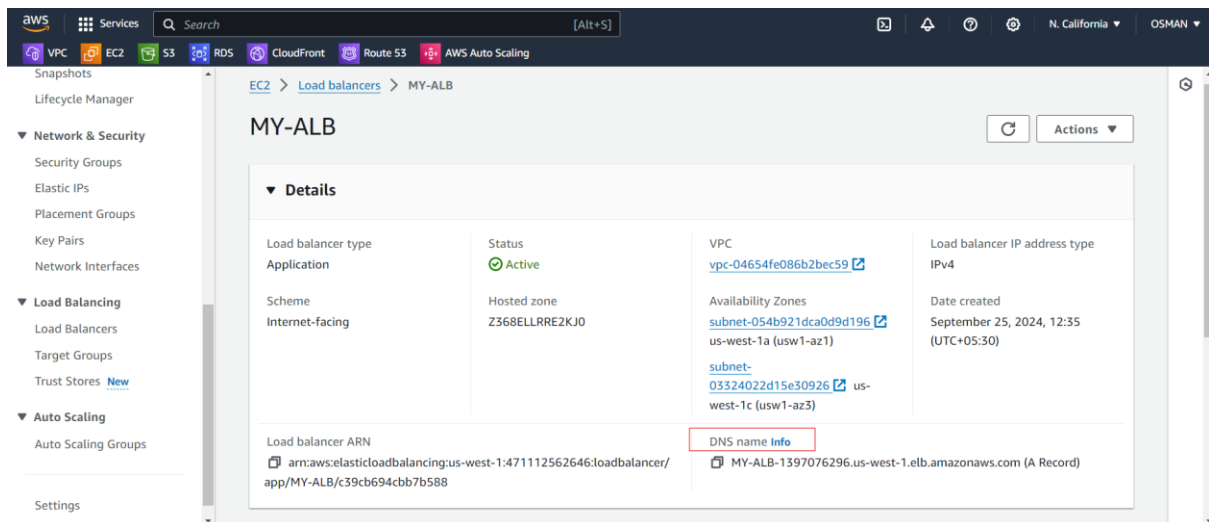
Must and should give the same VPC, Subnet, Security groups all same for EC2 as well as ALB.



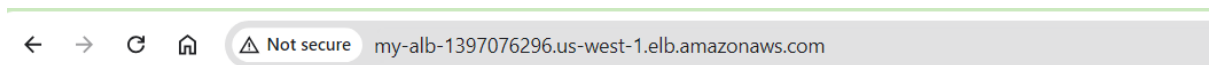
Select the target groups and click on create ALB.



Copy the DNS name.

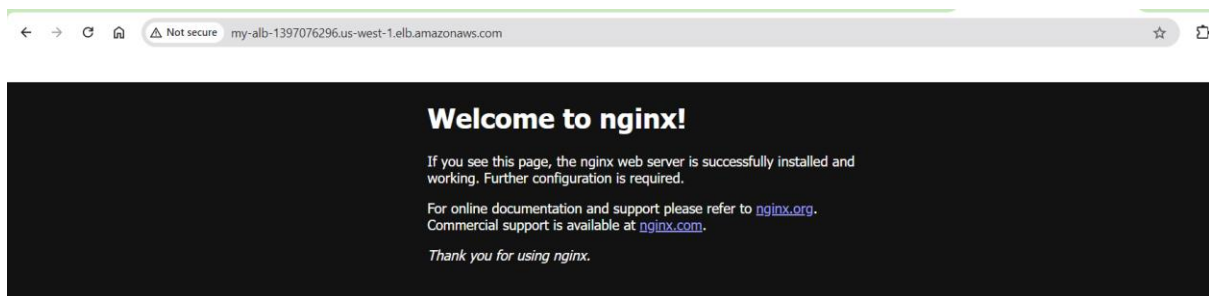


Paste in google chrome .



i am wrtting content in httpd server!!!

Refresh the google chrome you will see the nginx server page.



3) Configure Network Load balancer.

- We have already two instances is there and target group.
- But can't the same target group for both an **Application Load Balancer (ALB)** and a **Network Load Balancer (NLB)** directly. This is because ALB operates at the **Layer 7 (HTTP/HTTPS)** of the OSI model, while NLB operates at **Layer 4 (TCP/UDP)**. As a result, the protocol, health check configurations, and target types are different between ALB and NLB.
- So we have to create new target group.
- What we do in creating the ALB-Target group do as it's but only change is protocol - TCP

The screenshot shows the AWS Management Console interface for creating a new target group. The 'Target group name' field is set to 'MY-NLB-Target'. The 'Protocol : Port' section has 'TCP' selected for the protocol and '80' for the port. The 'IP address type' section has 'IPv4' selected. The 'VPC' dropdown shows 'vpc-04654fe086b2bec59'. The console header shows the user is logged in as 'OSMAN' in the 'N. California' region.

