



# Load Balancing Microsoft Session Host in AWS

## Quick Reference Guide

V1.0.1

### ABOUT THIS GUIDE

This document provides a quick reference guide on how to load balance Microsoft Remote Desktop Session Host servers using the Enterprise AWS Loadbalancer.org Amazon cloud appliance.

- Microsoft Connection Broker is used, the Loadbalancer.org appliance interacts with the Routing Token to reconnect user sessions to the correct Session Host
- The Loadbalancer.org Feedback Agent is installed on the Session Host servers to provide real time performance stats to enable optimum load distribution

### RELATED DOCUMENTATION

For additional information about the Loadbalancer.org AWS Appliance, please also refer to the following documents:

- [Administration Manual](#)
- [AWS Quick Start Guide](#)
- [Microsoft Remote Desktop Services Deployment Guide](#)

### LOAD BALANCED PORTS

Port	Use	Transport Layer Protocol
3389	Remote Desktop Protocol (RDP)	TCP

### VPC SECURITY GROUP INBOUND RULES

The following inbound rules must be configured in your Security Group:

- For Management: TCP 22 (SSH), TCP 9443 (Appliance WebUI), 7777 (HAProxy Stats page)
- For RDP services: TCP 3389 (RDP)

### LOAD BALANCER CONFIGURATION

## DEPLOY THE LOADBALANCER.ORG AWS APPLIANCE

1. Deploy an AWS Loadbalancer.org appliance as detailed in the [Quick Start Guide](#)

### ACCESSING THE APPLIANCE WEBUI

Using a browser, navigate to the Public DNS name or Public IP address on port 9443 , i.e.

<https://<Public DNS name>:9443>

OR

<https://<Public IP address>:9443>

You'll receive a warning about the certificate as it's a self signed cert not related to an Internet based CA. Confirm you want to continue and a login prompt will be displayed. Use the following default credentials:

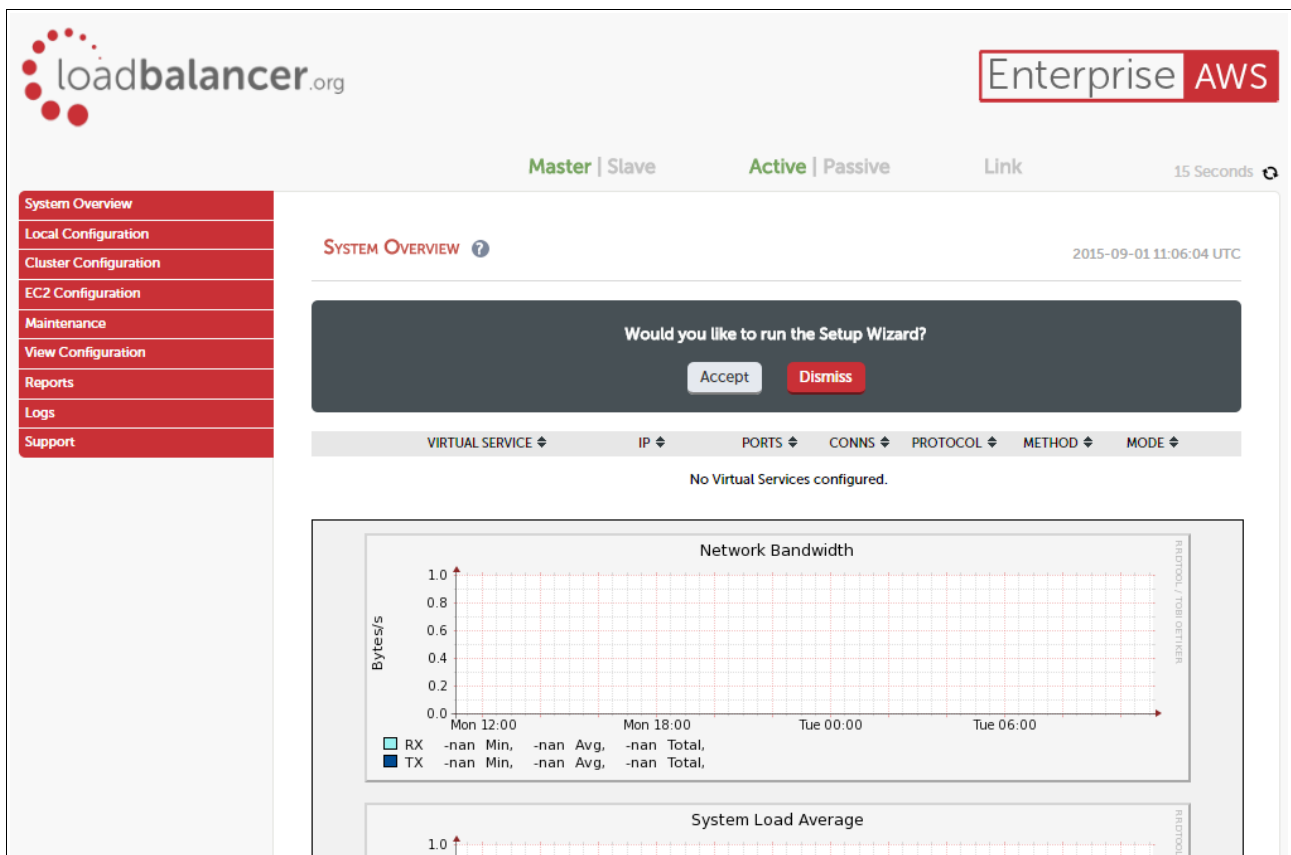
**Username:** loadbalancer

**Password:** <EC2 Instance-ID>

**Note:**

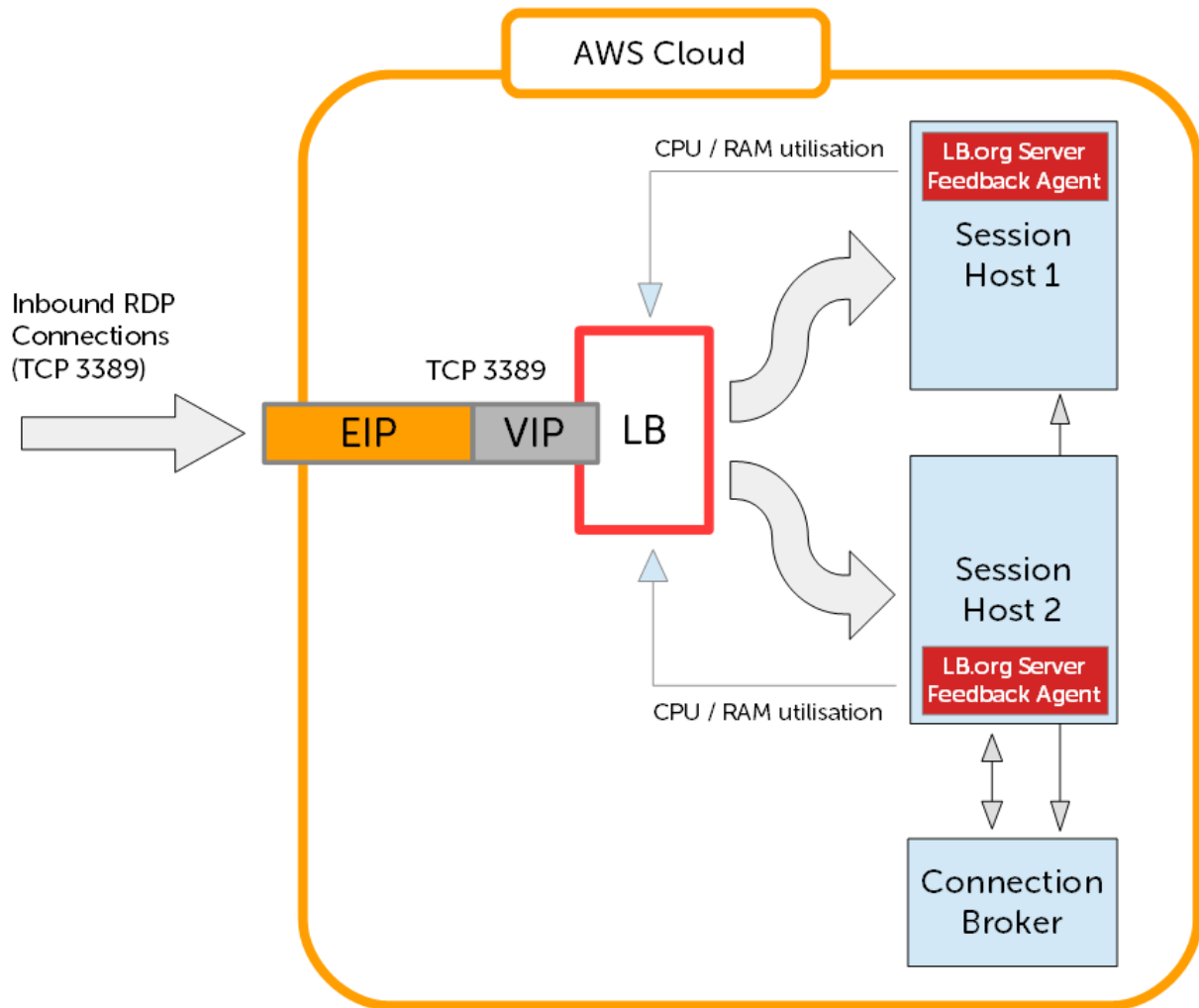
To change the password for the 'loadbalancer' account, use the WebUI option: *Maintenance > Passwords*.

Once logged in, the WebUI is displayed:



## CONFIGURATION

The diagram below shows how the system is configured.



