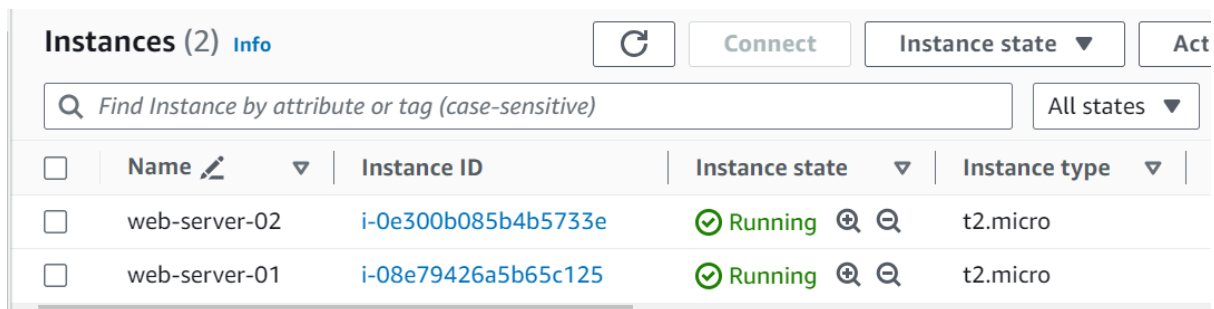


ALB (Application load balancer)

1. Create EC2 Instances

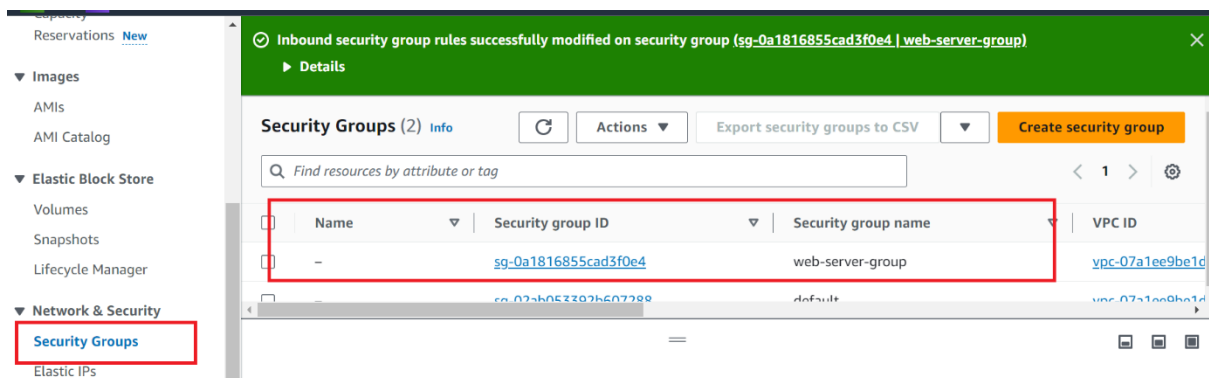
Launch at least two EC2 instances with web server software installed (e.g., Apache, Nginx)



The screenshot shows the 'Instances (2)' page in the AWS Management Console. At the top, there are buttons for 'Refresh', 'Connect', 'Instance state', and 'Actions'. Below these is a search bar with the placeholder text 'Find Instance by attribute or tag (case-sensitive)' and a dropdown for 'All states'. The main table lists two instances:

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type
<input type="checkbox"/>	web-server-02	i-0e300b085b4b5733e	Running	t2.micro
<input type="checkbox"/>	web-server-01	i-08e79426a5b65c125	Running	t2.micro

Ensure they belong to the same security group allowing traffic on the web server's port (e.g., port 80 for HTTP).



The screenshot shows the 'Security Groups (2)' page in the AWS Management Console. A green notification banner at the top states 'Inbound security group rules successfully modified on security group (sg-0a1816855cad3f0e4 | web-server-group)'. The left sidebar shows the 'Network & Security' section with 'Security Groups' highlighted. The main table lists security groups:

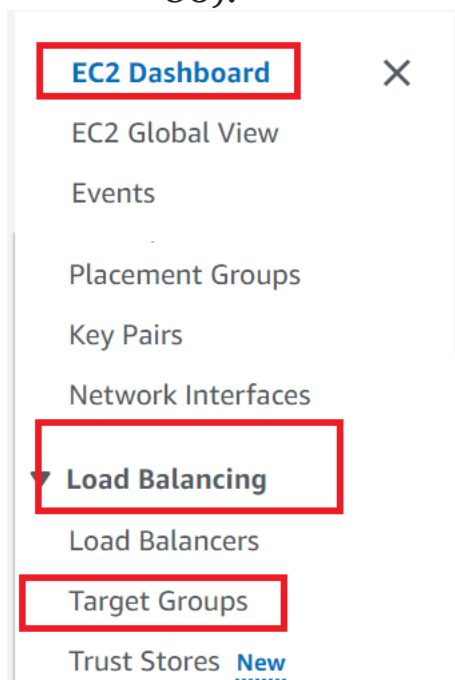
<input type="checkbox"/>	Name	Security group ID	Security group name	VPC ID
<input type="checkbox"/>	-	sg-0a1816855cad3f0e4	web-server-group	vpc-07a1ee9be1d
<input type="checkbox"/>	-	sg-02ab053307b607398	default	vpc-07a1ee9be1d

