

## How to Configure an AWS Elastic Load Balancer for CloudGen Firewalls in AWS

<https://campus.barracuda.com/doc/79462721/>

The Elastic Load Balancer is a managed layer 4 load balancer by AWS. The ELB can be deployed as a public-facing load balancer or internally in your VPC. Instances are added either manually or, if associated with an Auto Scaling group, automatically. The load balancer continuously checks the health of the instances and takes unhealthy instances out of rotation. By enabling cross-zone loadbalancing, the load balancer spreads out the load evenly over multiple availability zones.

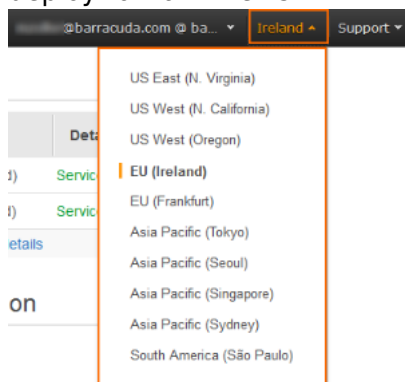
### AWS Reference Architectures

This article is used in the following AWS reference architectures:

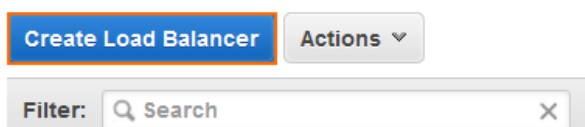
- [AWS Reference Architecture - CloudGen Firewall HA Cluster with Route Shifting](#)

### Create an AWS Load Balancer

1. Log into the AWS console.
2. In the upper right, click on the datacenter location, and select the datacenter you want to deploy to from the list.



3. Click **Services** and select **EC2**.
4. In the **Load Balancing** section of the left menu, click **Load Balancer**.
5. Click **Create Load Balancer**.




6. Select **Classic Load Balancer** and click **Create**.

Select load balancer type

Elastic Load Balancing supports three types of load balancers: Application Load Balancers, Network Load Balancers (new), and Classic Load Balancers. Choose the load balancer type that meets your needs. [Learn more about which load balancer is right for you](#)

**Application Load Balancer**




[Create](#)

Choose an Application Load Balancer when you need a flexible feature set for your web applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing, TLS termination and visibility features targeted at application architectures, including microservices and containers.

[Learn more >](#)

**Network Load Balancer**



[Create](#)

Choose a Network Load Balancer when you need ultra-high performance and static IP addresses for your application. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second while maintaining ultra-low latencies.

[Learn more >](#)

**Classic Load Balancer**

**PREVIOUS GENERATION**  
for HTTP, HTTPS, and TCP

[Create](#)

Choose a Classic Load Balancer when you have an existing application running in the EC2-Classical network.

[Learn more >](#)

7. Enter the **Basic Configuration Settings**:

- **Load Balancer name** - Enter name for the load balancer.
- **Create LB inside** - Select the VPC the firewalls are deployed to from the list.
- **Create an internal load balancer** - Select the check box to create an internal load balancer. Internal load balancers are reachable from within the VPC and do not have a public IP address.

**Load Balancer name:**

**Create LB Inside:**

**Create an internal load balancer:**  [\(what's this?\)](#)

**Enable advanced VPC configuration:**

8. For each **Listener**, click **Add** and enter:

- **Load Balancer Protocol** - Select the protocol from the list. Supported protocols: **TCP, HTTP, HTTPS, SSL (Secure TCP)**.
- **Load Balancer Port** - Enter the external port.
- **Instance Protocol** - Enter the protocol. In most cases, this is the same protocol as the **Load Balancer Protocol**. To offload SSL encryption to the ELB, different protocols can be selected (e.g, HTTPS to HTTP).
- **Instance Port** - Enter the port number of the service on the instance.

**Listener Configuration:**

Load Balancer Protocol	Load Balancer Port	Instance Protocol	Instance Port	
<input style="border: 1px solid #ccc;" type="text" value="TCP"/>	<input style="border: 1px solid #ccc;" type="text" value="691"/>	<input style="border: 1px solid #ccc;" type="text" value="TCP"/>	<input style="border: 1px solid #ccc;" type="text" value="691"/>	✕
<input style="border: 1px solid #ccc;" type="text" value="HTTPS (Secure HTTP)"/>	<input style="border: 1px solid #ccc;" type="text" value="443"/>	<input style="border: 1px solid #ccc;" type="text" value="HTTP"/>	<input style="border: 1px solid #ccc;" type="text" value="443"/>	✕

9. Click **+** in the **Actions** column to add subnets to the load balancer. Add the subnets containing the firewall instances. Each subnet should be in a different Availability Zone.

