

# Amazon-ELB 4: Create CLB & Migrate into ALB Task1

## Problem Statement:

You work for XYZ Corporation that uses on premise solutions and some limited number of systems. With the increase in requests in their application, the load also increases. So, to handle the load the corporation has to buy more systems almost on a regular basis. Realizing the need to cut down the expenses on systems, they decided to move their infrastructure to AWS.

## Tasks To Be Performed:

1. Create a Classic Load Balancer and register 3 EC2 instances with different web pages running in them.
2. Migrate the Classic Load Balancer into an Application Load Balancer.

## Solution:

1. Create a Classic Load Balancer and register 3 EC2 instances with different web pages running in them.
  - First create 3 EC2 , and then go to Load balancer dashboard .

The screenshot shows the AWS Management Console interface for launching an EC2 instance. The breadcrumb navigation at the top indicates the path: EC2 > Instances > Launch an instance. The main heading is 'Launch an instance' with an 'Info' link. Below this, a brief description of Amazon EC2 is provided. The form is divided into several sections: 'Name and tags' with a text input field containing 'Test' and an 'Add additional tags' button; 'Application and OS Images (Amazon Machine Image)' with a search bar and a 'Quick Start' tab; and a 'Summary' panel on the right. The 'Summary' panel includes a 'Number of instances' dropdown set to 3, a 'Software Image (AMI)' dropdown, a 'Virtual server type (instance type)' dropdown set to 't2.micro', and a 'Firewall (security group)' dropdown. At the bottom right, there are 'Cancel' and 'Launch instance' buttons, with the latter being highlighted in orange. A 'Preview code' link is also visible at the bottom right.

FSx

EC2

Route 53

CloudWatch

IAM

VPC

DynamoDB

S3

ElastiCache

EFS

RDS

Amazon Redshift

Athena

AWS Glue

CloudFormation

AWS Auto Scal

Search

[Alt+S]

N. Virginia

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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

Instances (3) Info

Last updated 1 minute ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

All states

< 1 >

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
<input type="checkbox"/>	Test1	i-08f6a65f58bf8eb2d	Running	t2.micro	Initializing	View alarms +	us-east-1d
<input type="checkbox"/>	Test2	i-0f645d95641bbb34d	Running	t2.micro	Initializing	View alarms +	us-east-1d
<input type="checkbox"/>	Test3	i-0c182eea9d35f00ee	Running	t2.micro	Initializing	View alarms +	us-east-1d

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VPC

DynamoDB

S3

ElastiCache

EFS

RDS

Am

EC2 > Load balancers > Compare and select load balancer type

Create

latencies.

Create

▼ Classic Load Balancer - previous generation

Classic Load Balancer Info

CLB

HTTP

HTTPS

TCP

SSL

Choose a Classic Load Balancer when you have an existing application running in network.

Create

aws

Search

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FSx

EC2

Route 53

CloudWatch

IAM

VPC

DynamoDB

S3

ElastiCache

EFS

RDS

Amazon Redshift

Athena

AWS Glue

CloudFormation

AWS Auto Scal

EC2 > Load balancers > Create Classic Load Balancer

Create Classic Load Balancer Info

The Classic Load Balancer distributes incoming application traffic across multiple EC2 instance targets in multiple Availability Zones. This increases the fault tolerance of your applications. Elastic Load Balancing detects unhealthy instances and routes traffic only to healthy instances.

► How Classic 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.

CLB

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

- Serves Internet-facing traffic.
- Has public IP addresses.
- DNS name is publicly resolvable.
- Requires a public subnet.

☐ Internal

- Serves internal traffic.
- Has private IP addresses.
- DNS name is not publicly resolvable.

## Network mapping Info

The load balancer routes traffic to targets in the selected subnets, and in accordance with your network 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 available for selection. The selected VPC must have a CIDR block with at least a /27 bitmask and at least 8 free IP addresses. [Learn more](#)

vpc-067409b5122bc64b5  
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 subnets that are supported by the load balancer or the VPC are not available for selection.

### Availability Zones

☒ **us-east-1a (use1-az4)**

#### Subnet

subnet-0fdc5ebe24470e0f6  
IPv4 subnet CIDR: 172.31.16.0/20

#### IPv4 address

Assigned by AWS

☒ **us-east-1b (use1-az6)**

#### Subnet

subnet-0a111473054703000

### Subnet

subnet-0b7bea0ab37ddb90c  
IPv4 subnet CIDR: 172.31.0.0/20

### IPv4 address

Assigned by AWS

☒ **us-east-1d (use1-az2)**

#### Subnet

subnet-0731c57f70213af26  
IPv4 subnet CIDR: 172.31.80.0/20

### IPv4 address

Assigned by AWS

☒ **us-east-1e (use1-az3)**

#### Subnet

subnet-0386fb04354750ec2  
IPv4 subnet CIDR: 172.31.48.0/20

### IPv4 address

Assigned by AWS

☒ **us-east-1f (use1-az5)**

#### Subnet

## Security groups Info

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

### Security groups

Select up to 5 security groups

launch-wizard-1  
sg-00aa69cedd5194b19 VPC: vpc-067409b5122bc64b5

▼

Listener HTTP:80

Instance HTTP:80

Listener protocol

Listener port

HTTP

:

80

1-65535

Instance protocol

Instance port

HTTP

:

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 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

Ping port

HTTP

:

80

1-65535

Ping path

/index.html

►

Advanced health check settings

Instances (0)

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

< 1 > ⚙

Instance ID	Name	State	Security groups	Zone	Public IP
No instances added					

Add instances

Select EC2 instances to register to your load balancer. Requests will be routed to registered instances that meet the health check requirements. For maximum fault tolerance, we recommend maintaining approximately equivalent numbers of instances in each Availability Zone enabled for the load balancer. If demand on your instances changes, you can register or deregister instances without disrupting the flow of requests to your application. [Learn more](#)