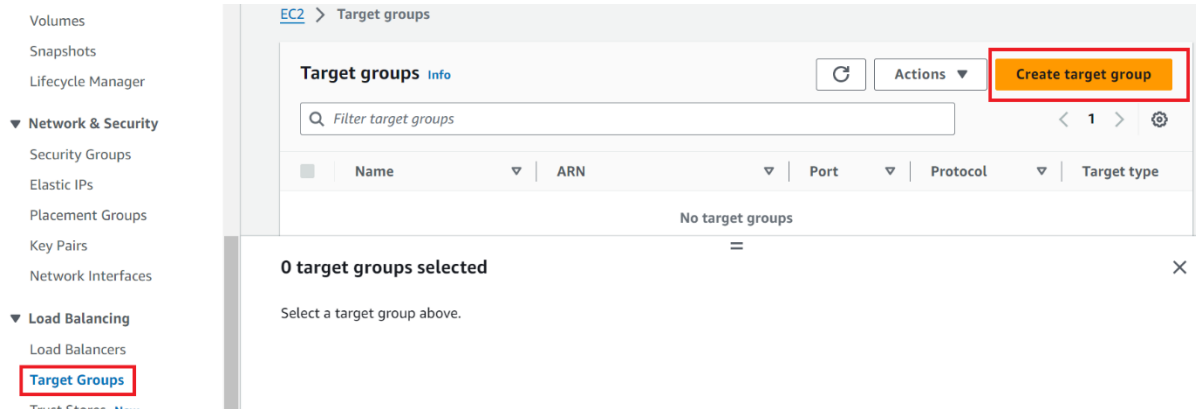
Check Inbound Rules

Inbound rules Outbound rules Tags							
Inbound rules (2)							
<div> <input type="text" value="Search"/> < 1 > </div>							
rule...	IP version	Type	Protocol	Port range			
y38a5...	IPv4	HTTP	TCP	80			
i4ba6...	IPv4	SSH	TCP	22			

Create a Target Group

- In the AWS Management Console, navigate to the EC2 service.
- Create a target group, specifying the target type (e.g., instances) and the protocol and port (e.g., HTTP on port 80).





Provide Target group name

Basic configuration

Settings in this section can't be changed after the target group is created.

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.

Target group name

Albbalancer

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

Select VPC

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.

my-vpc-01
vpc-07a1ee9be1dc0377e
IPv4 VPC CIDR: 10.0.0.0/16

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.

Press next

► Advanced health check settings

Attributes

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

► Tags - optional

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

Cancel

Next

Create Target Group

Available instances (2/2)

Filter instances

<input checked="" type="checkbox"/>	Instance ID	Name	State	Security group
<input checked="" type="checkbox"/>	i-08e79426a5b65c125	web-server-01	Running	web-server-gr
<input checked="" type="checkbox"/>	i-0e300b085b4b5733e	web-server-02	Running	web-server-gr

Targets (0)

Remove all pending

Filter targets

Show only pending

< 1 >

Instance ID	Name	Port	State	Security groups	Zone	Private IPv4 address
No instances added yet						
Specify instances above, or leave the group empty if you prefer to add targets later.						

0 pending

Cancel

Previous

Create target group

Register EC2 Instances

Register the EC2 instances you created in the target group.

IP address type

IPv4

Load balancer

None associated

0

Total targets

0

Healthy

0

Unhealthy

0

Unused

0

Initial

0

Draining

0 Anomalous

Targets

Monitoring

Health checks

Attributes

Tags

Registered targets (0)

Info

Anomaly mitigation: Not applicable

Refresh

Deregister

Register targets

Target groups route requests to individual registered targets using the protocol and port number specified. Health checks are performed on all registered targets according to the target group's health check settings. Anomaly detection is automatically applied to HTTP/HTTPS target groups with at least 3 healthy targets.

Register targets

Select instances, specify ports, and add the instances to the list of pending targets. Repeat to add additional combinations of instances and ports to the list of pending targets. Once you are satisfied with your selections, click Register pending targets.

