

Load Balancing For Clustered Barracuda CloudGen WAF Instances in Amazon Web Services (AWS)

<https://campus.barracuda.com/doc/41098448/>

This guide walks you through the steps to load balance traffic across multiple instances of the Barracuda CloudGen WAF deployed in Amazon Web Services:

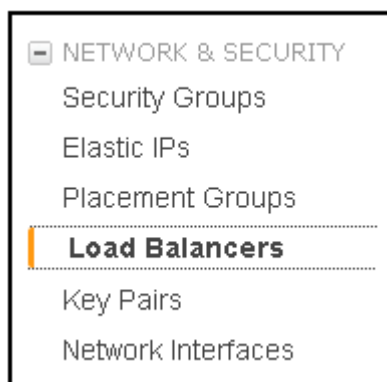
To set up a High Availability environment with multiple Barracuda CloudGen WAF instances in Amazon Web Services, make sure all services configured on each instance use the **WAN IP Address** of the Barracuda CloudGen WAF.

Step 1 - Deploy Multiple Barracuda CloudGen WAF Instances in Amazon Web Services

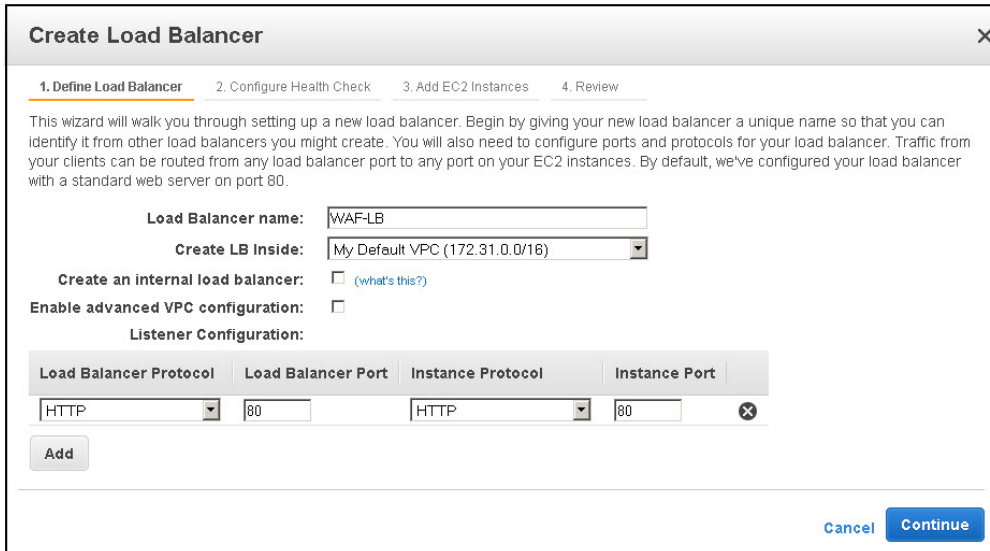
Follow the steps in [Barracuda CloudGen WAF Deployment and Quick Start Guide for Amazon Web Services](#) to deploy multiple Barracuda CloudGen WAF instances. To license and configure your virtual machine, continue with [Barracuda CloudGen WAF Deployment and Quick Start Guide for Amazon Web Services](#). In this example, consider two Barracuda CloudGen WAF instances where, Barracuda-WAF1 is the first unit and Barracuda-WAF2 is the second unit.

Step 2 - Set Up Load Balancing on the Barracuda CloudGen WAF Instances

1. Log into the [Amazon EC2 Management Console](#).
2. From the EC2 dashboard, select **Load Balancers** under **NETWORK & SECURITY**.



3. Click **Create Load Balancer**. The **Create Load Balancer** window appears.



Create Load Balancer [X]

1. Define Load Balancer 2. Configure Health Check 3. Add EC2 Instances 4. Review

This wizard will walk you through setting up a new load balancer. Begin by giving your new load balancer a unique name so that you can identify it from other load balancers you might create. You will also need to configure ports and protocols for your load balancer. Traffic from your clients can be routed from any load balancer port to any port on your EC2 instances. By default, we've configured your load balancer with a standard web server on port 80.

Load Balancer name: WAF-LB

Create LB Inside: My Default VPC (172.31.0.0/16)

Create an internal load balancer: (what's this?)

Enable advanced VPC configuration:

Listener Configuration:

Load Balancer Protocol	Load Balancer Port	Instance Protocol	Instance Port
HTTP	80	HTTP	80

4. In the **Define Load Balancer** page:

1. **Load Balancer Name** - Enter a name for the load balancer.
2. **Create LB Inside** - Select the VPC ID under which the Barracuda CloudGen WAF instances are launched.
3. Leave **Create an internal load balancer** and **Enable advanced VPC configuration** set to default value.
4. Add the ports where Services are created requiring load balancing.
5. Click **Continue**.

5. In the **Configure Health Check** page:

1. **Ping Protocol** - Keep the default value i.e. HTTP.
2. **Ping Port** - Set to 8000. By default, the Barracuda CloudGen WAF listens on port 8000. If you are using a different port for the Barracuda CloudGen WAF, specify that port number.
3. **Ping Path** - Enter /cgi-mod/index.cgi.
4. In the **Advanced Details** section, specify required values and click **Continue**.