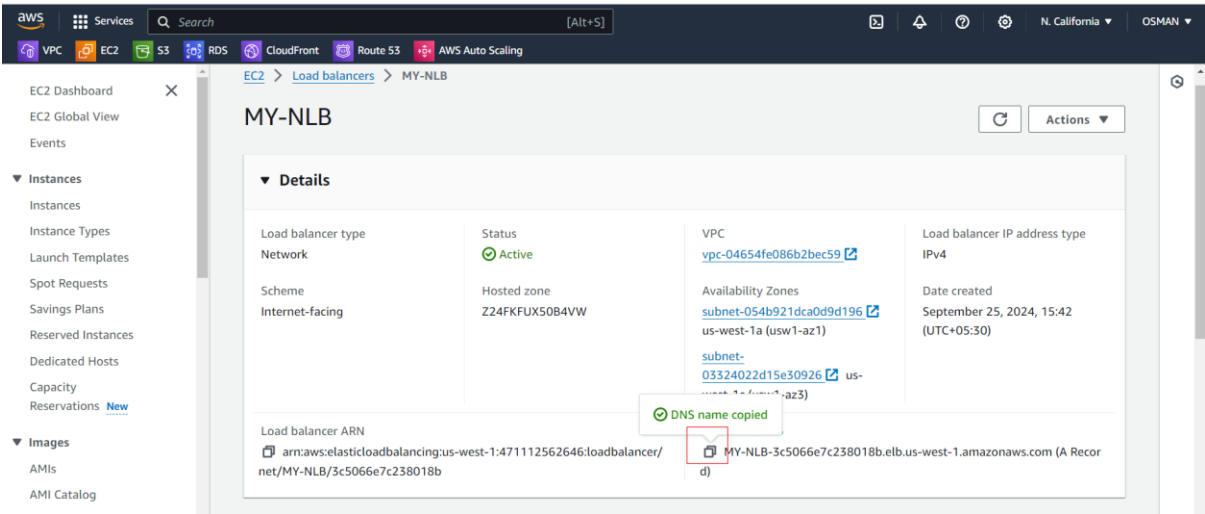
Now we have to configure the Network Load balancer.

Here also only change is protocol is -- TCP

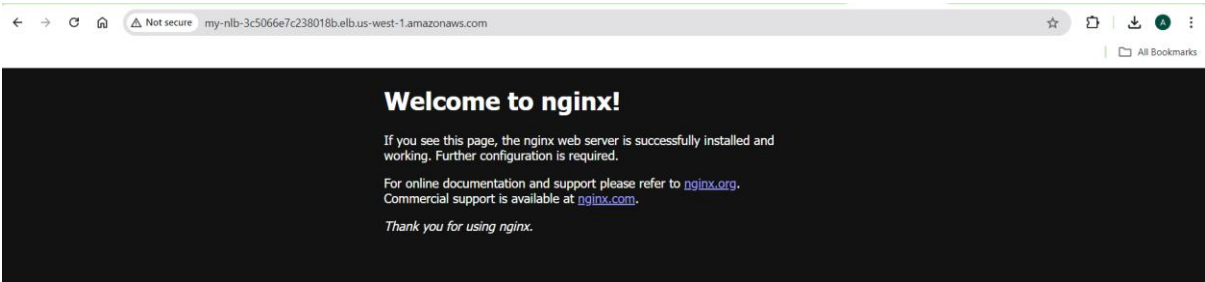
The screenshot shows the 'Listeners and routing' page for a Network Load Balancer. A listener is configured with 'TCP' as the protocol and '80' as the port. The default action is 'Forward to' 'MY-NLB-Target' with 'TCP' as the target protocol. The console header shows the user is logged in as 'OSMAN' in the 'N. California' region.

Just click on create Network load balancer.

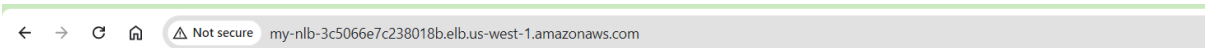
Now you will see the Load balancer.



DNS name Paste in google chrome



Refresh the google chrome you will see the httpd server index.html file content.

