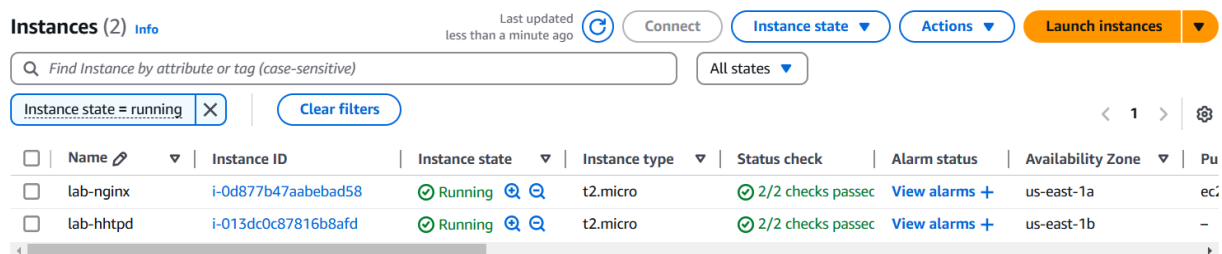


## Lab 14: Create AWS Load Balancer

- **Objective:** create VPC with 2 public subnets, launch 2 EC2s with Nginx and Apache installed using user data, create and configure a Load Balancer to access the 2 Web servers

Create two ec2 in public subnets

Attach subnet to igw in route table to become public subnet



The screenshot shows the AWS Management Console 'Instances' page. It displays two EC2 instances in a 'Running' state. The first instance, 'lab-nginx', has the ID 'i-0d877b47aabebad58' and is running on a 't2.micro' instance type in the 'us-east-1a' availability zone. The second instance, 'lab-hhtpd', has the ID 'i-013dc0c87816b8afd' and is also running on a 't2.micro' instance type in the 'us-east-1b' availability zone. Both instances have passed their status checks.

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Pu
<input type="checkbox"/>	lab-nginx	i-0d877b47aabebad58	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2
<input type="checkbox"/>	lab-hhtpd	i-013dc0c87816b8afd	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1b	-

Configure security group

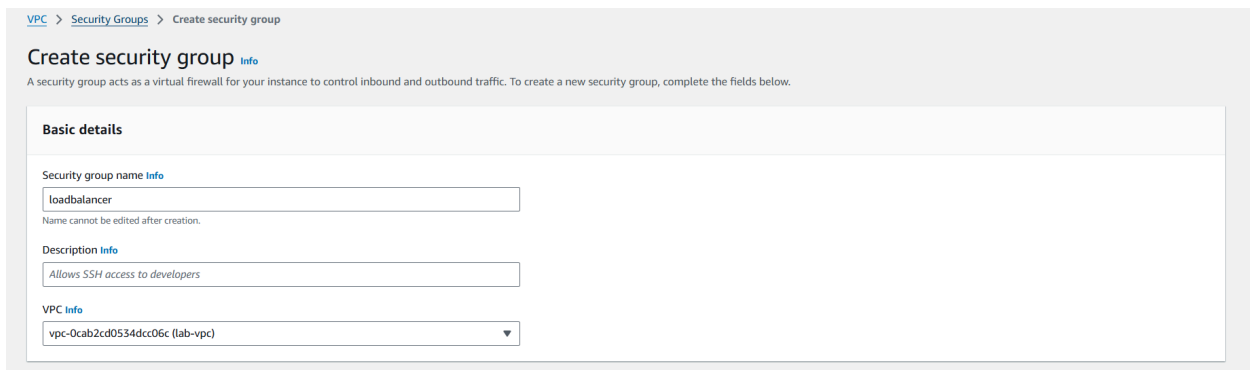
In ec2

Allow http and choose source from security group related loadbalance

In loadblance

Inbound

Allow all traffic source 0.0.0.0/0



The screenshot shows the 'Create security group' page in the AWS Management Console. The 'Basic details' section is visible, with the following fields filled out: 'Security group name' is 'loadbalancer', 'Description' is 'Allows SSH access to developers', and 'VPC' is 'vpc-0cab2cd0534dcc06c (lab-vpc)'. A note at the bottom states: 'A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.'

VPC > Security Groups > Create security group

### Create security group

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

**Basic details**

Security group name [Info](#)  
loadbalancer  
Name cannot be edited after creation.

Description [Info](#)  
Allows SSH access to developers

VPC [Info](#)  
vpc-0cab2cd0534dcc06c (lab-vpc)

Inbound rules

Info

Type

Info

Protocol

Info

Port range

Info

Source

Info

Description - optional

Info

HTTP

TCP

80

Anywhere...

