Project 1

Implementing a Java project, creating a docker image and pushing on docker hub and also build a ci/cd pipeline using Jenkins

Project 2

Performing selenium automation testing with java saucedemo.com

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Spring Boot

Spring Boot is an open-source framework built on top of the Spring platform. It essentially provides a **simplified and faster way** to create production-grade Spring applications

1. DOCKER

Docker, a powerful open-source platform for building, shipping, and running applications in containers.It allows you to package your code and its dependencies into standardized units called containers, which are self-contained and portable.

Containerized Applications:

- Packaged with dependencies in a self-contained unit (container)

- Isolated from each other and the host OS

- Consistent across environments

- Easier to scale and deploy

Jenkins

Jenkins is an open-source automation server. It's a powerful tool that helps automate various parts of the software development lifecycle, specifically focusing on building, testing, and deploying applications

Continuous Integration/Delivery (CI/CD): Jenkins is a popular choice for implementing CI/CD pipelines. These pipelines automate the building, testing, and deployment of applications, allowing for faster development cycles and more reliable releases.

Benefits of Using Jenkins:

- **Increased Efficiency:** Automating repetitive tasks like building and testing frees up developer time for more critical work.

- **Improved Quality:** Automated testing helps catch bugs early in the development process, leading to higher quality software.

- **Faster Releases:** CI/CD pipelines with Jenkins enable faster and more frequent application releases.

- **Scalability:** Jenkins can handle projects of all sizes and can be scaled to meet growing needs.

Selenium:

Selenium is a free, open-source suite of tools for automating web browser interactions. It allows developers and testers to write scripts in various programming languages (like Java, Python, C#, etc.) to simulate user actions in a web browser. This enables automated testing of web applications across different browsers and operating systems, ensuring consistent functionality and improving software quality.

Benefits of Selenium Testing:

- **Reduced Testing Time:** Automating repetitive tasks saves time compared to manual testing.

- **Improved Accuracy:** Selenium scripts can execute tests consistently, reducing human error.

- **Increased Test Coverage:** Automate a wider range of test cases than manual testing allows.

- **Early Bug Detection:** Catch bugs early in the development cycle for faster fixes.

- **Improved Software Quality:** Regular automated testing helps maintain high-quality web applications.