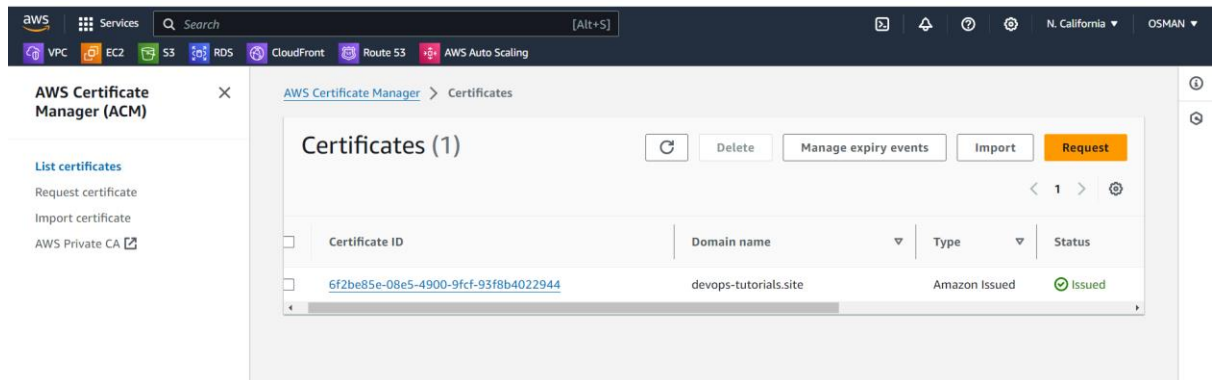


i am wrtting content in httpd server!!!

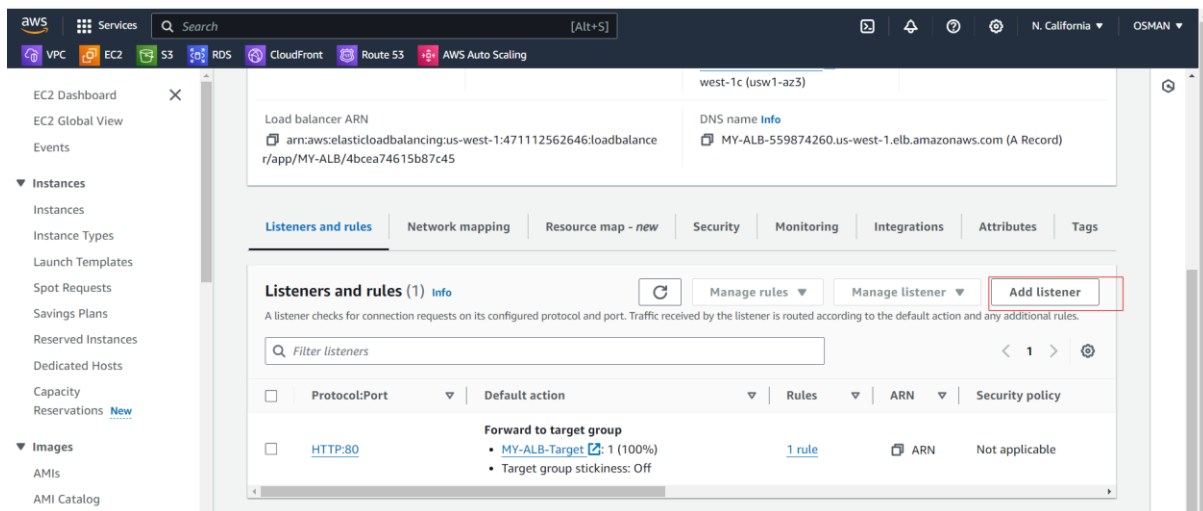
#####

4) Attach SSL for application load balancer.

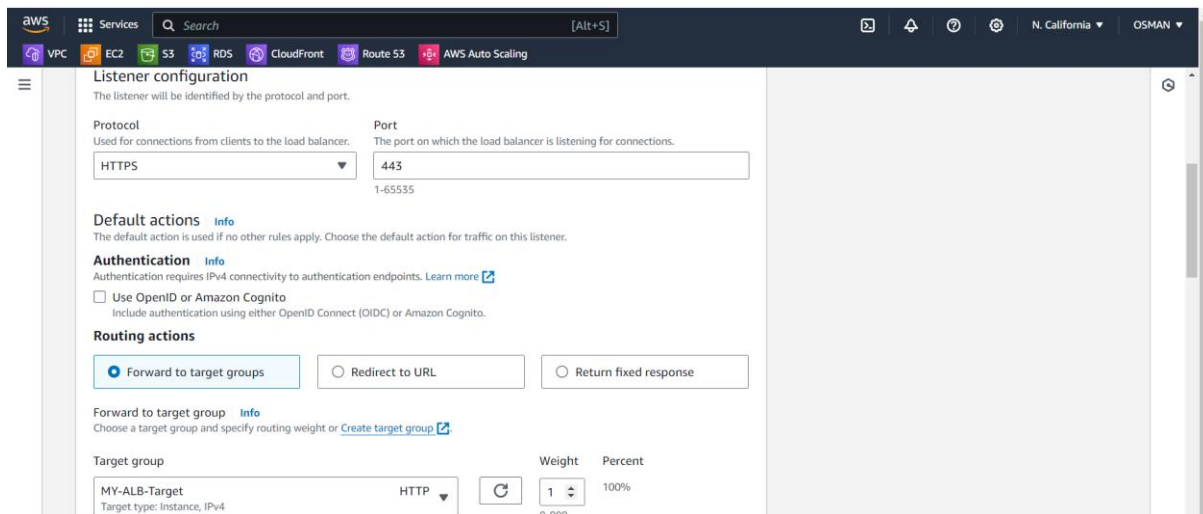
- To do that first you have ssl certificate.
- To get certificate rise request and get certificate.