0.0.0.0/0

Delete

Add rule

## Create target group

-choose by instance

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

Facilitates routing to a single Lambda function.

## Put role

## Listener

Port 80/http

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

loadbalancer

sg-05e0f460553fddfb7 VPC: vpc-0cab2cd0534dccc06c

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

HTTP

Port

80

1-65535

Default action

Info

Forward to

target

Target type: Instance, IPv4

HTTP

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.

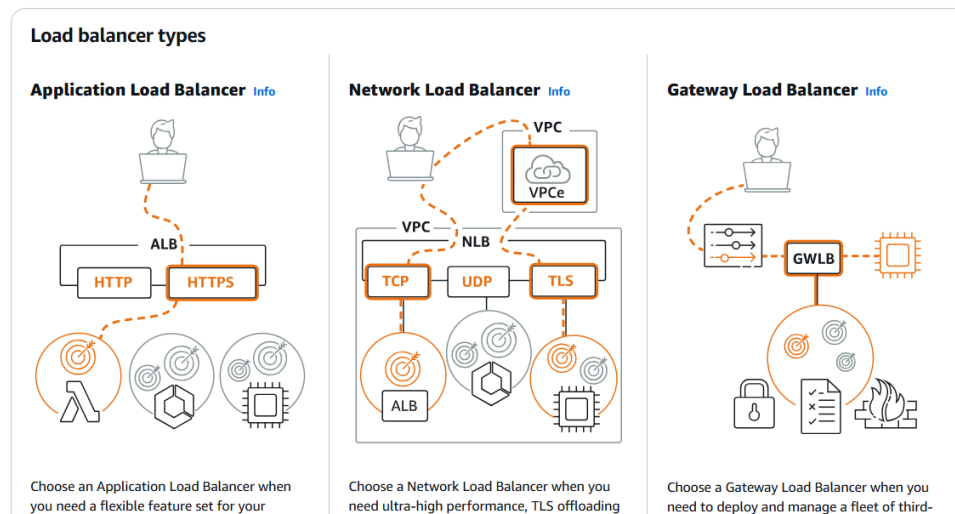
Target groups (1/1) <a href="#">Info</a>								<a href="#">Actions</a> <a href="#">Create target group</a>	
<input type="text" value="Filter target groups"/>								< 1 >	
<input checked="" type="checkbox"/>	Name	ARN	Port	Protocol	Target type	Load balancer	VPC ID		
<input checked="" type="checkbox"/>	target	arn:aws:elasticloadbalancin...	80	HTTP	Instance	load-balance	vpc-0cab2cd0534dcc06c		

## Configuration related loadbalancer

### First choose type from loadbalancer

#### Compare and select load balancer type

A complete feature-by-feature comparison along with detailed highlights is also available. [Learn more](#)



## Choose my vpc

#### 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.

lab-vpc

vpc-0cab2cd0534dcc06c

IPv4 VPC CIDR: 192.168.0.0/16

#### 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-

Definition healthycheck

Restore defaults

Health check port

The port the load balancer uses when performing health checks on targets. By default, the health check port is the same as the target group's traffic port. However, you can specify a different port as an override.

Traffic port

Override

Healthy threshold

The number of consecutive health checks successes required before considering an unhealthy target healthy.

4

2-10

Unhealthy threshold

The number of consecutive health check failures required before considering a target unhealthy.

2

2-10

Timeout

The amount of time, in seconds, during which no response means a failed health check.

5

seconds

2-120

Interval

The approximate amount of time between health checks of an individual target

30

seconds

5-300

Success codes

The HTTP codes to use when checking for a successful response from a target. You can specify multiple values (for example, "200,202") or a range of values (for example, "200-299").

I know Load Balance for Target Group

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

loadbalancer

sg-05e0f460553fddfb7

VPC: vpc-0cab2cd0534dcc06c

Listeners and routing

Info

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Listener HTTP:80

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Protocol

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Port

80

1-65535

Default action

Info

Forward to

target

Target type: Instance, IPv4

HTTP

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.

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

	Name	DNS name	State	VPC ID	Availability Zones	Type	Date created
	load-balance	load-balance-1288840990...	Provisioning..	vpc-0cab2cd0534dcc06c	2 Availability Zones	application	December 5, 2024, 19:34 (UTC+...

Output

**Welcome ivolve-1**

← → ↻ ⚠ Not secure load-balancer-1817552311.us-east-1.elb.amazonaws.com

**Welcome ivolve-2**