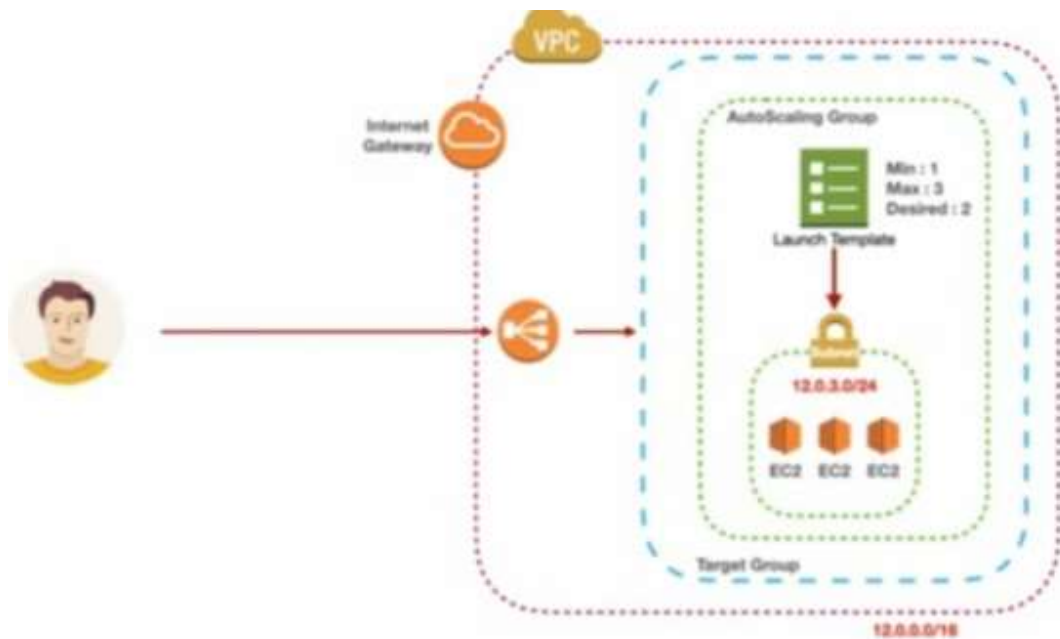


# APPLICATION LOAD BALANCER



**Step 1 :** Create a VPC (my-vpc) .

VPC dashboard X

EC2 Global View

Filter by VPC:  
Select a VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

**Your VPCs (2)** Info

Search

Actions Create VPC

<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
<input type="checkbox"/>	-	<a href="#">vpc-07aebdae1b1ba559b</a>	Available	172.31.0.0/16	-
<input type="checkbox"/>	my-vpc	<a href="#">vpc-09e881eb58f5dbf50</a>	Available	10.0.0.0/24	-