- Then go to the Application load balancer.
- Click on Add Listener

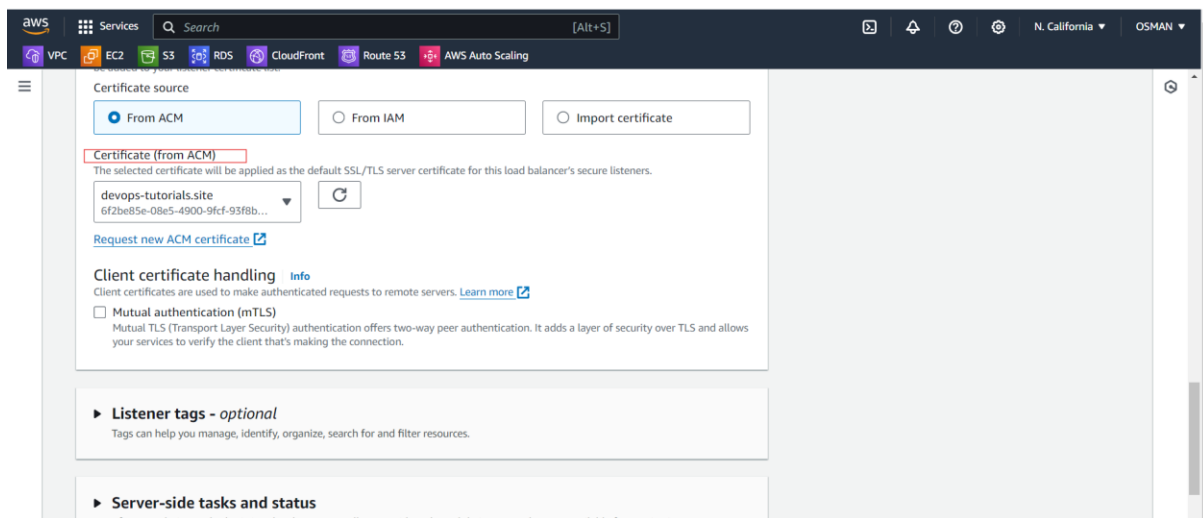


Here change the protocol and select the target Group.