VPC  
vpc-067409b5122bc64b5

Available instances (3/3)

Filter available instances

< 1 > ⚙

<input checked="" type="checkbox"/>	Instance ID	Name	State	Security groups	Zone
<input checked="" type="checkbox"/>	i-08f6a65f58bf8eb2d	Test1	Running	launch-wizard-52	us-east-1d
<input checked="" type="checkbox"/>	i-0f645d95641bbb34d	Test2	Running	launch-wizard-52	us-east-1d
<input checked="" type="checkbox"/>	i-0c182eea9d35f00ee	Test3	Running	launch-wizard-52	us-east-1d

Cancel

Confirm

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 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 Zone. Classic Load Balancers created with the API or CLI have cross-zone load balancing enabled by default. After you create a Classic Load Balancer, you can enable or disable cross-zone load balancing at any time.

- ☒ Enable connection draining
- Applicable to instances that are deregistering, this feature allows existing connections to complete (during a specified draining interval) before reporting the instance as deregistered.

Timeout (draining interval)

The maximum time for the load balancer to allow existing connections to complete. When the maximum time limit is reached, the load balancer forcibly closes any remaining connections.

20

seconds

Valid values: 1-3600 (integers only)

	<ul style="list-style-type: none"><li><a href="#">subnet-0fdc5ebe24470e0f6</a></li><li><a href="#">us-east-1b</a></li><li><a href="#">subnet-08111d730b4302696</a></li><li><a href="#">us-east-1c</a></li><li><a href="#">subnet-0b7bea0ab37ddb90c</a></li><li><a href="#">us-east-1d</a></li><li><a href="#">subnet-0731c57f70213af26</a></li><li><a href="#">us-east-1e</a></li><li><a href="#">subnet-0386fb04354750ec2</a></li><li><a href="#">us-east-1f</a></li><li><a href="#">subnet-0737c36ea3aee09ad</a></li></ul>		
<b>Health checks</b> <a href="#">Edit</a>	<b>Instances</b> <a href="#">Edit</a>	<b>Attributes</b> <a href="#">Edit</a>	<b>Tags</b> <a href="#">Edit</a>
80/index.html  Timeout: 2 seconds Interval: 5 seconds Unhealthy threshold: 2 Healthy threshold: 10	3 instances added <ul style="list-style-type: none"><li>3 instances in us-east-1d</li></ul>	<ul style="list-style-type: none"><li>Cross-zone load balancing: On</li><li>Connection draining: On</li><li>Connection draining timeout: 20 seconds</li></ul>	None

EC2 > Load balancers > CLB

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

Settings

CLB

▼ Details

Load balancer type

Classic

Scheme

Internet-facing

Status

0 of 3 instances in service

Hosted zone

Z35SXDOTRQ7X7K

VPC

[vpc-067409b5122bc64b5](#)

Availability Zones

[subnet-0b7bea0ab37ddb90c](#) us-east-1c (use1-az1)

[subnet-0737c36ea3aee09ad](#) us-east-1f (use1-az5)

[subnet-0731c57f70213af26](#) us-east-1d (use1-az2)

[subnet-08111d730b4302696](#) us-east-1b (use1-az6)

[subnet-0fdc5ebe24470e0f6](#) us-east-1a (use1-az4)

[subnet-0386fb04354750ec2](#) us-east-1e (use1-az3)

Date created

December 7, 2024, 16:27 (UTC+05:30)

Cancel

Create load balancer

## 2.Migrate the Classic Load Balancer into an Application Load Balancer.

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CloudWatch

IAM

VPC

DynamoDB

S3

ElastiCache

EFS

RDS

Amazon Redshift

Athena

AWS Glue

CloudFormation

AWS Auto Scal

N. Virginia

amal225

CLB

subnets

[subnet-08111d730b4302696](#)

us-east-1b (use1-az6)

[subnet-0fdc5ebe24470e0f6](#)

us-east-1a (use1-az4)

[subnet-0386fb04354750ec2](#)

us-east-1e (use1-az3)

DNS name [Info](#)

[CLB-149849799.us-east-1.elb.amazonaws.com](#) (A Record)

ⓘ

This Classic Load Balancer can be migrated to a next generation load balancer. Migration wizard uses your load balancer's current configurations to create a new load balancer. [Learn more](#)

Launch migration wizard

×

Migrate to Application Load Balancer

Migrate to Network Load Balancer

► Distribution of targets by Availability Zone (AZ)

For each enabled Availability Zone, you can view the number of registered instances and their current health states. Selecting any values here will apply the corresponding filter to the Target instances table.

Listeners

Network mapping

Security

Health checks

Target instances

Monitoring

Attributes

Tags

Listeners

Manage listeners

## Migrate to Application Load Balancer

Migrate your Classic Load Balancer to an Application Load Balancer. [Benefits of migrating from a Classic Load Balancer](#)

### Name new load balancer

**Load balancer name**  
Name must be unique within your AWS account and can't be changed after the load balancer is created. Your original Classic Load Balancer's name is CLB.

ALB

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

### Name new target group and review targets [Info](#)

A target group will be created with your instances and the transferrable health check settings from your Classic Load Balancer. Any non-transferrable settings will be moved to the target group's health check section. No costs are incurred for target groups.

**Target group name**

TGT21

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

#### Configure health checks [Changed](#)

Health check path: /x.html  
Initial delay: 2 seconds  
Interval: 5 seconds  
Healthy threshold: 2  
Unhealthy threshold: 10  
Success codes: 200

#### Tags

None

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

### 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 Application Load Balancer