Select a VPC above

**Step 2 :** Now create an internet gateway (my-ingw-1) and attach to vpc (my-vpc) .

VPC dashboard X

EC2 Global View

Filter by VPC:  
Select a VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

**Internet gateways (2)** Info

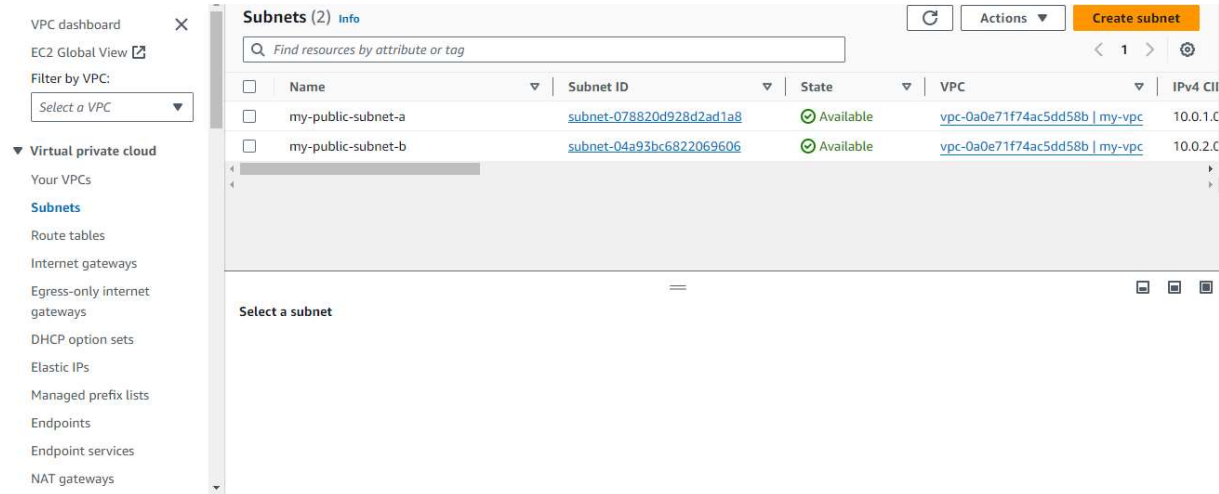
Search

Actions Create internet gateway

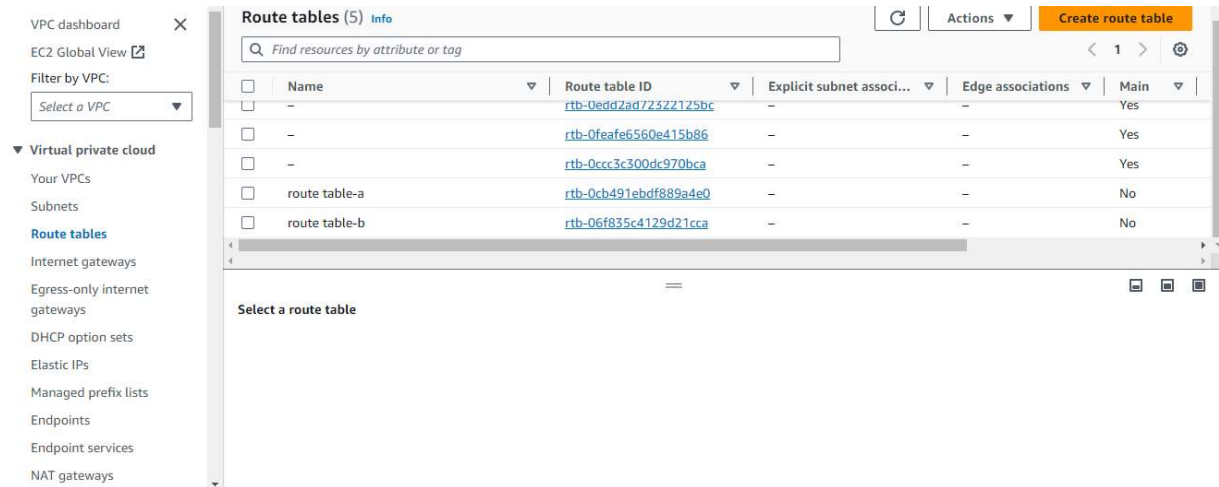
<input type="checkbox"/>	Name	Internet gateway ID	State	VPC ID
<input type="checkbox"/>	-	<a href="#">igw-0cd4543c796aceb94</a>	Attached	<a href="#">vpc-07aebdae1b1ba559b</a>
<input type="checkbox"/>	my-igw-1	<a href="#">igw-0608cdb36f8f3532c</a>	Attached	<a href="#">vpc-09e881eb58f5dbf50   my-vpc</a>