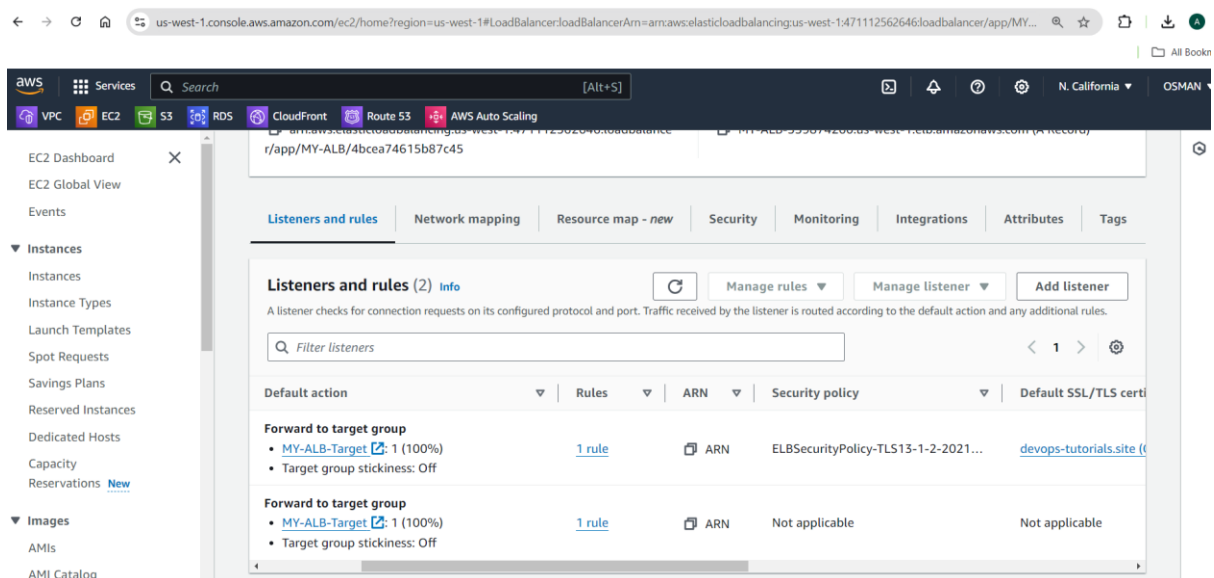


Here you need to attach the ACM certificate.

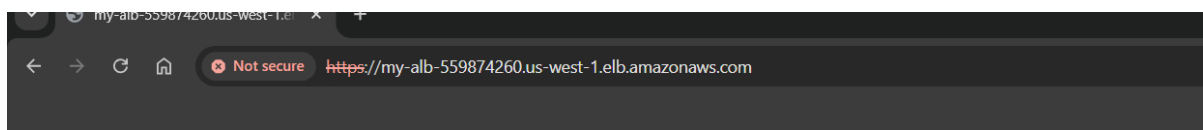
Click on ADD.



Now see ALB Listeners I am added the ssl certificate.



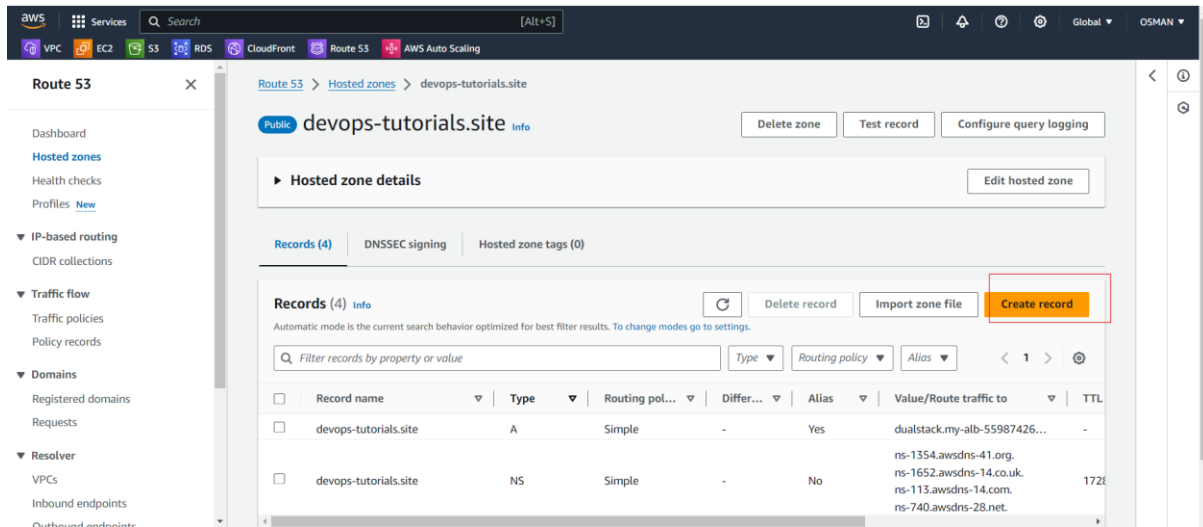
Now copy DNS name and Browse and add https.



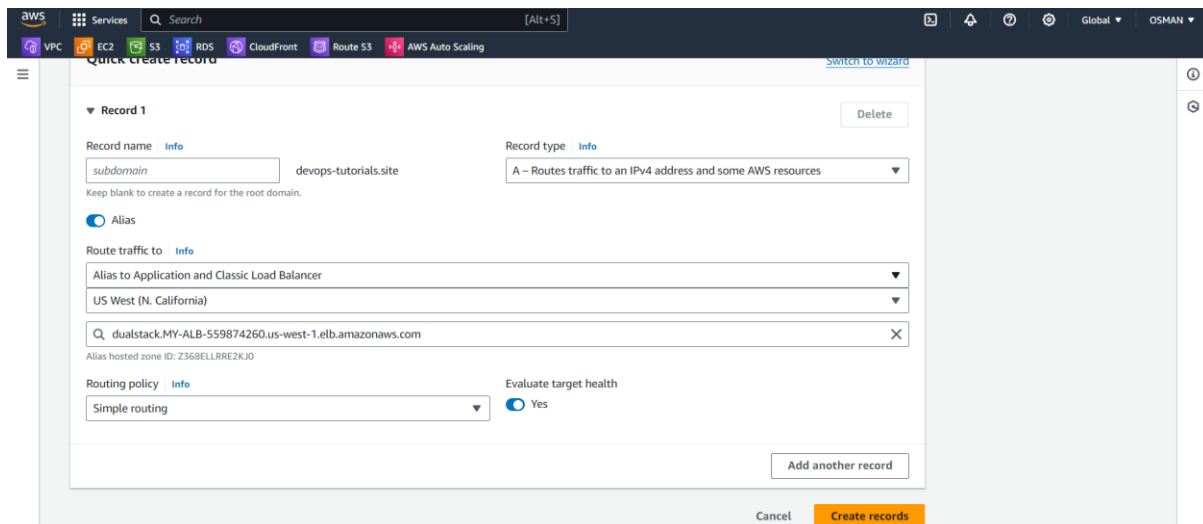
i am wrting content in httpd server!!!