**Available subnets**

Actions	Availability Zone	Subnet ID	Subnet CIDR	Name
	eu-west-1a	subnet-84eb7bf2	10.100.10.0/24	DOC Public Subnet #2
	eu-west-1c	subnet-6d06f109	10.100.1.0/24	DOC- Private subnet #1

**Selected subnets**

Actions	Availability Zone	Subnet ID	Subnet CIDR	Name
	eu-west-1c	subnet-6e06f10a	10.100.0.0/24	DOC Public subnet

Cancel **Next: Assign Security Groups**

10. Click **Next: Assign Security Groups**.
11. Click **Create new security group**.
12. For each load balancer listener, create a **Rule**. Click **Add Rule** for each additional security group rule required.
  - o **Type** - Select the protocol or type of traffic. E.g., **Custom TCP Rule** for TCP, or **HTTPS** for SSL-encrypted web traffic.
  - o **Port Range** - Enter the port. E.g., 691 for TINA VPN
  - o **Source** - Select the source of the traffic. For Internet traffic, select **Anywhere** and enter **0.0.0.0/0**.

**Assign a security group:**  Create a **new** security group  
 Select an **existing** security group

**Security group name:**

**Description:**

Type	Protocol	Port Range	Source	
Custom TCP Rule	TCP	691	Anywhere	0.0.0.0/0
HTTPS	TCP	443	Anywhere	0.0.0.0/0

**Add Rule**

Cancel Previous **Next: Configure Security Settings**

13. Configure the **Health Check**.
  - o **Ping Protocol** - Select the protocol from the list.
  - o **Ping Port** - Enter the port. E.g, 691 for TINA VPN, or 443 for HTTPS
  - o **Response Timeout** - Enter the number of seconds the probe waits for an answer.
  - o **Interval** - Enter the number of seconds between two probes.
  - o **Unhealthy threshold** - Enter the number of failed health checks for the instance to be considered unhealthy. Unhealthy health checks are taken out of rotation until healthy again.
  - o **Healthy threshold** - Enter the the number of successful health checks for the instance to be considered healthy.

Ping Protocol

Ping Port

**Advanced Details**

Response Timeout ⓘ  seconds

Interval ⓘ  seconds

Unhealthy threshold ⓘ

Healthy threshold ⓘ

14. Click **Next: Add EC2 Instances**.
15. (optional) If the firewall EC2 instances are already deployed, select the EC2 instances.
16. Select **Enable Cross-Zone Load Balancing**.

**Availability Zone Distribution**

Enable Cross-Zone Load Balancing ⓘ

Enable Connection Draining ⓘ  seconds

17. Click **Next: Add Tags**.
18. (optional) Add **Key / Value** tags to the resource. Click **Create Tag** to add additional tags.
19. Click **Review and Create**.

▼ Define Load Balancer [Edit load balancer definition](#)

Load Balancer name: Firewall-Load-Balancer  
 Scheme: internet-facing  
 Port Configuration: 691 (TCP) forwarding to 691 (TCP)

▶ Configure Health Check [Edit health check](#)

▶ Add EC2 Instances [Edit instances](#)

▶ VPC Information [Edit subnets](#)

▶ Security groups [Edit security groups](#)

[Cancel](#) [Previous](#) [Create](#)

20. Review the settings and click **Create**.

The Elastic Load Balancer is now deployed and ready for use.

Filter: <input type="text" value="Firewall-Load-Balancer"/>	Name	DNS name	State	VPC ID	Availability Zones	Type
<input type="checkbox"/>	Firewall-Load-Balancer	Firewall-Load-Balancer-2279...		vpc-0a84896f	eu-west-1c, eu-west-1a	classic

## Figures

1. aws\_deploy\_00.png
2. aws\_elb\_01.png
3. aws\_elb\_02.png
4. aws\_elb\_03.png
5. aws\_elb\_04.png
6. aws\_elb\_05.png
7. aws\_elb\_06.png
8. aws\_elb\_07.png
9. aws\_elb\_08.png
10. aws\_elb\_09.png
11. aws\_elb\_10.png

© Barracuda Networks Inc., 2019 The information contained within this document is confidential and proprietary to Barracuda Networks Inc. No portion of this document may be copied, distributed, publicized or used for other than internal documentary purposes without the written consent of an official representative of Barracuda Networks Inc. All specifications are subject to change without notice. Barracuda Networks Inc. assumes no responsibility for any inaccuracies in this document. Barracuda Networks Inc. reserves the right to change, modify, transfer, or otherwise revise this publication without notice.