

SWE304 PROJECT STUDY 3 (2026)

Due date: 17 April 2026, class time.

In this project, you are expected to create a CI/CD pipeline on Github using workflow utility see Figure 1). Follow the Github action specifications for the project given below:

- A cloud instance must be created with ports 22, 80 open.
- Github action triggering events are a “**developer push**” or a “**pull request resulted with merge**”.
- A new jar of web application must be created automatically on Github when an event-trigger occurs.
- Software versions (such as Java and build tool) must comply with your application.
- The jar file on Github (not in the local) must be transferred (or copied) to the cloud instance.
- Docker image must be created on Github
- Dockerhub login must be done automatically using Github secrets.
- The docker image must be pushed to the Dockerhub.

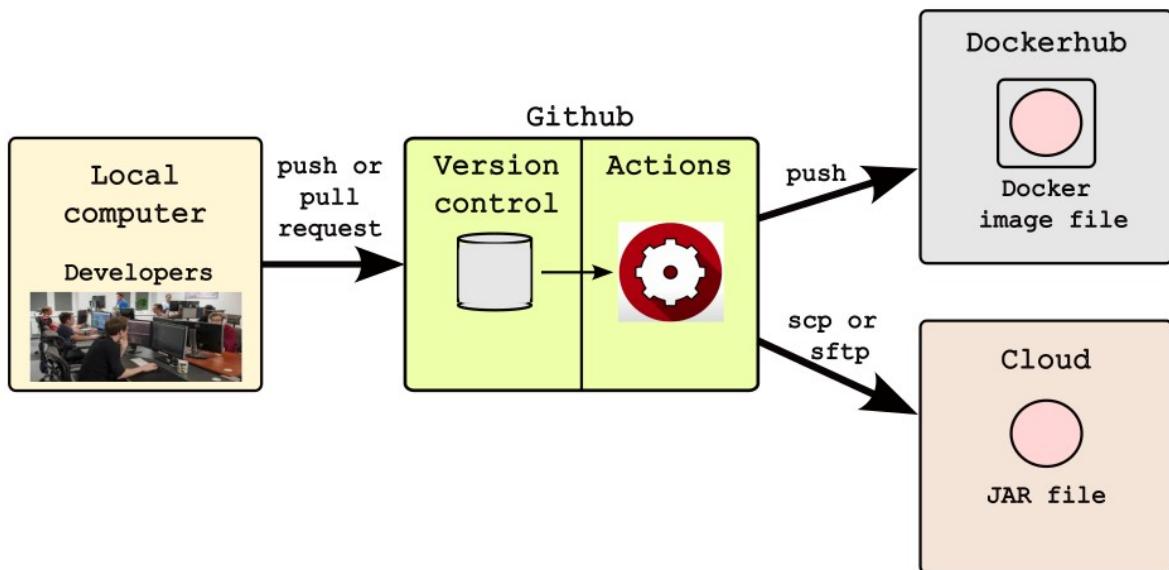


Figure 1. Project 3 block diagram.

PS: You do not have to show that your application is working on the cloud. There is no need to have a database connectivity in your application.

Grading:

No Tasks (Jenkins labeled tasks must be done by Jenkins server)	Grade
1 Have your local webapp ready for update & push or pull request to GitHub repository.	10
2 Create workflow action script in your workflow for making JAR on GitHub.	20
3 Add an action script to your workflow to generate a docker image on GitHub.	20
4 Add action script to your workflow to login to Dockerhub and push the image.	20
5 Add action script to your workflow to login to cloud and copy the JAR file.	20
6 Show that workflow file and CI/CD pipeline works as expected.	10

PS: Student must show up for presentation to collect points.