Select an internet gateway above

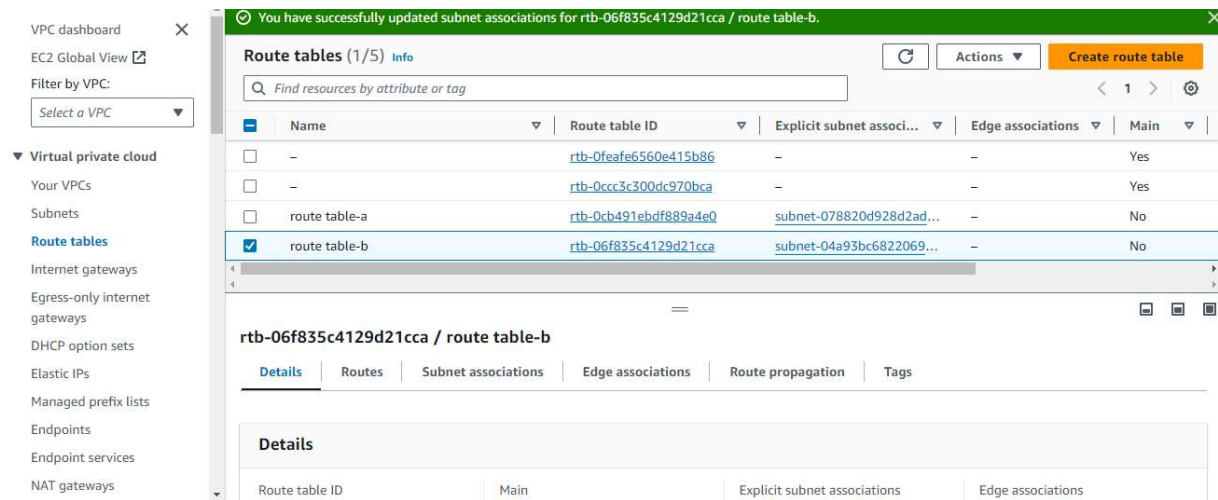
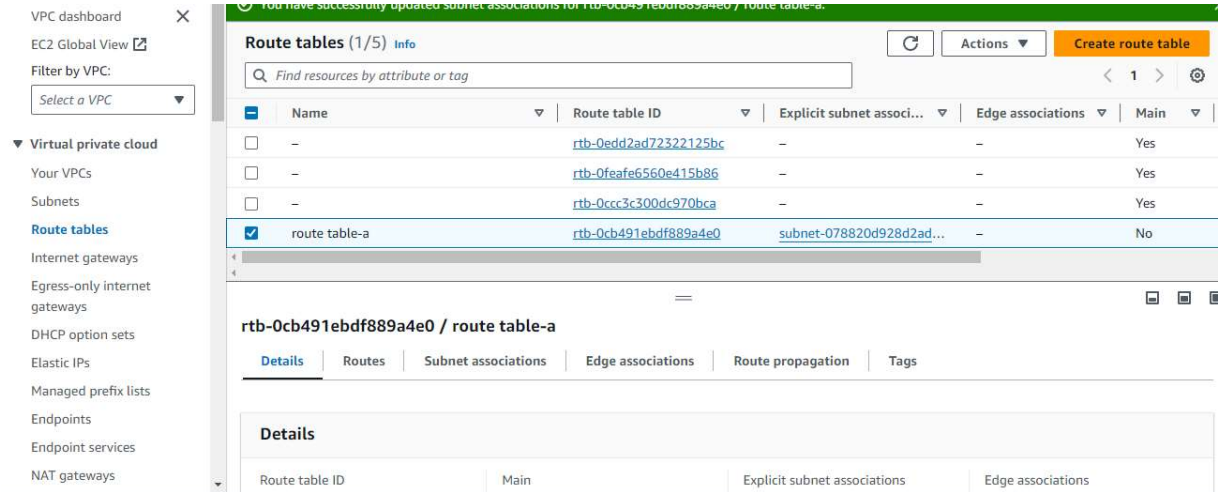
**Step 3 :** Create two public subnets  
(my-public-subnet-a,my-public-subnet-b) with two different  
availability zones.



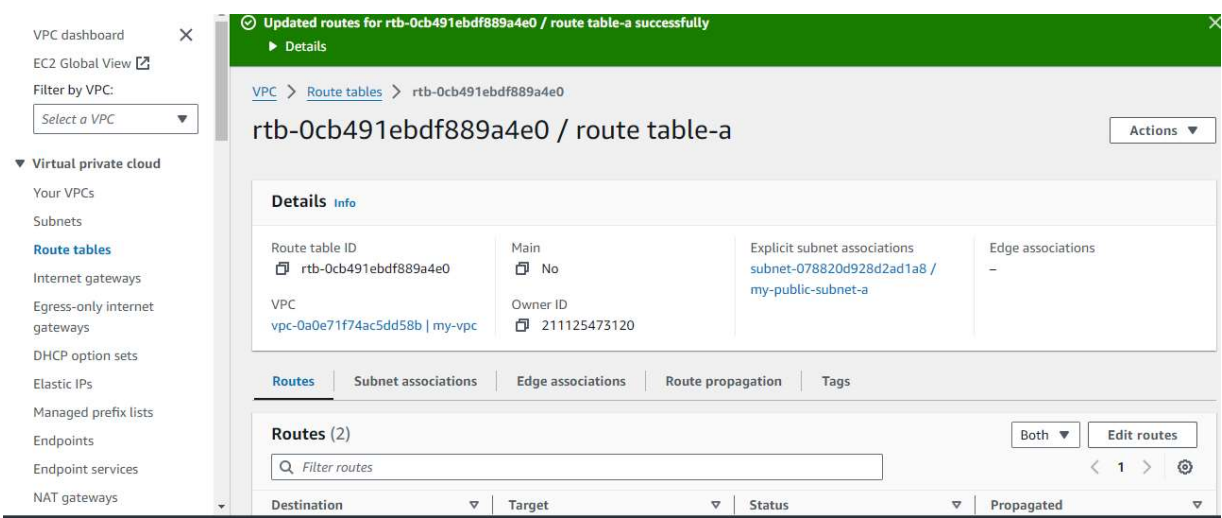
**Step 4 :** Now create two route tables (route table-a,route table-b) .



