SWE645 – Assignment 2

This assignment is comprised of two parts.

Part1:

Please **use one of the W3.CSS Templates** to enhance the look and feel of your homepage – the landing page hosted on Amazon S3. This page should have at least a picture and a brief description of yourself. (https://www.w3schools.com/w3css/w3css_templates.asp)

Part2:

This part of the homework can be **done individually or in a group of maximum 4 students**. If you are working in the group, please identify the contribution you made to complete the work. The requirements are as follows:

- **Containerize the application** you developed in Homework 1 – Part 2, using **Docker** technology.
- **Deploy the containerized application** on the open source container orchestration platform **Kubernetes** to enable scalability and resiliency of your application. You can use Rancher (https://rancher.com/docs) to install Kubernetes distribution supported by Rancher Kubernetes Engine (RKE), Google Kubernetes Engine (GKE), or Elastic Kubernetes Services (EKS).
- **Establish a CI/CD pipeline** that should include a git repository, such as **GitHub** or **BitBucket** as a source code repository and the build automation tool **Jenkins**, and **integrate** the CI/CD pipeline with the **Kubernetes** platform you used.

Submission – Part1

The submission for this assignment should be through the blackboard. Please provide the AWS URL of your website as part of the submission.

Submission – Part2

The submission for this assignment should be through the blackboard website. I expect a zipped package containing the source files, configuration files, such as Dockerfile, Jenkinsfile, war file, and any additional packages, scripts, or files that you used. I also require a readme file which contains installation and setup instructions, including references, of the tools you used so that the TA and myself can replicate your steps and deploy and run the assignment. I also expect AWS URL of your homepage as part of readme file. Submit all source, and war file, files necessary to run the application and the installation and execution instructions in a zip file.

Please add the link of your application to your website on Amazon S3, that you created in the Part1 section of this assignment. Also, provide the URL of your homepage as well as of the application deployed on Kubernetes in readme file as part of your HW submission on the class blackboard. Pleate a video recording demonstrating the working code and make it a part of your submission. In addition, schedule a meeting with the GTA or the professor to demo your work.

NOTE: A late assignment carries a 10% late penalty for each week it is late. Assignments are NOT accepted after being 2 weeks late. Make sure your or your group's name is on every programming artifact so we know who it belongs to. For every source file, please include comments at the top of the program describing what the program does. This only needs to be 1 or 2 sentences. Be sure to test access and functionality to your submission before the due date.

Grading:

The following areas will be used to grade the homework:

- Does system meet the functional requirements: 75 points
- Does the assignment run without errors: 13 points
- Does the ReadMe file contains necessary source code, executables, installation/setup instructions, including references, to replicate your steps: 10 points
- Comments: 2 points

Instant Point Deductions:

I reserve the right to deduct points instantly for the following reasons:

- The source, or binary, files are not included in the package.
- The readme file is not included in the package.
- The program doesn't run due to errors in the code.
- I can't figure out how to use the assignment, and instructions are left out.