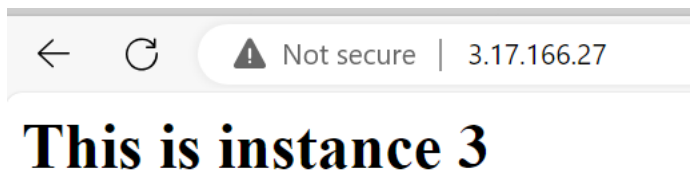


Chapter-1:

Create all the ec2 instances



Chapter 2:

Goto ec2-load balancer

Dedicated Hosts

Capacity Reservations

[New](#)

▼ **Images**

AMIs

AMI Catalog

▼ **Elastic Block Store**

Volumes

Snapshots

Lifecycle Manager

▼ **Network & Security**

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

▼ **Load Balancing**

[Load Balancers](#)

Target Groups

Trust Stores [New](#)

▼ **Auto Scaling**

Auto Scaling Groups

**Introducing resource map for Application Load Balancers**[Give feedback](#)

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.

Load balancers

Actions ▾

[Create load balancer](#) ▾

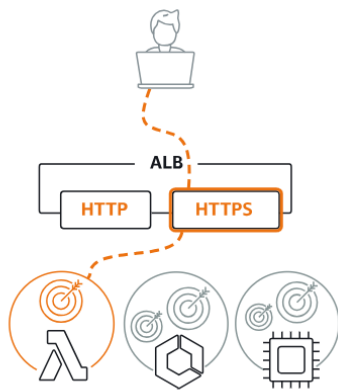
Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.

< 1 > ⚙

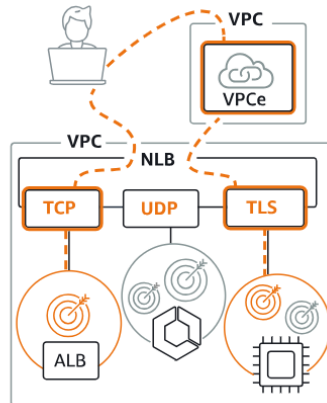
	Name ▾	DNS name ▾	State ▾	VPC ID ▾	Availability Zones ▾
--	--------	------------	---------	----------	----------------------

0 load balancers selected

Select a load balancer above.

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 advanced routing and visibility features targeted at application architectures, including microservices and containers.

[Create](#)**Network Load Balancer** [Info](#)

Choose a Network Load Balancer when you need ultra-high performance, TLS offloading at scale, centralized certificate deployment, support for UDP, and static IP addresses for your applications. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second securely while maintaining ultra-low latencies.

[Create](#)**Gateway Load Balancer** [Info](#)

Choose a Gateway Load Balancer when you need to deploy and manage a fleet of third-party virtual appliances that support GENEVE. These appliances enable you to improve security, compliance, and policy controls.

[Create](#)

Create Network Load Balancer [Info](#)

The Network Load Balancer distributes incoming TCP and UDP traffic across multiple targets such as Amazon EC2 instances, microservices, and containers. When a load balancer receives a connection request, it selects a target based on the protocol and port that are specified in the listener configuration, and the routing is based on the default action.

► How Network Load Balancers work

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

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

I have created ec2 instances in different subnet -differentnt regions-of same vpc

Network mapping [Info](#)

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

VPC

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](#).

demo-nlb-vpc
vpc-03b065a48f328ac52
IPv4: 11.0.0.0/16

↻

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. Zones that are not supported by the load balancer or VPC can't be selected. Subnets can be added, but not removed, once a load balancer is created.

☒ us-east-2a (use2-az1)

Subnet

subnet-0aaae2fea92a782b0

public-subnet1-demo-nlb-2a ▼

IPv4 address

Assigned by AWS ▼

☒ us-east-2b (use2-az2)

Subnet

subnet-06cb144f7c7ac8dbd

public-subnet2-demo-nlb-2b ▼

IPv4 address

Assigned by AWS ▼

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 - recommended

Security groups support on Network Load Balancers can only be enabled at creation by including at least one security group. You can change security groups after creation. The security groups for your load balancer must allow it to communicate with registered targets on both the listener port and the health check port. For PrivateLink Network Load Balancers, security group rules are enforced on PrivateLink traffic; however, you can turn off inbound rule evaluation after creation within the load balancer's Security tab or using the API.

Select up to 5 security groups

default

sg-02674fb32b1c16a20 VPC: vpc-03b065a48f328ac52

Create target group

[EC2](#) > [Target groups](#) > Create target group

Step 1

Specify group details

Step 2

Register targets

Specify group details

Your load balancer routes requests to the targets in a target group and performs health checks on the targets.

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.

