

Implement a Classic Load Balancer for HTTP Traffic on AWS

1. Create a Classic Load Balancer

The image shows two screenshots from the AWS Management Console. The top screenshot displays the 'Select load balancer type' wizard, which offers three options: Application Load Balancer (ALB), Network Load Balancer (NLB), and Gateway Load Balancer (GWLb). The bottom screenshot shows the 'Step 1: Define Load Balancer' configuration page for an Application Load Balancer. It includes a sidebar with navigation links, a progress bar, and a configuration form where 'HTTP' is selected as the protocol and port '80' is entered. Below this, the 'Select Subnets' section shows a list of available subnets for the VPC 'vpc-0aefa49d40e90f902'.

Load balancer types

- Application Load Balancer** Info: Diagram showing traffic (HTTP, HTTPS) passing through an ALB to EC2 instances.
- Network Load Balancer** Info: Diagram showing traffic (TCP, UDP, TLS) passing through an NLB to EC2 instances within a VPC.
- Gateway Load Balancer** Info: Diagram showing traffic passing through a GWLB to EC2 instances.

Step 1: Define Load Balancer

1. Define Load Balancer | 2. Assign Security Groups | 3. Configure Security Settings | 4. Configure Health Check | 5. Add EC2 Instances | 6. Add Tags

HTTP 80 HTTP 80

Select Subnets

You will need to select a Subnet for each Availability Zone where you wish traffic to be routed by your load balancer. If you have instances in only one Availability Zone, please select at least two Subnets in different Availability Zones to provide higher availability for your load balancer.

VPC vpc-0aefa49d40e90f902 (10.0.0.0/16) | lab-vpc

Available subnets				
Actions	Availability Zone	Subnet ID	Subnet CIDR	Name
+	us-west-2a	subnet-0f12edd72ae393b79	10.0.1.0/24	public-subnet-a
+	us-west-2b	subnet-0fb51c2fb994414b3	10.0.2.0/24	public-subnet-b

Cancel Next: Assign Security Groups

← → ↺ 🏠

us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#CreateELBWizard:

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1. Define Load Balancer

2. Assign Security Groups

3. Configure Security Settings

4. Configure Health Check

5. Add EC2 Instances

6. Add Tags

Step 2: Assign Security Groups

You have selected the option of having your Elastic Load Balancer inside of a VPC, which allows you to assign security groups to your load balancer. Please select the security groups to assign to this load balancer. This can be changed at any time.

Assign a security group:

☒ Create a new security group

☐ Select an existing security group

Security group name:

clb-sg

Description:

Inbound HTTP Traffic to clb-1

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ
HTTP ▾	TCP	80	Custom ▾ 0.0.0.0/0 ✕

Add Rule

Cancel

Previous

Next: Configure Security Settings

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Step 4: Configure Health Check

Your load balancer will automatically perform health checks on your EC2 instances and only route traffic to instances that pass the health check. If an instance fails the health check, it is automatically removed from the load balancer. Customize the health check to meet your specific needs.

Ping Protocol

TCP ▾

Ping Port

80

Advanced Details

Response Timeout ⓘ

2

seconds

Interval ⓘ

5

seconds

Unhealthy threshold ⓘ

2

▾

Healthy threshold ⓘ

2

▾

Cancel

Previous

Next: Add EC2 Instances

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1. Define Load Balancer 2. Assign Security Groups 3. Configure Security Settings 4. Configure Health Check 5. Add EC2 Instances 6. Add Tags 7. Review

Step 5: Add EC2 Instances

The table below lists all your running EC2 Instances. Check the boxes in the Select column to add those instances to this load balancer.

VPC vpc-0aefa49d40e90f902 (10.0.0.0/16) | lab-vpc

Instance	Name	State	Security groups	Zone	Subnet ID	Subnet CIDR	
<input checked="" type="checkbox"/>	i-09371a399b0fe2a25	ec2-web-a	running	terraform-2022062707...	us-west-2a	subnet-0f12edd...	10.0.1.0/24
<input checked="" type="checkbox"/>	i-01a4329fd458fe29d	ec2-web-b	running	terraform-2022062707...	us-west-2b	subnet-0fb51c2f...	10.0.2.0/24

Availability Zone Distribution
1 instance in us-west-2a
1 instance in us-west-2b

Cancel Previous Next: Add Tags

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Load Balancer Creation Status

✓ Successfully created load balancer
Load balancer **clb-1** was successfully created.
Note: It may take a few minutes for your instances to become active in the new load balancer.

Close

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2. Configure Security Groups for HTTP Traffic

us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#SecurityGroups:

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Reserved Instances **New**
Dedicated Hosts
Scheduled Instances
Capacity Reservations

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AMIs **New**
AMI Catalog

▼ Elastic Block Store
Volumes **New**
Snapshots **New**
Lifecycle Manager **New**

▼ Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs

Security Groups (1/4) Info

Filter security groups

	Name	Security group ID	Security group name	VPC ID	Description
<input type="checkbox"/>	-	sg-002d8ed97bf7f27e4	default	vpc-0aefa49d40e90f902	default VPC s
<input checked="" type="checkbox"/>	ec2-sg	sg-010507904ad533826	terraform-202206270...	vpc-0aefa49d40e90f902	Managed by t
<input type="checkbox"/>	-	sg-06e16a03da8156548	default	vpc-005cd7f5811f92139	default VPC s
<input type="checkbox"/>	-	sg-0b9b6b31dea6ec065	clb-sg	vpc-0aefa49d40e90f902	Inbound HTT

sg-010507904ad533826 - terraform-20220627071703826400000001

Details **Inbound rules** Outbound rules Tags

Inbound rules (1/1)

