**Automation Testing**

Phase-End Project Problem Statement

**Phase-End Project: eCommerce Platform Testing**

**Project agenda:**

Automate testing for the frontend and backend of an e-commerce Application for an organization.

**Background of the problem statement:**

Pebble International is a manufacturing company that manufactures cycles for kids. They recently came up with e-bikes and wish to scale up online.

They have created an e-commerce platform where they maintain track of various products and categories. An end user can be authenticated and can purchase a product.

They have got various test cases written by their team to validate the working of various functionalities in the application.

As an Automation Test Engineer, you need to set up the DevOps and deployment strategy for the application using Docker, Jenkins, and AWS.

The tasks that need to be performed by you are:

* Set up Git and a GitHub account to manage projects
* Create Docker Container for Angular Admin Application
* Create Docker Container for Java Backend
* Create Jenkins Pipeline for Angular Admin Application
* Create Jenkins Pipeline for Java Backend
* Deploy Angular Admin Application on AWS
* Deploy Java Backend on AWS

**The flow and features of the application:**

* Initially set up the MySQL database which is required for the application to work.
* **Create Admin Users:** In order to use the Java Backend and Admin application, you need to create admin users manually in the database.
* **Testing:** Execute Test Cases for the Java Backend first using maven and see the report. You can use the surefire maven plugin for the same. Now, execute test cases for the front-end admin application of the e-commerce platform, which is Angular based.
* **Dockerize the Application:** Create a Dockerfile for Java Backend Application and run the docker command to build an image and container. Similarly, set up Dockerfile for the Angular Admin Application.
* **DevOps with Jenkins:** Create a Jenkinsfile for Java Backend Application and push the code to the GitHub repository. Create a Jenkins Pipeline project and build the same. Similarly, repeat the process for Angular Admin Application.
* **Deployment to AWS:** At the final stage, create an EC2 instance and deploy the Java Backend to the EC2 instance. Ensure to link the MySQL Database from RDS Service in AWS with Java Backend. Similarly, on another EC2 Instance, deploy the Angular Admin Application.

**Technology Specification:**

The following technologies are used in the development of this application:

* Docker
  + Images
  + Containers
  + Docker Commands
  + Dockerfile
* Jenkins
  + Pipeline Project
  + Maven Plugin
  + Jenkinsfile
* AWS
  + EC2
  + RDS
  + IAM

**Validation (Frontend/Backend):**

* All the Test Cases must be passed.
* Dockerfile should be able to generate an image for the application.
* Jenkinsfile should be used to set up DevOps.

**Business Logic/Exception Scenarios:**

* DevOps Pipeline should be created in stages.
* Stages can be Source, Compile, Test, Build, etc.

**The following requirements should be met:**

High-quality testing and deployment for given applications including the above-mentioned features, validations, and business logic should be delivered at the end of the project.

**Note:**

As part of this project, go ahead and clone the below given Angular application:

[**https://github.com/Simplilearn-Edu/estore-admin-dashboard**](https://github.com/Simplilearn-Edu/estore-admin-dashboard)

Also, to execute the test cases for the Java Backend, check the eStoreBackend folder from the below link:

[**https://github.com/Simplilearn-Edu/estore-admin-dashboard**](https://github.com/Simplilearn-Edu/estore-admin-dashboard)