☐ Lambda function

Target group name

tg-demo-nlb

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

TCP

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.

demo-nlb-vpc

vpc-03b065a48f328ac52

IPv4: 11.0.0.0/16

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

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

[EC2](#) > [Target groups](#) > Create target group

Step 1

[Specify group details](#)

Step 2




Register targets

Register targets

This is an optional step to create a target group. However, to ensure that your load balancer routes traffic to this target group you must register your targets.

Available instances (3/3)

< 1 > 

<input checked="" type="checkbox"/>	Instance ID	Name	State	Security groups
<input checked="" type="checkbox"/>	i-05abda8bb0533e66d	machine-3-2a	 Running	launch-wizard-3
<input checked="" type="checkbox"/>	i-029199f9799b40266	machine-2-2b	 Running	launch-wizard-2
<input checked="" type="checkbox"/>	i-0f2ae1807954edac6	machine-1-2a	 Running	launch-wizard-1

3 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

Review targets

Targets (3)

Remove all pending

Q Filter targets

Show only pending

< 1 > ⚙

Instance ID	Name	Port	State	Security groups	Zone	Private IPv4
i-05abda8bb0533e66d	machine-3-2a	80	Running	launch-wizard-3	us-east-2a	11.0.1.21
i-029199f9799b40266	machine-2-2b	80	Running	launch-wizard-2	us-east-2b	11.0.2.80
i-0f2ae1807954edac6	machine-1-2a	80	Running	launch-wizard-1	us-east-2a	11.0.1.129

3 pending

CancelPreviousCreate target group

TargetsMonitoringHealth checksAttributesTags

Registered targets (3)

⌂DeregisterRegister targets

Q Filter targets

< 1 > ⚙

<input type="checkbox"/>	Instance ID	Name	Port	Zone	Health sta...	Health statu...	Launch time
<input type="checkbox"/>	i-05abda8bb...	machine-3-2a	80	us-east-2a	Healthy		February 19, ...
<input type="checkbox"/>	i-029199f97...	machine-2-2b	80	us-east-2b	Healthy		February 19, ...
<input type="checkbox"/>	i-0f2ae1807...	machine-1-2a	80	us-east-2a	Healthy		February 19, ...

Wait for the status to be active

Next

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 TCP:80

Remove

ProtocolPortDefault action

TCP:80Forward totg-demo-nlbTCP

1-65535Target 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

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 Zones
<input type="checkbox"/>	nlb-demo	nlb-demo-674fa223f7c78...	Provisioning..	vpc-03b065a48f328ac...	2 Availability Zones

Wait for it to be active from provisioning

EC2 > Load balancers

Introducing resource map for Application Load Balancers

Give feedback

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Load balancers (1/1)

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 checked="" type="checkbox"/>	Name	DNS name	State	VPC ID	Availability Zones
<input checked="" type="checkbox"/>	nlb-demo	nlb-demo-674fa223f7c78...	Active	vpc-03b065a48f328ac...	2 Availability Zones

Add the security after everything:

Load balancers (1/1)

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 checked="" type="checkbox"/>	Name	DNS name	State	VPC ID	Availability Zones
<input checked="" type="checkbox"/>	nlb-demo	nlb-demo-674fa223f7c78...	Active	vpc-03b065a48f328ac...	2 Availability Zones

Load balancer: nlb-demo

Details

Listeners

Network mapping

Security

Monitoring

Integrations

Attributes

Tags

Security

Edit

A security group is a set of firewall rules that control the traffic to your load balancer.

Enforce inbound rules on PrivateLink traffic

On

Security groups (1)

[EC2](#) > [Security Groups](#) > sg-02674fb32b1c16a20 - default

sg-02674fb32b1c16a20 - default

Actions ▾

Details

Security group name 📄 default	Security group ID 📄 sg-02674fb32b1c16a20	Description 📄 default VPC security group	VPC ID 📄 vpc-03b065a48f328ac52 🔗
Owner 📄 389363067735	Inbound rules count 2 Permission entries	Outbound rules count 1 Permission entry	

Inbound rules

Outbound rules

Tags

Inbound rules (2)

🔄

Manage tags

Edit inbound rules

🔍 Search

< 1 > ⚙️

Add the http & anywhere

Info

Info

sg-0d48a8f61c839eabe

HTTP ▾

TCP

80

Cus... ▾

🔍

Delete

0.0.0.0/0 ✕

Output :

Copy and paste the dns to new browser

← ↻ ⚠️ Not secure | nlb-demo-674fa223f7c78e61.elb.us-east-2.amazonaws.com

This is instance 3



Not secure | nlb-demo-674fa223f7c78e61.elb.us-east-2.amazonaws.com

this is instance 1

Therefore the network is distributed to different instances. (when copy pasted the DNS each time)