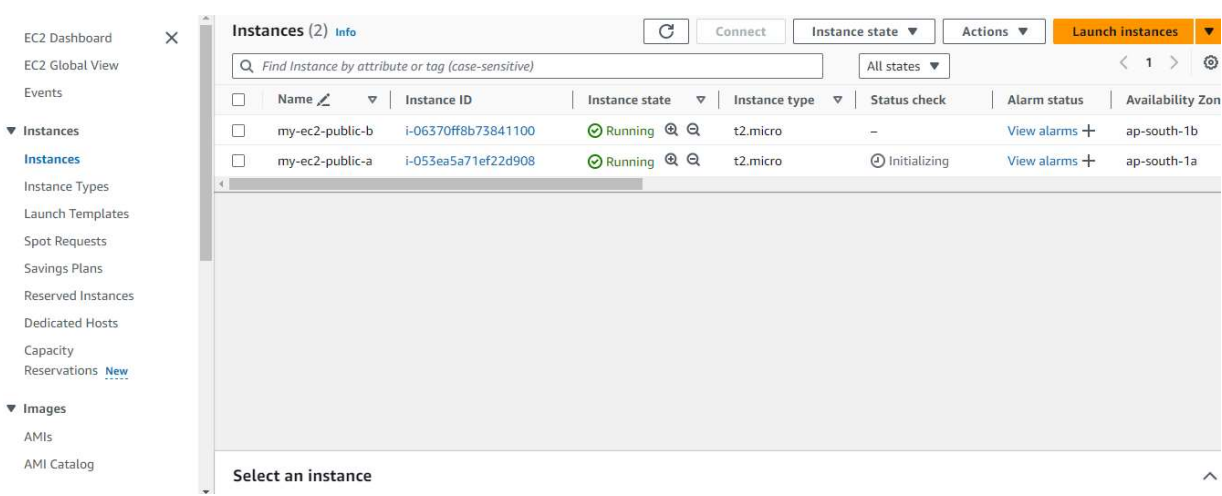
**Step 5 :** Now connect route tables to subnets for configure routing (my-public-subnet-a to route table-a) (my-public-subnet-b to route table-b) and click on save association.



**Step 6 :** Now attach the route tables to the internet gateway for accessing the internet connection for the public subnets.



**Step 7 :** Now create two ec2 instances and connect to subnets,create ec2 instances inside the subnets .



**Step 8 :** Now create one target group, we are creating a target group inside the subnet .

- 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

my-tg-a

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.

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.

Health checks

The associated load balancer periodically sends requests, per the settings below, to the registered targets to test their status.

Health check protocol

HTTP

Health check path

Use the default path of "/" to perform health checks on the root, or specify a custom path if preferred.

/

Up to 1024 characters allowed.

Advanced health check settings

Include as pending below

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

Review targets

Targets (2)

Remove all pending

Filter targets

Show only pending

< 1 >

Instance ID	Name	Port	State	Security groups	Zone	Private
i-053ea5a71ef22d908	my-ec2-public-a	80	Running	launch-wizard-1	ap-south-1a	10.0.1.0
i-06370ff8b73841100	my-ec2-public-b	80	Running	launch-wizard-2	ap-south-1b	10.0.2.0

2 pending

Cancel

Previous

Create target group

https://docs.google.com/document/d/1MuMA9hbVHckVixleXPQzgjNrweg2hc18PSHna7gLXKo/edit

7/13

**Step 9 :** Now create a security group so that the application load balancer can be accessed from the internet .

Security Groups (5) Info

Actions

Export security groups to CSV

Create security group

Find resources by attribute or tag

	Name	Security group ID	Security group name	VPC ID
<input type="checkbox"/>	-	<a href="#">sg-04636d4bdafa12ba6</a>	my-sg-a	<a href="#">vpc-0a0e71f74ac5dd58b</a>
<input type="checkbox"/>	-	<a href="#">sg-01e2d1e49851873a1</a>	launch-wizard-1	<a href="#">vpc-0a0e71f74ac5dd58b</a>
<input type="checkbox"/>	-	<a href="#">sg-0f6d121904ffad7e8</a>	default	<a href="#">vpc-07aebdae1b1ba559b</a>

Successfully created the target group: my-tg. Anomaly detection is automatically applied to all registered targets. Results can be viewed in the Targets tab.

