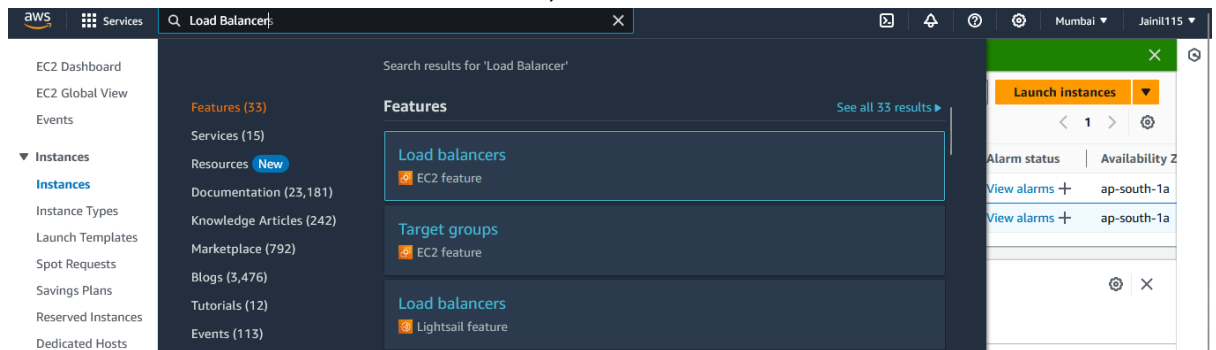


TASK 4: Create an ALB and map the instances under ALB.

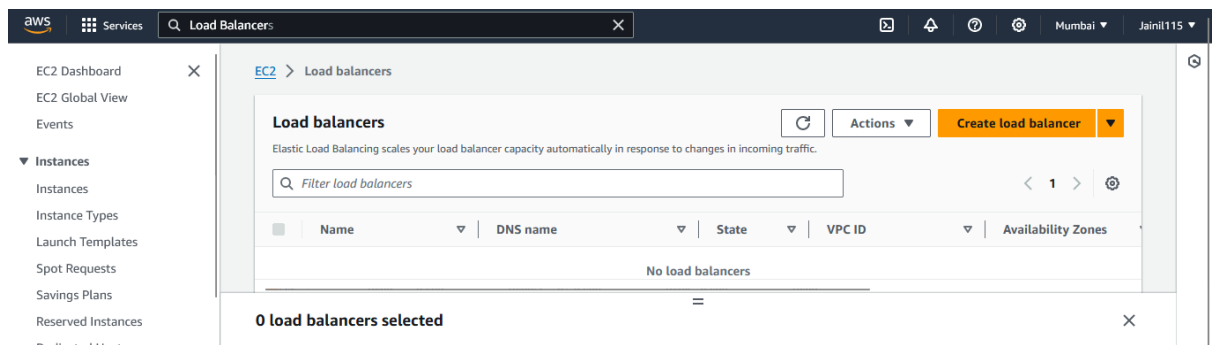
1. With the DNS of ALB, the webserver should be get accessed

Steps to create Application Load Balancer and mapping EC2 instance under ALB:

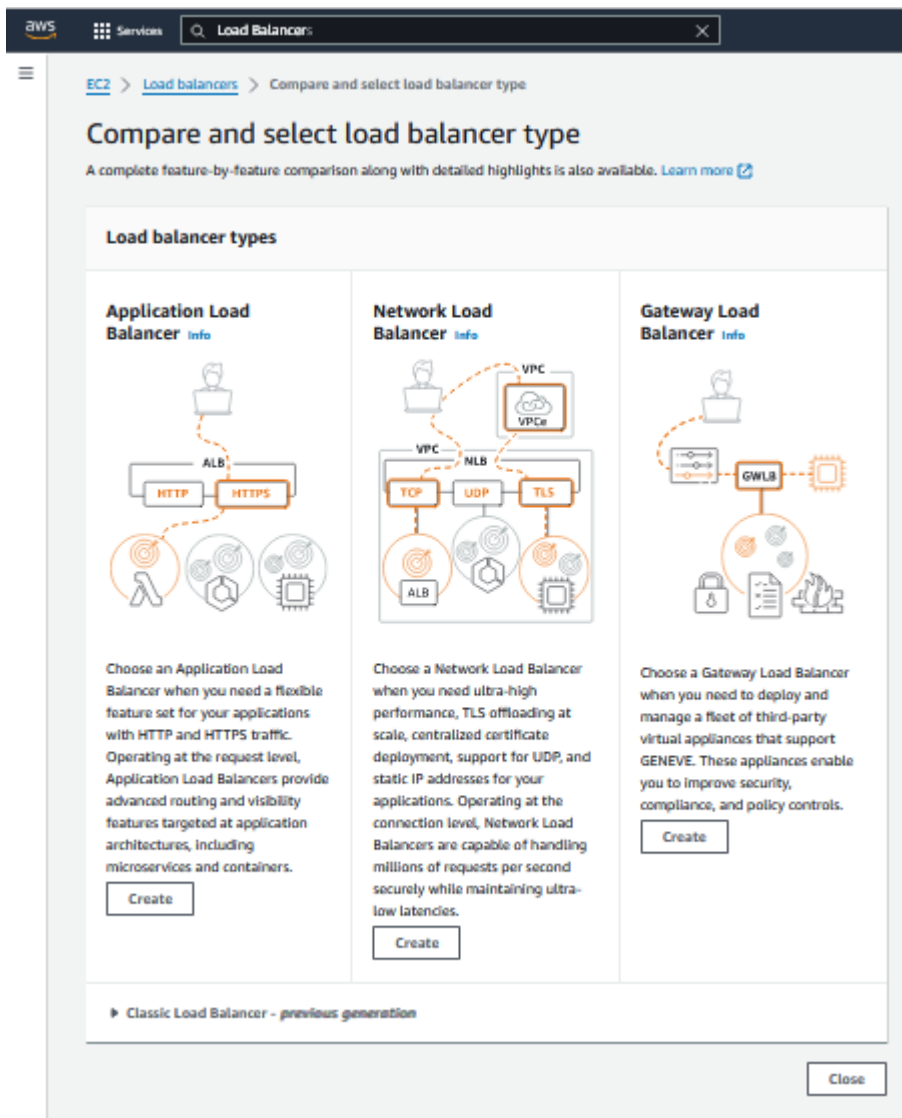
1. In AWS Console search for Load Balancers, Select “Load Balancer EC2 Feature”