5) Map Application load balancer to R53.

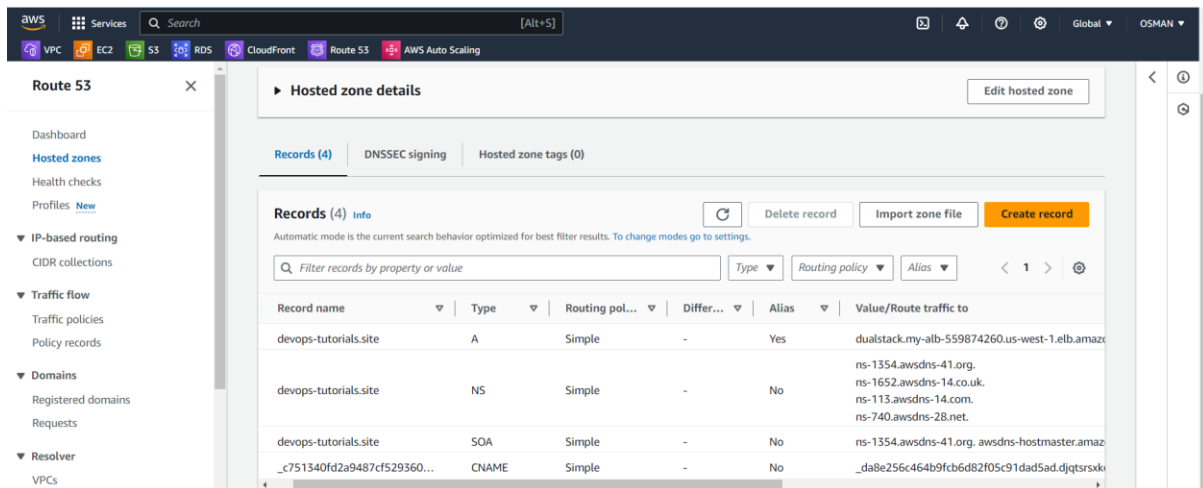
- We have Already ALB.
- So we have to go R53 and click on create record.



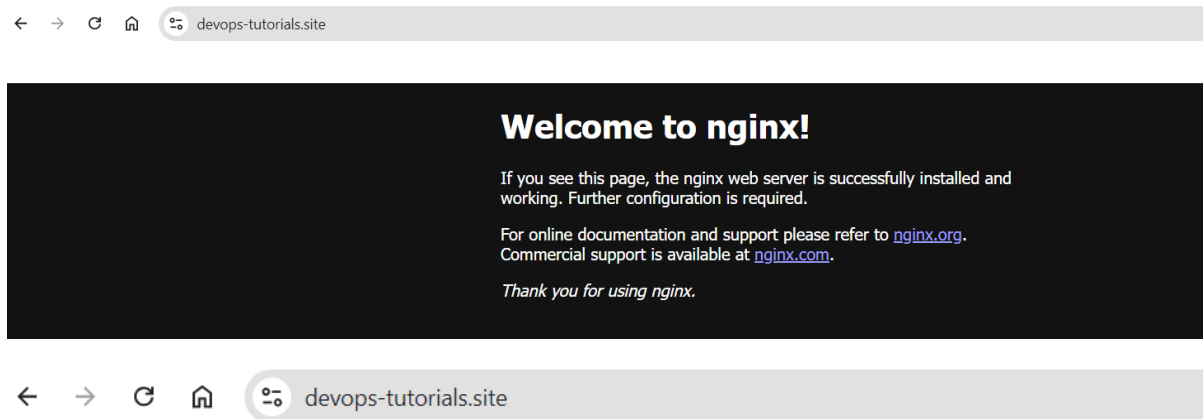
- There you have to click on the --- Alias
- Select – Alias to Application and Classic Load Balancer
- Select --- region
- Select your ALB DSN name.
- Click on create Record.



