Machine Problem 1: AWS Load Balancer

1 Overview

In this MP, we are going to bring up a load balancer to balance load requests between 2 Amazon EC2 instances.

2 Requirements

You need to use the terminal or command prompt on your computer and use a screen recording software for submission. You also need to ssh into AWS instances. For Mac and Linux users, ssh is already available in the terminal. For Windows users, you can install PuTTY.

3 Procedure

Step 1: Bring up 2 EC2 instances using the tutorial Using HortonWorks Sandbox on Amazon Web Services (included in this week's material).

Make sure that you are able to connect to the 2 EC2 instances using your browser as well as your terminal using ssh.

Step 2: We are going to bring up a load balancer, which will help us distribute requests between the 2 instances we have just brought up.

https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/elb-getting-started.html

Using the tutorial, connect your load balancer to the previously brought up 2 EC2 instances.

Make sure that you do not use the default security configuration when setting up the load balancer. When creating a custom security configuration, allow traffic to be routed from anywhere and using the HTTP protocol.

To test to see whether your load balancer is working correctly, load the DNS address given in the description of the AWS load balancer in your favorite browser, and you should get the same homepage as you got when you loaded the DNS address of your EC2 instances in your browser.

If you encounter any other problems, use Google Search, AWS documentation, or Piazza.

Step 3: Start screen recording.

Step 4: SSH into the 2 instances in two separate terminal windows and type the following command:

```
1  # tail -f /var/log/httpd/access_log
```

This is the access log of the EC2 instance that you are logged into. Whenever your EC2 instance gets a request, it is logged in this file. With the tail command, you are printing out to terminal whenever a change occurs in the file.

Step 5: Refresh the page with the load balancer DNS address multiple times and notice how the EC2 instances are getting requests. Each request from your browser will only be serviced by only one of the two EC2 instances.

Step 6: Bring down 1 instance using the AWS console by terminating any **ONE** of the instances.

Step 7: Now refresh the browser page. You should still see the request being successful.

The load balancer detected that only 1 of the 2 registered instances is alive and directed the request to the alive instance.

Step 8: Submit the video of your demo for grading. You will submit your video file on the **Machine Problem 1 Submission** page. Click the ***My Submission*** tab, upload your video file, and click submit.

4 Submission Guidelines

1. Your video should show that your load balancer is able to direct traffic to the EC2 instances.

2. You should show the access log and how that gets changed when you refresh the browser page.

3. The video should also show you refreshing the page after you bring down one of the EC2 instances.

4. Please make the video as short as possible, ideally only a few seconds.

Mark as completed