CS 524 Lab Assignment #3

In this assignment, you will continue to develop and load-balance your own infrastructure (a server farm), but this time you will achieve that *programaticically* using the *Amazon AWS CloudFormation Service* (https://aws.amazon.com/cloudformation/). (You might also find helpful all but the last section of Chapter 7 of the textbook).

The idea is to create exactly the same service as in Lab #2, but to achieve this objective by using the *orchestration* engine that the AWS *CloudFormation* provides.

You can use the *AWS CloudFormation* sample templates or create your own templates to describe the AWS resources and the associated dependencies or runtime parameters, required to run your application.

After the AWS resources are deployed, you can modify and update them in a controlled way, in effect applying version control to your AWS infrastructure the same way you do with your software.

You can also visualize your templates as diagrams and edit them using a drag-and-drop interface with the *AWS CloudFormation Designer*.

This assignment invites you to experiment with the tools, and you are expected to provide a report.

As a minimum, you need to perform the following steps:

1. Create a *stack* on *AWS CloudFormation* that corresponds to your infrastructure (again, you can use an existing template—recommended as the first step, or create your own)
2. After successfully deploying infrastructure, click on the output and show the screen shots of the deployed website.
3. You are expected to provide the screen shots of every meaningful screen while deploying your website and include in your report
    a. the Instance and Domain ID – on starting the instance
    b. Your website template
    c. The actual deployed website.

You may discuss the detail of this project with other students) and even work in a team; however, the report that you produce must be **your own.** To this end, you *may not* just copy someone else's template—you must end up with your own.

In preparing the report, please adhere to the requirements set forth in the previous assignment. If in doubt, please ask CAs.

The total number of points for this assignment is **100.** At the CAs' discretion you may get up to **20** more points extra credit for being creative and performing above and beyond the expected

minimum. (You could, for example, design and implement tests that would force creation of extra instances and demonstrate how this is done. You can also use other tools to get interesting results—your creativity is the ceiling!)