Available instances (2/2)

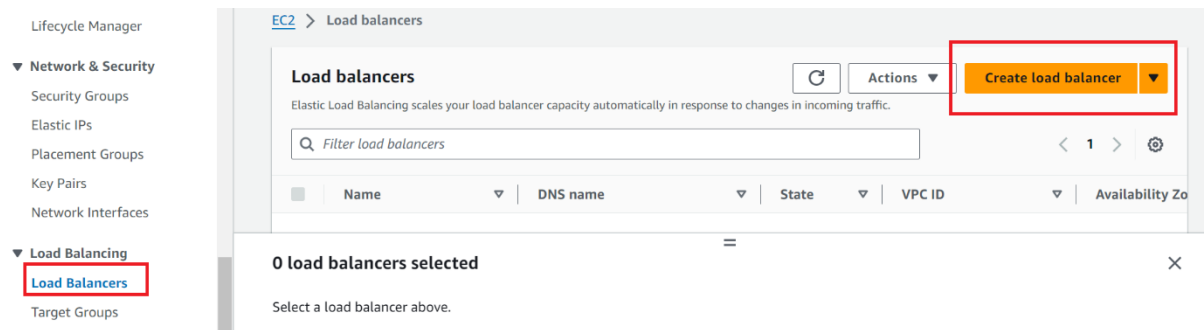
Filter instances

< 1 >

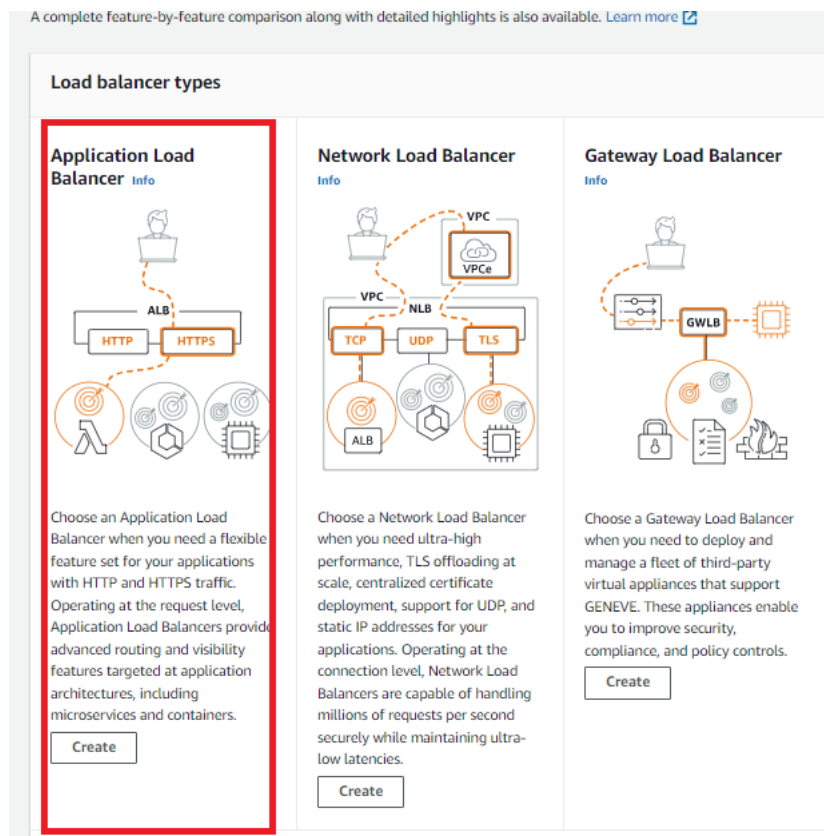
<input checked="" type="checkbox"/>	Instance ID	Name	State	Security groups	Zone
<input checked="" type="checkbox"/>	i-08e79426a5b65c125	web-server-01	Running	web-server-group	us-east-1
<input checked="" type="checkbox"/>	i-0e300b085b4b5733e	web-server-02	Running	web-server-group	us-east-1

Create an Application Load Balancer (ALB)

- In the AWS Management Console, navigate to the EC2 service.



Create an Application Load Balancer (ALB) and configure listeners (e.g., HTTP on port 80).



Basic configuration

Load balancer name

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

amit-alb

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.

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.

☒ us-east-1a (use1-az4)

Subnet

subnet-01d2b0a2aec8fb881

my-subnet-02

IPv4 address

Assigned by AWS

☒ us-east-1c (use1-az1)

Subnet

subnet-02f897f7ac6267e6a

my-subnet-01

IPv4 address

Assigned by AWS

Select security group, which ec2 is using

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

web-server-group

sg-0a1816855cad3f0e4 VPC: vpc-07a1ee9be1dc0377e

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

Port

Default action [Info](#)

Forward to

Albbalancer

Target type: Instance, IPv4

HTTP ▼

⌂

HTTP ▼

:

80

1-65535

[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.

Create load balancer

AWS WAF: None

AWS Global Accelerator: None

Attributes

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

Creation workflow and status

► Server-side tasks and status

After completing and submitting the above steps, all server-side tasks and their statuses become available for monitoring.

Cancel

Create load balancer

EC2 > Load balancers

Load balancers (1)

⌂ Actions ▼ Create load balancer ▼

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

🔍 Filter load balancers

< 1 > ⚙

<input type="checkbox"/>	Name	DNS name	State	VPC ID	Availability Zone
<input type="checkbox"/>	amitalb	amitalb-181257612.us-ea...	Active	vpc-07a1ee9be1dc037...	2 Availability Zon