EC2 > Target groups > my-tg

my-tg

Actions

Introducing Automatic Target Weights (ATW) to increase application availability

Automatic Target Weights is achieved by turning on anomaly mitigation, which provides responsive, dynamic distribution of traffic to targets based on anomaly detection results. All HTTP/HTTPS target groups now include anomaly detection by default. [Learn more](#)

Details

arn:aws:elasticloadbalancing:ap-south-1:211125473120:targetgroup/my-tg/3611e2302fcc836c

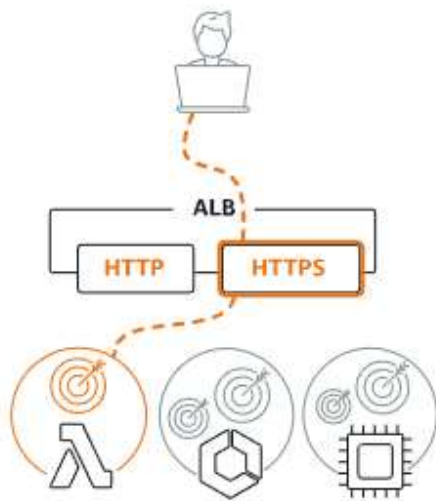
Target type	Protocol : Port	Protocol version	VPC
Instance	HTTP: 80	HTTP1	<a href="#">vpc-0a0e71f74ac5dd58b</a>
IP address type	Load balancer		
IPv4	<a href="#">None associated</a>		



## AFTER CREATING SECURITY GROUP CREATE A LOAD BALANCER.

**Step 10 :** Now create a load balancer (Application load balancer).

### Application Load Balancer [Info](#)



Choose an Application Load Balancer when you need a flexible feature set for your applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide

Basic configuration

Load balancer name

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

my-alb-ec2

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
- Includes only IPv4 addresses.
- ☐ Dualstack
- Includes IPv4 and IPv6 addresses.

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](#).

my-vpc

vpc-0a0e71f74ac5dd58b

IPv4 VPC CIDR: 10.0.0.0/16

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-078820d928d2ad1a8

my-public-subnet-a

IPv4 address

Assigned by AWS
- ☒ ap-south-1b (aps1-az3)

Subnet

subnet-04a93bc6822069606

my-public-subnet-b

IPv4 address

Assigned by AWS

You have to give two subnets for application load balancer with two different availability zones.

**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

my-sg  
sg-032cfa16493a37a10 VPC: vpc-0a0e71f74ac5dd58b

default  
sg-046dc4834f26b3f1d VPC: vpc-0a0e71f74ac5dd58b

Select two security groups .

**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 traffic is forwarded to its registered targets.

▼ Listener HTTP:80

Protocol Port Default action [Info](#)

HTTP : 80  
1-65535

Forward to my-tg  
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](#)


In listeners and routing you have to select a target group .

🟢 **Successfully created load balancer: my-alb-ec2**


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-alb-ec2

## my-alb-ec2



Actions ▾



**Introducing resource map for Application Load Balancers**

Resource map is a visual representation of the relationships between load balancer resources and provides the ability to view, explore, and troubleshoot the architecture of your load balancer. Resource map can be viewed on the load balancers detail page. Share feedback to help us improve your experience.


Give feedback

✕

▼ Details

Load balancer type	Status	VPC	IP address type
Application	 Provisioning	<a href="#">vpc-0a0e71f74ac5dd58b</a> 	IPv4
Scheme	Hosted zone	Availability Zones	Date created


**Load balancers (1)**





Actions ▾

Create load balancer ▾

Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.

< 1 > 

<input type="checkbox"/>	Name ▾	DNS name ▾	State ▾	VPC ID ▾	Availability Zones
<input type="checkbox"/>	<a href="#">my-alb-ec2</a>	 my-alb-ec2-303814654.ap...	 Active	vpc-0a0e71f74ac5dd58b	<a href="#">2 Availability Zones</a>

**SUCCESSFULLY CREATED LOAD BALANCER WITH TWO SUBNETS ,VPC,SECURITY GROUP AND TARGET GROUP .**

