CSC483 – Topics in Computer Science II (DevOps) – Fall 2025

- Learning Outcome (CLO4): Apply DevOps pipeline automation for code deployment

- Individual assignment - focus on CI/CD

- Emphasis on Selenium testing and Jenkins integration

- Emphasis on Selenium testing and Jenkins integration

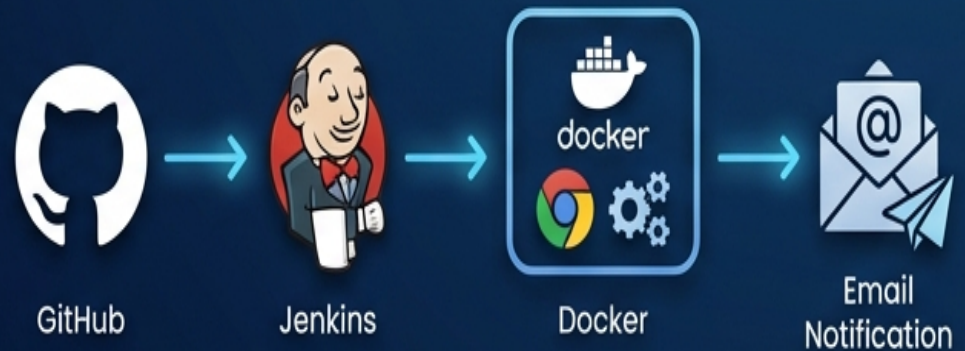# Part I – Selenium Test Cases

- 1. Write ≥10 automated tests for a simple web app with DB backend

- 2. Use any language that supports Selenium

- 3. Run tests on headless Chrome for CI

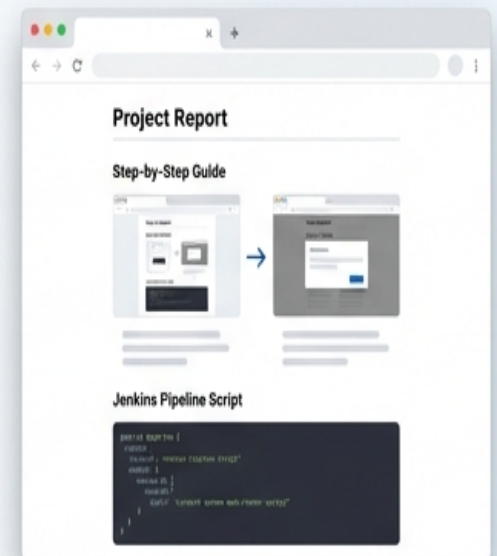- 4. Minimal app – basic CRUD UI is sufficient

Part II – Jenkins Automation Pipeline

- Jenkins on AWS EC2 pulls code from GitHub on push

- Executes Selenium suite inside Docker (markhobson/maven-chrome or custom image)

- Emails test results to the collaborator who pushed

GitHub → Jenkins → Docker → Email Notification

Submission Requirements

- Deploy URL of the web app

- GitHub URLs for app and test code (via Google Form)

- Add instructor as collaborator

- Include full Jenkins pipeline script in the report

- Well-organized report with step-by-step instructions and screenshots

Evaluation Criteria & Key Takeaways

EVALUATION CRITERIA

- 4 marks – ≥10 Selenium tests ✓

- 4 marks – Jenkins pipeline triggers, runs, emails ✓

- 2 marks – Comprehensive report with screenshots ✓

KEY TAKEAWAYS

» Master headless Chrome Selenium testing

» Build CI pipeline integrating GitHub, Docker, Jenkins on AWS

» Automate result notification via email