2. In Load Balancer Dashboard click on “Create load balancer”.



3. After that select Application Load Balancer in Load balancer types selection.



- After that create Application Load Balancer Page will open, In that we need to enter name, keep the scheme internet facing, keep ip address type ipv4.

Basic configuration

Load balancer name
Name must be unique within your AWS account and can't be changed after the load balancer is created.

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

Scheme [Info](#)
Scheme can't be changed after the load balancer is created.

☒ **Internet-facing**
An internet-facing load balancer routes requests from clients over the internet to targets. Requires a public subnet. [Learn more](#)

☐ **Internal**
An internal load balancer routes requests from clients to targets using private IP addresses.

IP address type [Info](#)
Select the type of IP addresses that your subnets use.

☒ **IPv4**
Recommended for internal load balancers.

☐ **Dualstack**
Includes IPv4 and IPv6 addresses.

5. In Network Mapping keep VPC same, and select all availability zone,

Network mapping [Info](#)

The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.

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 enabled for selection. The selected VPC can't be changed after the load balancer is created. To confirm the VPC for your targets, view your [target groups](#).

vpc-0b045695b9b154771
IPv4: 172.31.0.0/16

Mappings [Info](#)

Select at least two Availability Zones and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

☒ **ap-south-1a (aps1-az1)**

Subnet
subnet-075fd1037b0d200f9

IPv4 address
Assigned by AWS

☒ **ap-south-1b (aps1-az3)**

Subnet
subnet-070ac038629d36f6d

IPv4 address
Assigned by AWS

☒ **ap-south-1c (aps1-az2)**

Subnet
subnet-0b7c23d895ea29349

IPv4 address
Assigned by AWS

6. In security groups, click on link “create a new security group”, Then enter name “alp-security-group” and a description, then click add rule inside Inbound tab, then select Type HTTP and select source as any (0.0.0.0/0), keep outbound rules as it is (All Traffic), Finally click on “create security group” to create the security group.

aws Services Search [Alt+S] Mumbai Jainil115

VPC Info

vpc-0b045695b9b154771

Inbound rules [Info](#)

Type Info	Protocol Info	Port range Info	Source Info	Description - optional
HTTP	TCP	80	Any... 0.0.0.0/0	
				Delete
Add rule				

Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Outbound rules [Info](#)

7. Now select only alp-security-group from the security group.

Security groups [info](#)
A security group is a set of firewall rules that control the traffic to your load balancer. Select an existing security group, or you can [create a new security group](#).

Security groups

Select up to 5 security groups

alp-security-group

sg-06db25c7dfbd7282f VPC: vpc-0b045695b9b154771

×

8. Then inside Listeners and Routing tab click on link “create target group”, In this choose type Instances, then enter target group name “alp-loadbalancer-targer-group”. Keep Protocol HTTP and port 80, And then click on next.

Choose a target type

☒ Instances

- Supports load balancing to instances within a specific VPC.
- Facilitates the use of [Amazon EC2 Auto Scaling](#) to manage and scale your EC2 capacity.

☐ IP addresses

- Supports load balancing to VPC and on-premises resources.
- Facilitates routing to multiple IP addresses and network interfaces on the same instance.
- Offers flexibility with microservice based architectures, simplifying inter-application communication.
- Supports IPv6 targets, enabling end-to-end IPv6 communication, and IPv4-to-IPv6 NAT.

☐ Lambda function

- Facilitates routing to a single Lambda function.
- Accessible to Application Load Balancers only.

☐ Application Load Balancer

- Offers the flexibility for a Network Load Balancer to accept and route TCP requests within a specific VPC.
- Facilitates using static IP addresses and PrivateLink with an Application Load Balancer.