Filter security group rules

us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#ModifyInboundSecurityGroupRules:securityGroupId=sg-010507904ad533826

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EC2 > Security Groups > sg-010507904ad533826 - terraform-20220627071703826400000001 > Edit inbound rules

Edit inbound rules Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules Info

Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info	Description - optional Info
sg-0490017775cfaa802	SSH	TCP	22	Custom 0.0.0.0/0	
-	HTTP	TCP	80	Custom sg-0b9b6b31dea6ec065	

Add rule

us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#SecurityGroups:

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Inbound security group rules successfully modified on security group (sg-010507904ad533826 | terraform-20220627071703826400000001) Details

Security Groups (1/4) Info Actions Export security groups to CSV Create security group

Filter security groups

Name	Security group ID	Security group name	VPC ID	Description
-	sg-002d8ed97bf7f27e4	default	vpc-0aefa49d40e90f902	default VP
ec2-sg	sg-010507904ad533826	terraform-202206270...	vpc-0aefa49d40e90f902	Managed b
-	sg-06e16a03da8156548	default	vpc-005cd7f5811f92139	default VP

sg-010507904ad533826 - terraform-20220627071703826400000001

Details Inbound rules Outbound rules Tags

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3. Allow HTTP Traffic for the Internet

us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#Instances:

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Instances (1/2) Info Connect Instance state Actions Launch instances

Search

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
ec2-web-a	i-09371a399b0fe2a25	Running	t3a.nano	2/2 checks passed	No alarms
ec2-web-b	i-01a4329fd458fe29d	Running	t3a.nano	2/2 checks passed	No alarms

Instance: i-09371a399b0fe2a25 (ec2-web-a)

Details Security Networking Storage Status checks Monitoring Tags

▼ Instance summary Info

Instance ID i-09371a399b0fe2a25 (ec2-web-a)	Public IPv4 address 52.33.242.148 open address	Private IPv4 addresses 10.0.1.66
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-52-33-242-148.us-west-2.compute.amazonaws.com open address

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Carrier gateways

DHCP Option Sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

Peering connections

▼ Security

Network ACLs

Security groups

▼ Network Analysis

Reachability Analyzer

Network Access Analyzer

▼ DNS firewall

Rule groups

Domain lists

Network ACLs (1/3) Info

🔄 Actions Create network ACL

🔍 Filter network ACLs

<input type="checkbox"/>	Name	Network ACL ID	Associated with	Default	VPC ID
<input type="checkbox"/>	-	acl-057bd3d2daa7cdd32	4 Subnets	Yes	vpc-005...
<input checked="" type="checkbox"/>	vpc-nacl	acl-0053fcf43f77ea586	2 Subnets	No	vpc-0aef...
<input type="checkbox"/>	-	acl-004774176fa2f4901	-	Yes	vpc-0aef...

acl-0053fcf43f77ea586 / vpc-nacl

Details Inbound rules Outbound rules Subnet associations Tags

Details

Network ACL ID Associated with Default VPC ID

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us-west-2.console.aws.amazon.com/vpc/home?region=us-west-2#EditInboundRules:networkAclId=acl-0053fcf43f77ea586

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VPC > Network ACLs > acl-0053fcf43f77ea586 / vpc-nacl > Edit inbound rules

Edit inbound rules Info

Inbound rules control the incoming traffic that's allowed to reach the VPC.

Rule number Info	Type Info	Protocol Info	Port range Info	Source Info	Allow/Deny Info	
100	All traffic	All	All	0.0.0.0/0	Allow	Remove
10	HTTP (80)	TCP (6)	80	0.0.0.0/0	Allow	Remove
*	All traffic	All	All	0.0.0.0/0	Deny	

Add new rule

Sort by rule number

Cancel

Preview changes

Save changes

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us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LoadBalancers:sort=loadBalancerName

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Volumes New
Snapshots New
Lifecycle Manager New

▼ Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces

▼ Load Balancing
Load Balancers
Target Groups New

▼ Auto Scaling
Launch Configurations
Auto Scaling Groups

Create Load Balancer Actions

Filter by tags and attributes or search by keyword

Name	DNS name	State	VPC ID	Availability Zones
clb-1	clb-1-1392431043.us-west-2...		vpc-0aefa49d40e90f902	us-west-2b, us-west-2a

Load balancer: clb-1

Description Instances Health check Listeners Monitoring Tags Migration

Basic Configuration

Name	clb-1	Creation time	June 27, 2022 at 12:56:23 PM UTC+5:30
* DNS name	clb-1-1392431043.us-west-2.elb.amazonaws.com (A Record)	Hosted zone	Z1H1FL5HABSF5
Type	Classic (Migrate Now)	Status	2 of 2 instances in service
Scheme	internet-facing	VPC	vpc-0aefa49d40e90f902
Availability Zones	subnet-0f12edd72ae393b79 - us-west-2a, subnet-0fb51c2fb0d41d43 - us-west-2b		

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Running on ecw-web-a | instance-id i-09371a399b0fe2a25

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Running on ec2-web-b | instance-id i-01a4329fd458fe29d