DevOps Project

The purpose of this project is to design and implement a CI/CD system for a ToDo web application. You are expected to create a short design document, and to prototype the CI/CD system in a Docker environment.

There is no right-or-wrong answer, but you are expected to deliver a working solution. You can ask questions and seek help if there is anything that you are not familiar with. You should spend about 8-12 hours.

Initial Setup

For your convenience, a ZIP file with initial Git repository and a **docker-compose.yml** file are provided to get you started.

- Unzip the file and run:
  `$ docker-compose up -d`
- This will start a Git SSH server container and a NGIX server running the application
- Visit http://localhost:8082 to test that the web app is running
- Copy your public SSH key into the ./git-server/keys directory
- To checkout the Webapp sources, run:
  `$ git clone ssh://git@localhost:2222/git-server/repos/webapp.git`
- Note that the WebApp is already checked out under webapp

Project Goals

- Write a short design document that describes the CI/CD system
- Setup a CI pipeline in Jenkins (in a Docker environment) that is:
  - Polling the local Git repository for changes
  - Rebuilds the Docker image when a change is detected
  - Note that the CI/CD scripts should be managed/versioned
- Implement a deployment option that allows a user to Deploy a specific version
  - To deployment a new version, stop the currently running “webapp” container and start the newly built container

Deliverables

Deliver a ZIP (or tar.gz) file of the project directory that contains all necessary files, similar to the provided bootstrap environment. In particular, provide:

- A PDF design document that describes the CI/CD system
- Document describing your implementation
- Instructions on how to run and test the system