Now One Record created.



Now you can browse your domain name you will see our application.

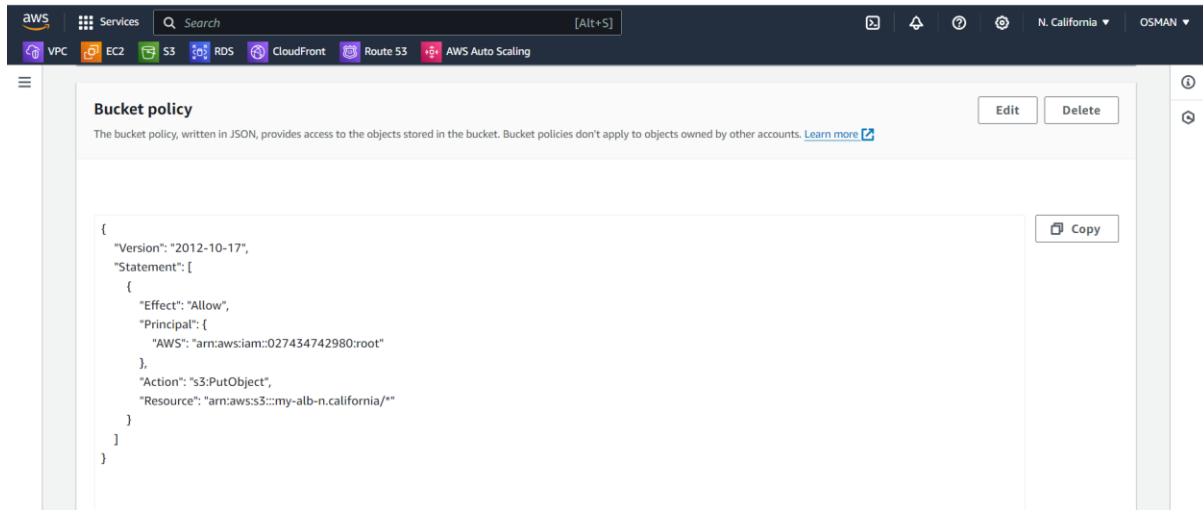


i am wrtting content in httpd server!!!

6) Push the application load balancer logs to s3.

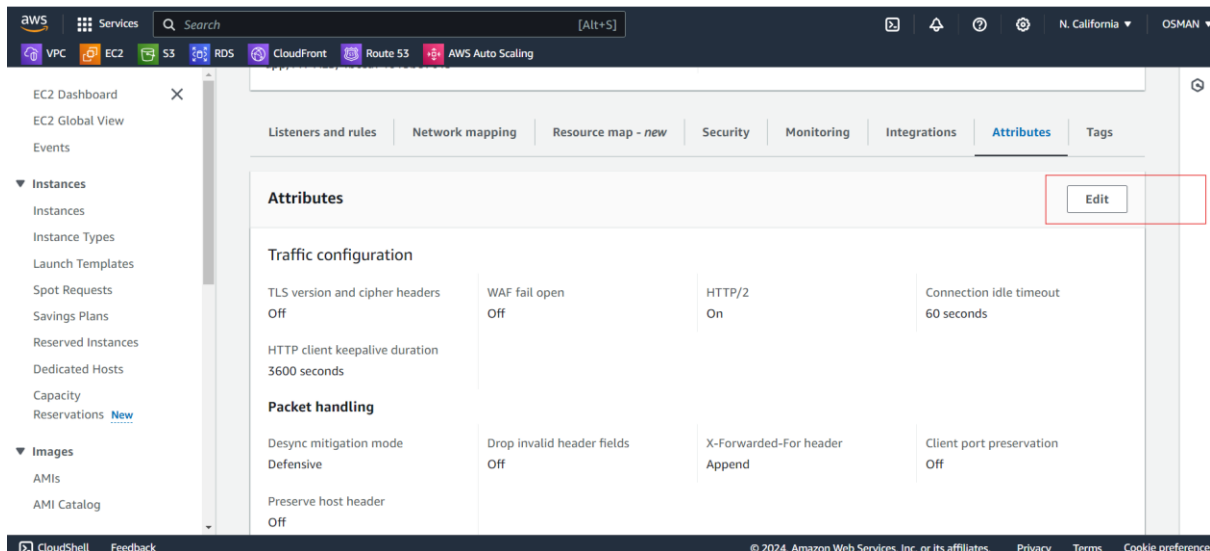
Now I am created One s3 with same region of ALB.

Edit the bucket policy and save.