### Notes:

- The Loadbalancer.org Server Feedback Agent provides real time server utilization statistics based on either CPU or RAM utilization or a combination of both
- Connection Broker can be deployed in HA mode if required using 2 Connection Broker servers and an SQL database

## DEPLOY THE LOADBALANCER.ORG AWS APPLIANCE

1. Deploy an AWS loadbalancer.org appliance as detailed in the [Quick Start Guide](#)

## CONFIGURE THE VIRTUAL SERVICE

1. Using the WebUI, navigate to: *Cluster Configuration > Layer 7 – Virtual Services* and click **Add a New Virtual Service**
2. Enter the following details:

Label	<input type="text" value="RDS-SessionHost"/>	<span>?</span>
Virtual Service	IP Address <input type="text" value="10.0.0.100"/>	<span>?</span>
	Ports <input type="text" value="3389"/>	<span>?</span>
Layer 7 Protocol	<input type="text" value="TCP Mode"/>	<span>?</span>
Manual Configuration	<input type="checkbox"/>	<span>?</span>

3. Define the required *Label* (name) for the VIP, e.g. **RDS-SessionHost**
4. Set the *Virtual Service IP address* field to the required IP address, e.g. **10.0.0.100**
5. Set the *Virtual Service Ports* field to **3389**
6. Change *Layer 7 Protocol* to **TCP Mode**
7. Click **Update**
8. Now click **Modify** next to the newly created VIP
9. Change *Persistence Mode* to **MS Session Broker**
10. Change *Feedback Method* to **Agent**
11. Enable (check) the *Timeout* checkbox and set both *Client Timeout* and *Real Server Timeout* to a suitable value, e.g. **1h** (1 hour)
12. Click **Update**

## DEFINE THE REAL (SESSION HOST) SERVERS

Real Servers, i.e. the Session Host servers are now defined.

1. Using the WebUI, navigate to: *Cluster Configuration > Layer 7 – Real Servers* and click **Add a new Real Server** next to the newly created VIP
2. Enter the following details:

Label	<input type="text" value="SH1"/>	<span>?</span>
Real Server IP Address	<input type="text" value="10.0.0.120"/>	<span>?</span>
Real Server Port	<input type="text" value="3389"/>	<span>?</span>
Weight	<input type="text" value="100"/>	<span>?</span>

3. Enter an appropriate label for the Real Server , e.g. **SH1**
4. Set the *Real Server IP Address* field to the required address, e.g. **10.0.0.120**
5. Set the *Real Server Port* field to **3389**
6. Click **Update**
7. Repeat the above steps to add your other Session Host server(s)

## APPLY THE NEW SETTINGS

1. Once the configuration is complete, use the **Reload HAProxy** button at the top of the screen to commit the changes.

## ASSOCIATE AN EIP WITH THE VIRTUAL SERVICE

An EIP is added and associated with the VIP to provide a public IP address for client connections.

1. Using the WebUI, navigate to: *EC2 > EC2 Network Configuration*
2. Click **Allocate New Elastic IP**, this will request an EIP from Amazon using API calls
3. Click **[Associate]** to associate the EIP to the Virtual Service Private IP address

**EC2 NETWORK CONFIGURATION**

**Associated Elastic IP's** ?

Elastic IP		Private IP	Use with AZ HA	
34.248.35.247	→	10.0.0.100	<input type="checkbox"/>	[ Associate ]

**Available Elastic IP's**

34.248.35.247		eipalloc-2f724315		[ Delete ]
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Allocate New Elastic IP ?

This association is then displayed as shown below:

**EC2 NETWORK CONFIGURATION**

**Associated Elastic IP's** ?

Elastic IP		Private IP	Use with AZ HA	
34.248.35.247	→	10.0.0.100	<input type="checkbox"/>	[ Disassociate ]

**Available Elastic IP's**

Allocate New Elastic IP ?

## SESSION HOST SERVER CONFIGURATION

### CONFIGURE SERVER SETTINGS

To configure the Session Host Servers, please refer to the section *"Load balancing Session Hosts when deployed with Connection Broker"* in the [Microsoft Remote Desktop Services Deployment Guide](#).

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## INSTALL THE FEEDBACK AGENT

The Loadbalancer.org Windows Feedback Agent can be downloaded [here](#). To install and configure the Feedback Agent, please refer to the section "*Server Feedback Agent*" in the [Microsoft Remote Desktop Services Deployment Guide](#).

## TESTING

The load balanced Session Host Servers should now be accessible using the EIP address or corresponding public DNS name. Connect to this address from the Microsoft RDP client (mstsc.exe) or equivalent.

## LOADBALANCER.ORG TECHNICAL SUPPORT

Don't hesitate to contact our support team if you need further assistance: [support@loadbalancer.org](mailto:support@loadbalancer.org)