Introduction to Amazon Elastic Load Balancer (Amazon ELB)

Version 1.0

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Introduction

Overview

This guide introduces you to the Amazon Elastic Load Balancer using the AWS Management Console.

What is Amazon Elastic Load Balancer?

An Amazon Elastic Load Balancer (Amazon ELB) is a service that automatically distributes incoming application traffic across multiple Amazon EC2 instances. It enables you to achieve even greater fault tolerance in your applications, seamlessly providing the amount of load balancing capacity needed in response to incoming application traffic. Elastic Load Balancing detects unhealthy instances within a pool and automatically reroutes traffic to healthy instances until the unhealthy instances have been restored.

Customers can enable Elastic Load Balancing within a single Availability Zone or across multiple zones for even more consistent application performance. Elastic Load Balancing can also be used in an Amazon Virtual Private Cloud ("VPC") to distribute traffic between application tiers.

Topics Covered

This lab will introduce you to basic Amazon ELB activities, including:

- Logging into the Amazon Management Console
- Creating an Elastic Load Balancer
- Adding Instances to an Elastic Load Balancer

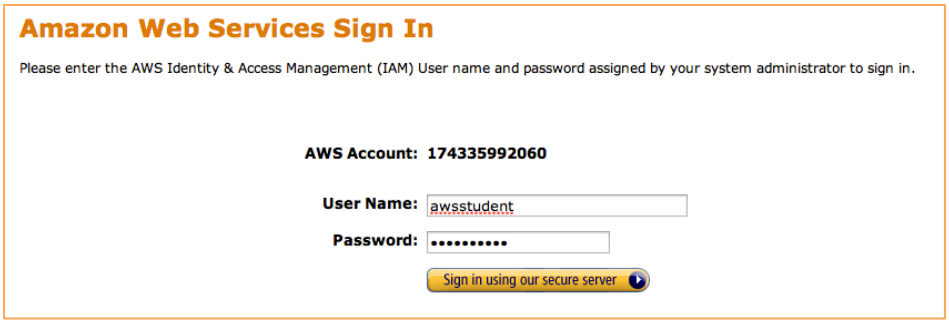
Login to the AWS Management Console

Using qwikLAB to login to the AWS Management Console

Welcome to this self-paced lab! The first step is for you to login to Amazon Web Services.

1. Start your qwikLAB by clicking Start Lab
2. **Copy the password** into the clipboard:

3. Go into the console by clicking **Open Console**
4. Login to the console:
    a. **User Name**: awsstudent
    b. **Password**: Use the password in your clipboard



Creating an Elastic Load Balancer

To get started creating your first Amazon Instance, you will need to access the Amazon EC2 icon on the Amazon Management Console, and then utilize the wizard Elastic Load Balancer wizard. You will see 2 Amazon EC2 instances created for you to load balance.

5. Click **Amazon EC2** Icon on the homepage and go to the Amazon EC2 dashboard.
6. Click the **Load Balancers** link to move to the Elastic Load Balancers screen.
7. Click **Create Load Balancer** button, to begin the process.
8. In the first dialogue window, Create a New Load Balancer, input a name such as “Free-Lab-Load-Balancer” for your load balancer. Note: The name must contain only alphanumeric characters or dashes – no spaces are allowed.
9. Leave the remaining default settings and click **Continue.**
10. At the next screen, change all of the Advanced Options to the smallest possible value:
    a. Response Timeout: 2 seconds
    b. Health Check Interval: 0.1 min
    c. Unhealthy Threshold: 2
    d. Healthy Threshold: 2

    Tip: The value ranges are either specified to the right of the entry boxes, or are displayed within the drop down box.
11. Click **Continue**.
12. At the Security Group selection screen, choose the radio button **Choose from your existing Security Group**.
13. A Security Group with the appropriate permissions has already been created for you, so please select the Security Group that contains the text “**qlstack”** and click **Continue.**
14. In the **Manually Add Instances to Load Balancer** screen, click the check box next to each of the two instances to include them in the load balancer, and click **Continue.**
15. Click **Create** to finish the process of creating your Load Balancer!
16. Click the link, **View my load balancers and check their status** to view your newly created load balancer in the Management Console.

    Tip: You can also view your load balancers by clicking on the Load Balancer link on the left side of the EC2 Dashboard screen.
17. Click on the **load balancer** that you created.

18. Click the **Instances** tab and wait for a few minutes for the instances to become available. They will likely be listed as “Out of Service” until they are fully activated.

    Tip: You can hover over the “Why?” link next to the status of your load balancer and it will explain where the instance is in the start-up process. You can also refresh the status by clicking the circular arrow in the upper right of the Management Console until the status changes to “In Service” for both of your instances.

19. Click on the **Description** tab to find the load balancer’s **DNS Name**.
20. The elastic load balancer and resources take a few minutes to create (only for the first time). After approximately 10 minutes, copy the string between **DNS Name** and **(A Record)**
21. Tip: The string will look something like:

    Free-Lab-Load-Balancer-800374394.us-west-2.elb.amazonaws.com

22. Paste the copied URL into a web browser and you will see your load balanced page.

While it all looks the same on the front end, as you refresh this page, on the back end your requests are being load balanced between your two running instances.

You now have a working load balancer. Congratulations!

End Your Lab

23. Return to the QwikLab lab homepage and click **End Lab** to conclude your lab.

Additional Resources

- For more information about Amazon ELB and ELB pricing, visit https://aws.amazon.com/elasticloadbalancing/
- For information on AWS Training and Certification, visit http://aws.amazon.com/training/

Conclusion

Congratulations! You now have successfully:

- Logged into the Amazon Management Console
- Created an Elastic Load Balancer
- Added Instances to an Elastic Load Balancer

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