Create Load Balancer

1. Define Load Balancer 2. **Configure Health Check** 3. Assign Security Groups 4. Add EC2 Instances 5. Review

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

Ping Port

Ping Path

Advanced Details

Response Timeout seconds

Health Check Interval seconds

Unhealthy Threshold

Healthy Threshold

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- In the **Assign Security Groups** page, choose **Select an existing security group** to select and assign the security group(s) from an existing list, or choose **Create a new security group** to create a new group (refer to [Creating a Security Group](#) for more information). Click **Continue**.

Ensure the selected group has all ports open, which were configured for load balancer in step 4.

- In the **Add EC2 Instances** page, select the instances to be added to this load balancer and click **Continue**.
- In the **Review** page, review your settings before creating the load balancer, and then click **Create**.

Create Load Balancer

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

Please review the load balancer details before continuing

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

Load Balancer name: WAF-LB

Scheme: Internet-facing

Port Configuration: 80 (HTTP) forwarding to 80 (HTTP)

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

Ping Target: HTTP:8000/cgi-mod/index.cgi

Timeout: 5 seconds

Interval: 30 seconds

Unhealthy Threshold: 2

Healthy Threshold: 10

▼ Add EC2 Instances [Edit instances](#)

Cross-Zone Load Balancing: Enabled

Connection Draining: Enabled, 300 seconds

Instances: i-bf6ac6b6 (arvind-waf-782.004-BYOL-Perf-1), i-4ae58e43 (arvind-WAF-782.006-Hourly1)

▼ VPC Information [Edit subnets](#)

VPC: vpc-e054c588

Subnets: subnet-e354c58b, subnet-e154c589, subnet-e254c58a

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9. The **Load Balancers** table displays the created load balancer details.

Load Balancer Name	DNS Name	Port Configuration	Availability Zones	Instance Count	Health Check
WAF-LB	WAF-LB-678529183.us-west...	80 (HTTP) forwarding to 80 (...)	us-west-2c, us-west-2b...	2 Instances	HTTP:8000/cgi

The services configured should be accessed using the **DNS Name** of the created load balancer. For example, in the above example the **DNS Name** of the Load Balancer is `WAF-LB-678529183` and the HTTP service created on port 80 can be accessible via <http://WAF-LB-678529183/> / <http://WAF-LB-678529183:80>.

Step 3 - Set Up a High Availability Environment with the Barracuda CloudGen WAF

Follow these steps to cluster your Barracuda CloudGen WAF virtual machines in Amazon Web Services:

Before clustering your Barracuda CloudGen WAF virtual machines, ensure the following ports are open in the **Security Group** assigned to the Barracuda CloudGen WAF virtual machines:

Port	Protocol
8002	TCP
32575	TCP
32576	UDP

1. Install each system and ensure that each Barracuda CloudGen WAF is running the same firmware version. Each Barracuda CloudGen WAF in a cluster must have the same model number and firmware version.
2. Make a backup of each Barracuda CloudGen WAF configuration.
3. No processes should be running on any virtual machine when you link them together. To be sure, go to the **ADVANCED > Task Manager** page of each Barracuda CloudGen WAF and verify that no processes are running.
4. From the **ADVANCED > High Availability** page of Barracuda-WAF1, enter a **Cluster Shared Secret** password, and click **Save Changes**.
5. From the **ADVANCED > High Availability** page of Barracuda-WAF2, do the following:
 1. Enter the same **Cluster Shared Secret** password, and click **Save Changes**. Both units in a cluster must have the same **Cluster Shared Secret** to communicate with each other.
 2. In the **Clustered Systems** section, enter the WAN IP address of Barracuda-WAF1, and click **Join Cluster**. Never cancel the join cluster task when the join is in progress.

The unit initiating the join cluster inherits the configuration from its Peer unit and has its configuration overwritten.

6. On each Barracuda CloudGen WAF, refresh the **ADVANCED > High Availability** page, and verify the following:
 1. Each system's Hostname, serial number and WAN IP address appears in the **Clustered Systems** list.
 2. The identity of the system (Self or Peer) displays in the **Type** field.
 3. The **Status** is green for all virtual machines in the cluster.
7. View the **Cluster Status** from the **BASIC > Dashboard** page, under **Performance Statistics**.

To add more units to the existing cluster, repeat step **1** to **5.a.** and then do the following:

- From the **ADVANCED > High Availability** page of the Barracuda CloudGen WAF you are adding to the cluster, enter the WAN IP address of any system in the cluster in the Peer IP Address field and click **Join Cluster**. Verify the following:
 - The configuration of the cluster automatically propagates to the newly added system.
 - The new unit information propagates to all other units in the cluster.

Figures

1. Load_Balancers.png
2. Create_LB.jpg
3. Health_Check.jpg
4. LB_Details.jpg
5. Created_Load_Balancer.png
6. Ports_Opened.jpg

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