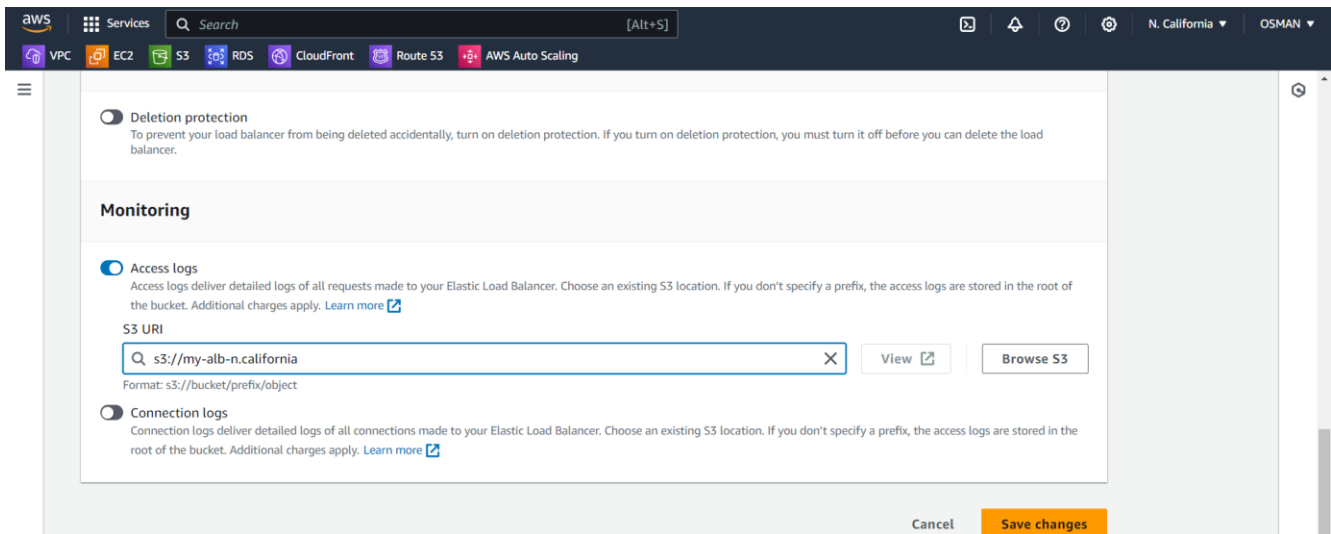


Now I am went to ALB.

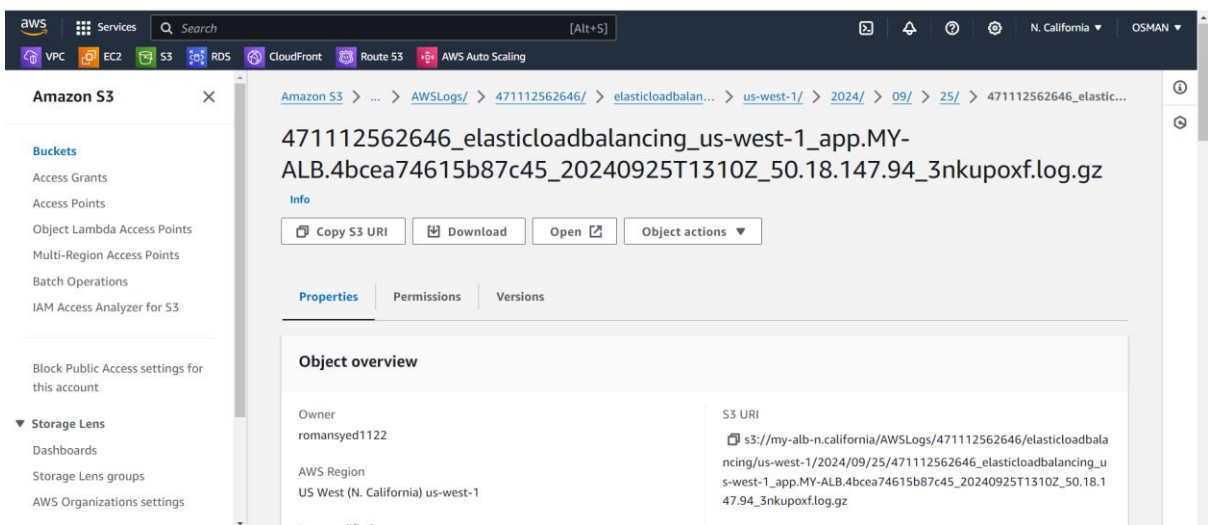
GO to Attributes.



- Enable Access Logs.
- Select the s3 buckets and click on save changes.



- Now go to the s3 bucket.
- In the bucket you see the logs.



Task is Done.

#####