Target group name

alp-loadbalancer-targer-group

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](#)

VPC
Select the VPC with the instances that you want to include in the target group. Only VPCs that support the IP address type selected above are available in this list.

vpc-0b045695b9b154771
IPv4: 172.31.0.0/16

Protocol version

☒ HTTP1
Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTP/2.

☐ HTTP2
Send requests to targets using HTTP/2. Supported when the request protocol is HTTP/2 or gRPC, but gRPC-specific features are not available.

☐ gRPC
Send requests to targets using gRPC. Supported when the request protocol is gRPC.

9. Now select both instances (myLinux2Server and MyAmazonLinux2Server), then click on pending below and then click on create target group.

0 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 targets

Targets (2)

Filter targets Show only pending

Remove	Health status	Instance ID	Name	Port	State	Security groups	Zone	Private IPv4 address
X	Pending	i-058e4b2d692ff168a	myLinux2Server	80	Running	launch-wizard-3	ap-south-1a	172.31.34.157
X	Pending	i-072b5c08e6831bd84	MyAmazonLinux2Server	80	Running	launch-wizard-2	ap-south-1a	172.31.44.147

2 pending

Cancel Previous **Create target group**

10. Now select "alp-loadbalancer-targer-group" inside Listeners and routing.

Listeners and routing [Info](#)

A listener is a process that checks for connection requests using the port and protocol you configure. The rules that you define for a listener determine how the load balancer routes requests to its registered targets.

▼ Listener HTTP:80

Remove

Protocol

HTTP ▼

Port

80

1-65535

Default action

Info

Forward to

alp-loadbalancer-targer-group

HTTP ▼

⌂

Target type: Instance, IPv4

Create target group [↗](#)

Listener tags - optional

Consider adding tags to your listener. Tags enable you to categorize your AWS resources so you can more easily manage them.

Add listener tag

You can add up to 50 more tags.

Add listener

11. Finally click on “Create Load Balancer” to create Load Balancer.

Review

Review the load balancer configurations and make changes if needed. After you finish reviewing the configurations, choose **Create load balancer**.

Summary

Review and confirm your configurations. [Estimate cost](#) [↗](#)

Basic configuration [Edit](#)

assignment-alp-loadbalancer

- Internet-facing
- IPv4

Security groups [Edit](#)

- alp-security-group [sg-06db25c7dfbd7282f](#) [↗](#)

Network mapping [Edit](#)

VPC [vpc-0b045695b9b154771](#) [↗](#)

- ap-south-1a [subnet-075fd1037b0d200f9](#) [↗](#)
- ap-south-1b [subnet-070ac038629d36f6d](#) [↗](#)
- ap-south-1c [subnet-0b7c23d895ea29349](#) [↗](#)

Listeners and routing [Edit](#)

- HTTP:80 defaults to [alp-loadbalancer-targer-group](#) [↗](#)

Add-on services [Edit](#)

None

Tags [Edit](#)

None

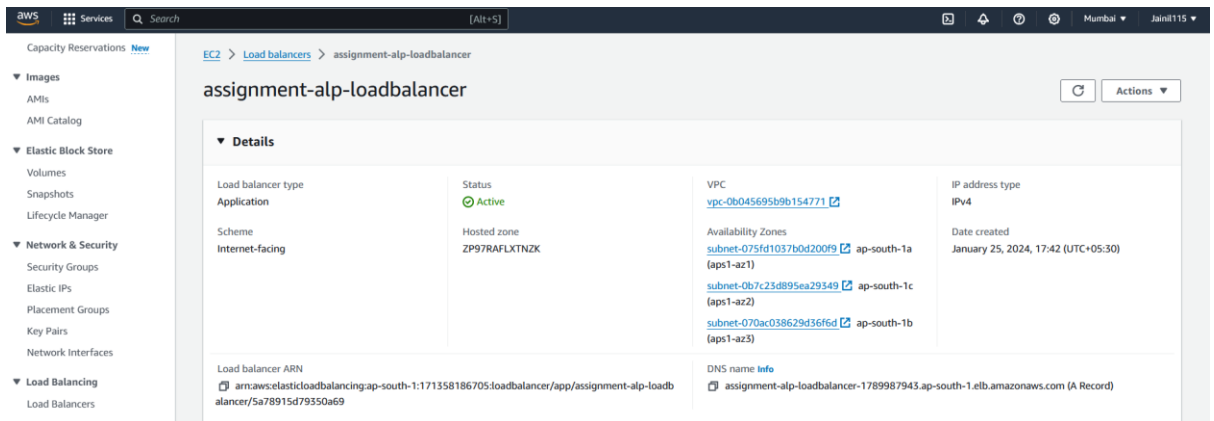
Attributes

ⓘ Certain default attributes will be applied to your load balancer. You can view and edit them after creating the load balancer.

Cancel

Create load balancer

12. To verify that the load balancer is working go to Load Balancer List and select the “assignment-alp-loadbalancer”, Now you will be able to see the DNS name: “assignment-alp-loadbalancer-1789987943.ap-south-1.elb.amazonaws.com”.



13. Now enter the DNS name in two different browser tabs. Both webpage after some refreshing should have different IP Addresses:

