





(21CC505PC) SOFTWARE ENGINEERING LAB LAB EXERCISE - 6

CONTINUOUS INTEGRATION TOOLS

TOPIC-3

BUILDING THE CI/CD SCRIPTED PIPELINE USING JENKINS FOR MAVEN JAVA PROJECT WITH POLL SCM



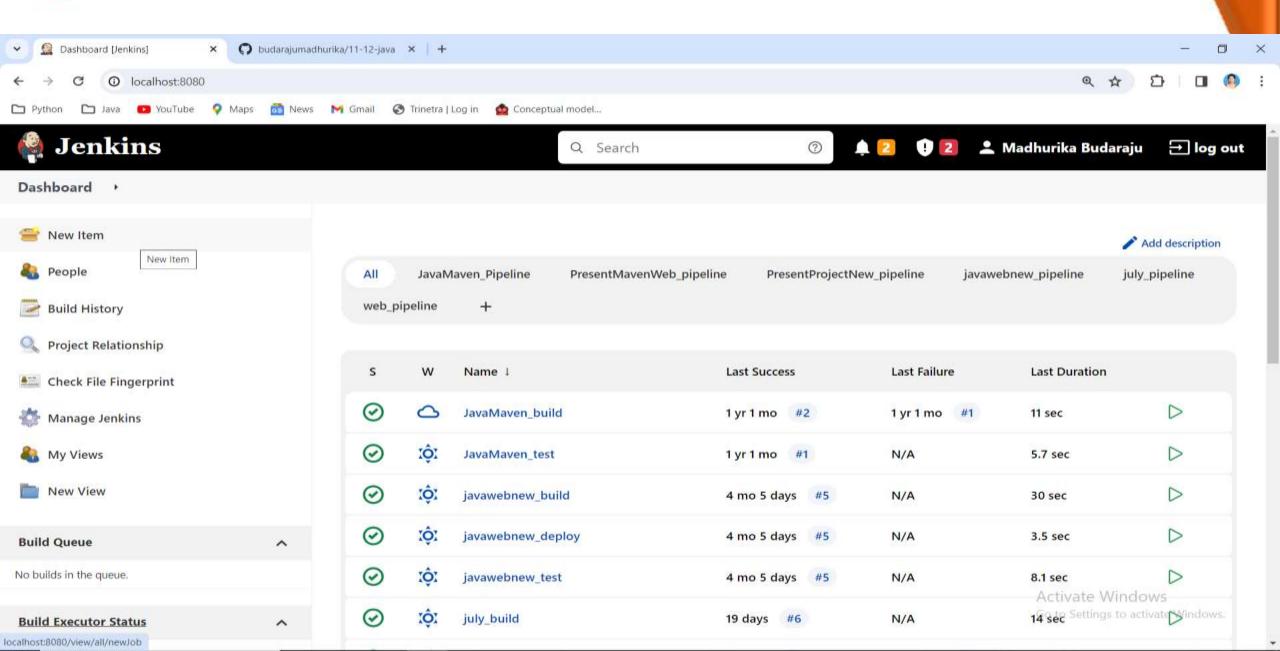
List of Experiments:

Do the following exercises for any one project given in the list of sample projects or any other projects?

- 1. Development of problem statement.
- 2. Preparation of Software Requirement Specification Document, Design Documents and Testing Phase related documents.
- 3. Study and usage of any Design phase CASE tool
- 4. Creating the project and committing using Git and GitHub
- 5. Creating Maven Java and Maven Web project using Eclipse and Push them to GitHub.
- 6. Building the CI/CD pipeline using Jenkins for the project in the previous experiment.
- 7. Local Deployment of project using Docker, Kubernetes and Monitoring using Nagios tool.
- 8. Cloud Deployment of a project in the AWS Cloud using EC2 instance.

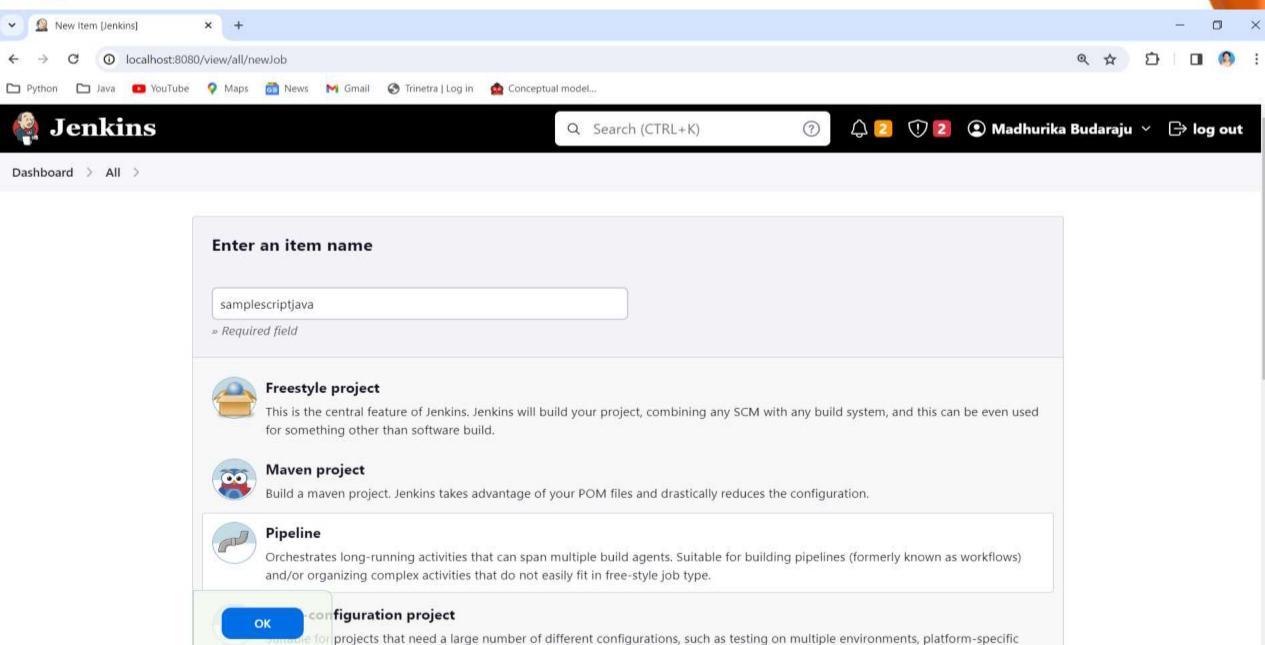


Go to Jenkins dashboard → click on new item



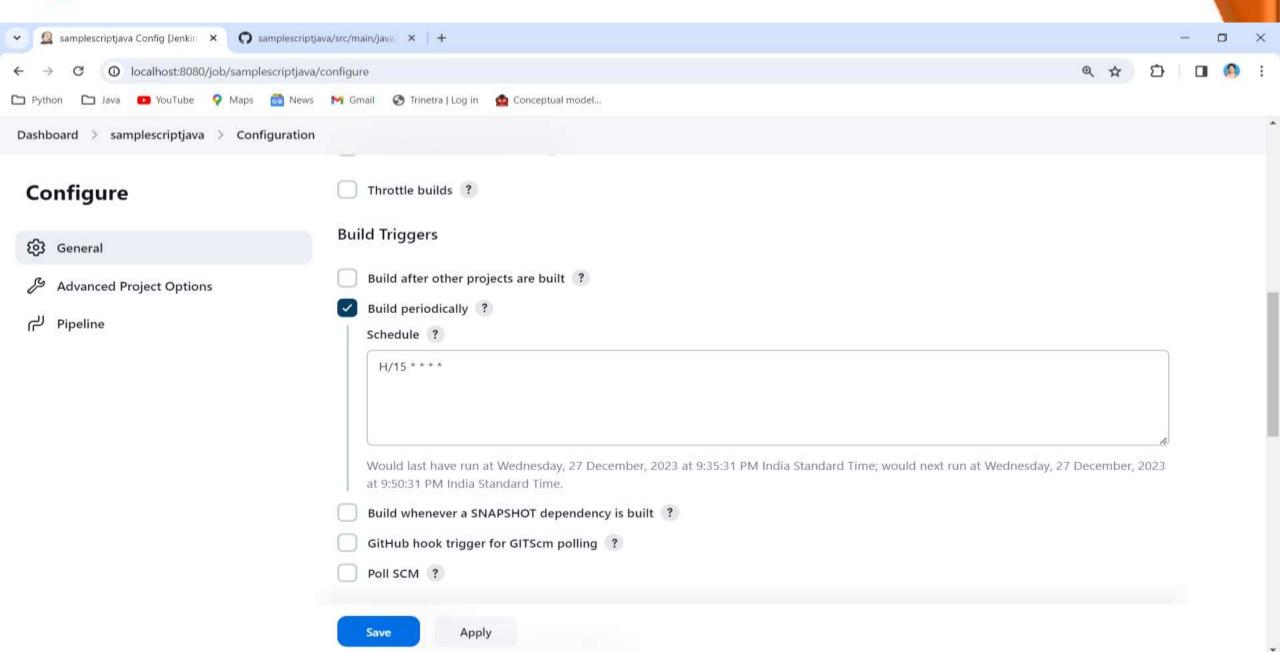


Give a name \rightarrow select 3rd option pipeline \rightarrow click ok



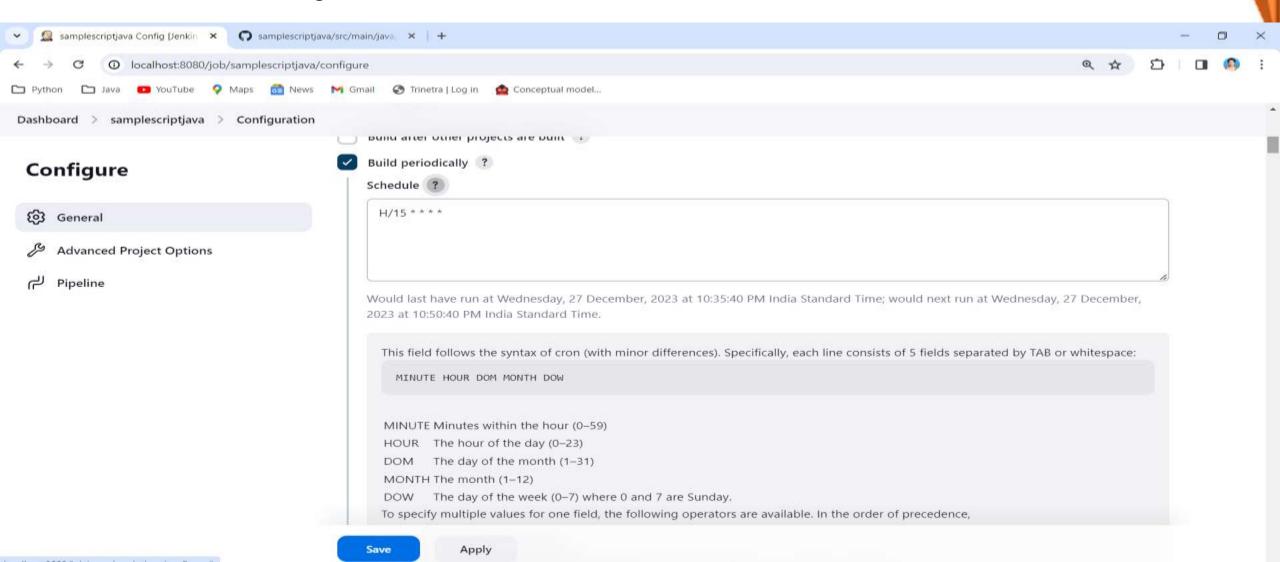


The pipeline dashboard looks like this → scroll to build triggers -> select build periodically



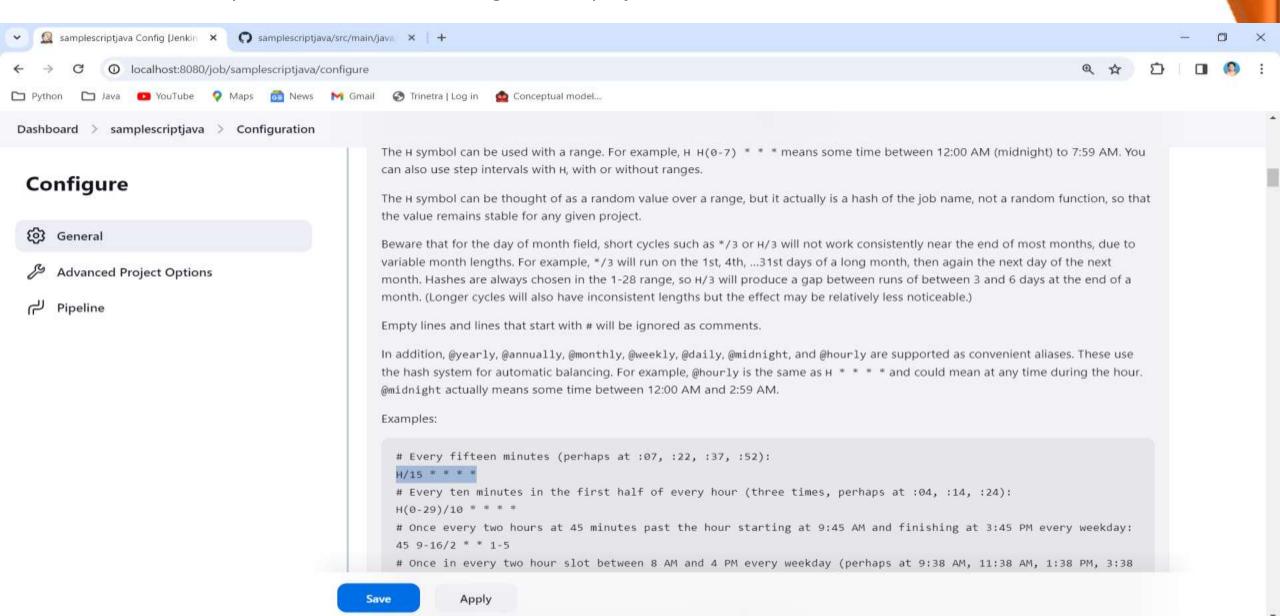


Click on schedule to know more about how to build periodically "Build Periodically" refers to a feature that allows you to schedule and automate the execution of a build job at regular intervals. It's a way to ensure that certain tasks, such as compiling code, running tests, or deploying software, are performed automatically and on a recurring basis.



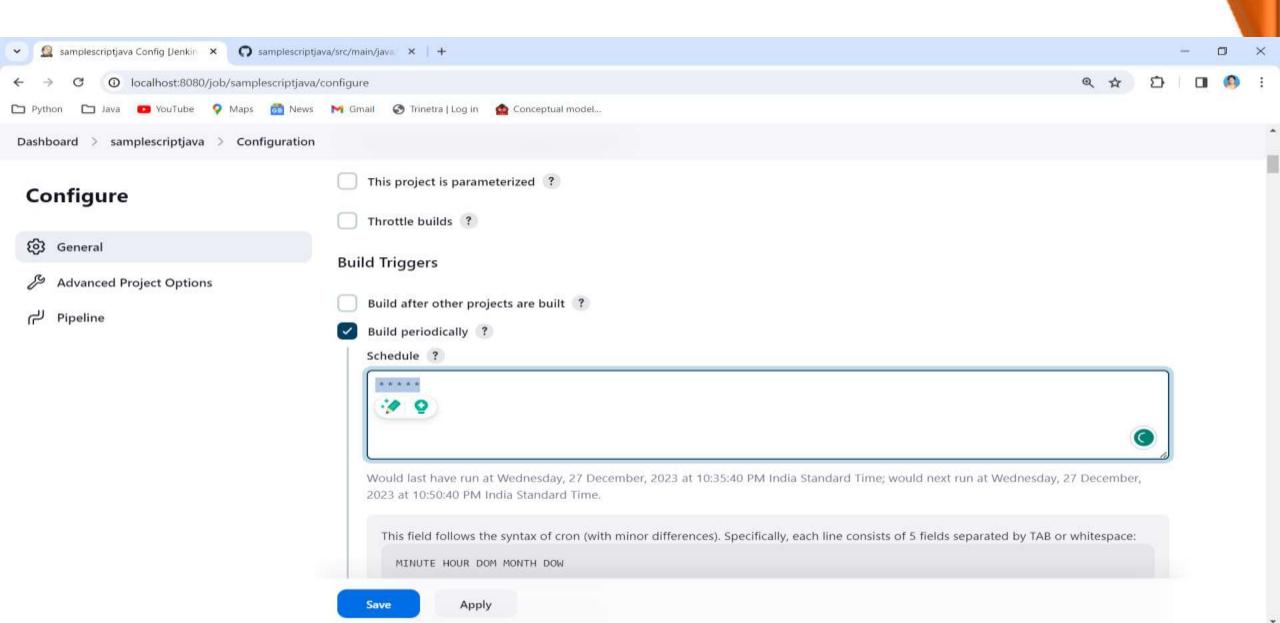


The highlighted text helps us to build / trigger every 15 min i.e. for every 15 min it will trigger the build automatically even if there are no changes in the project.



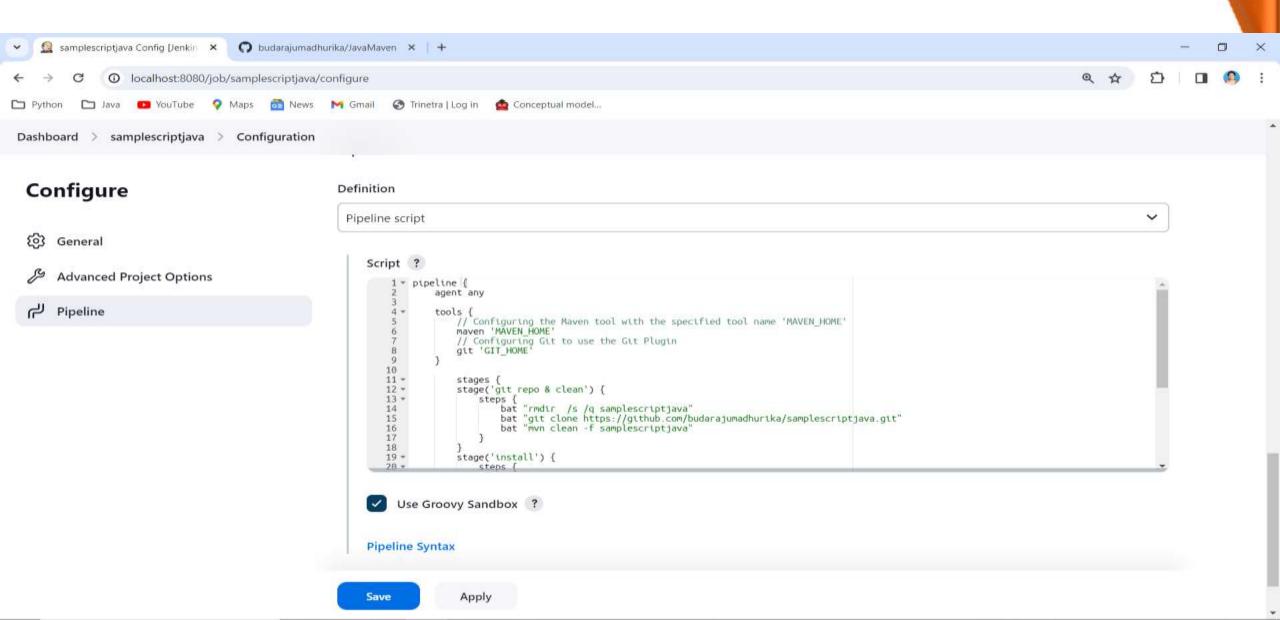


The highlighted text helps us to build / trigger every Min



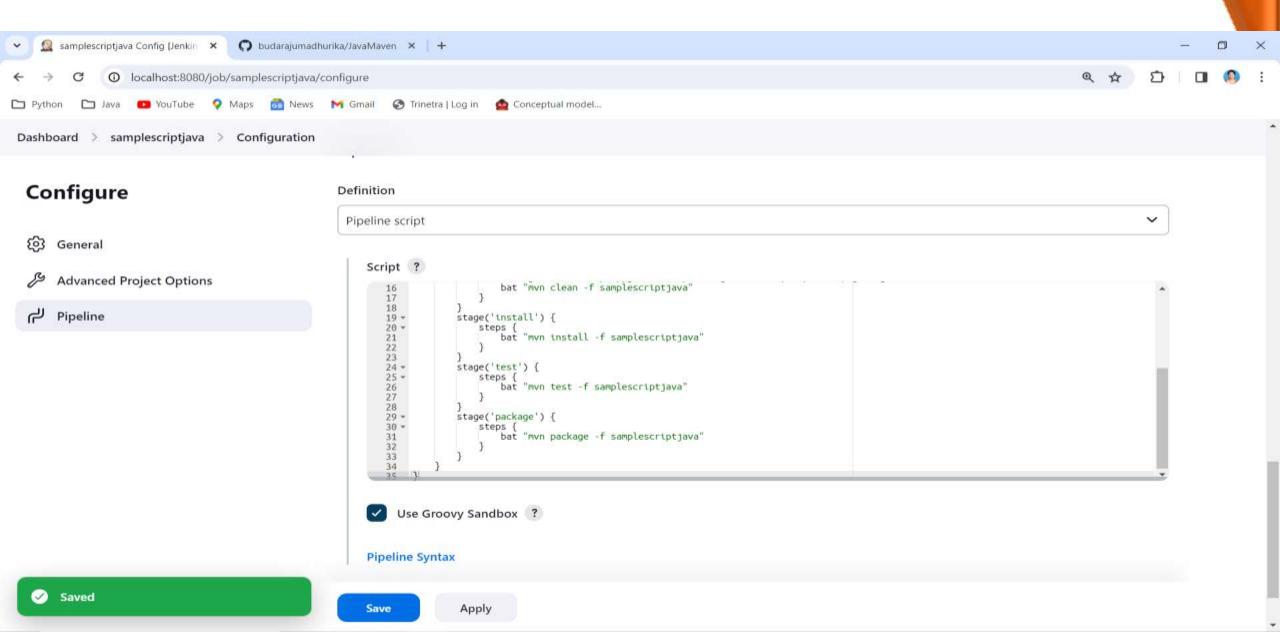


Scroll down and go to pipeline and paste the script here



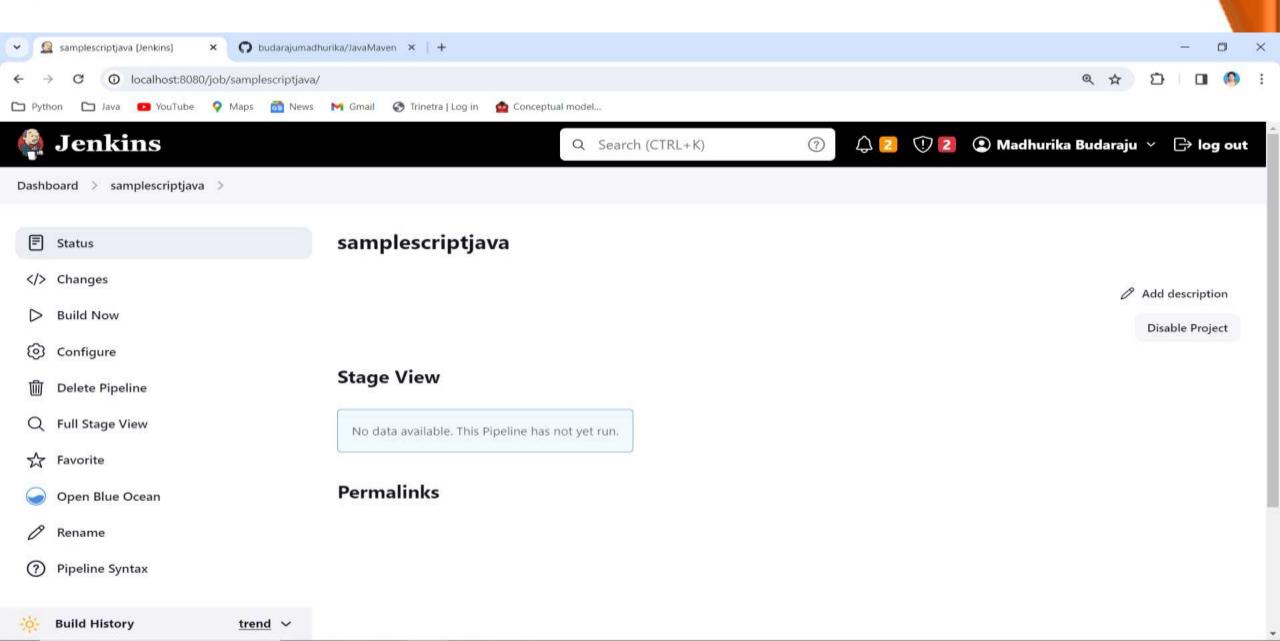


Apply and save





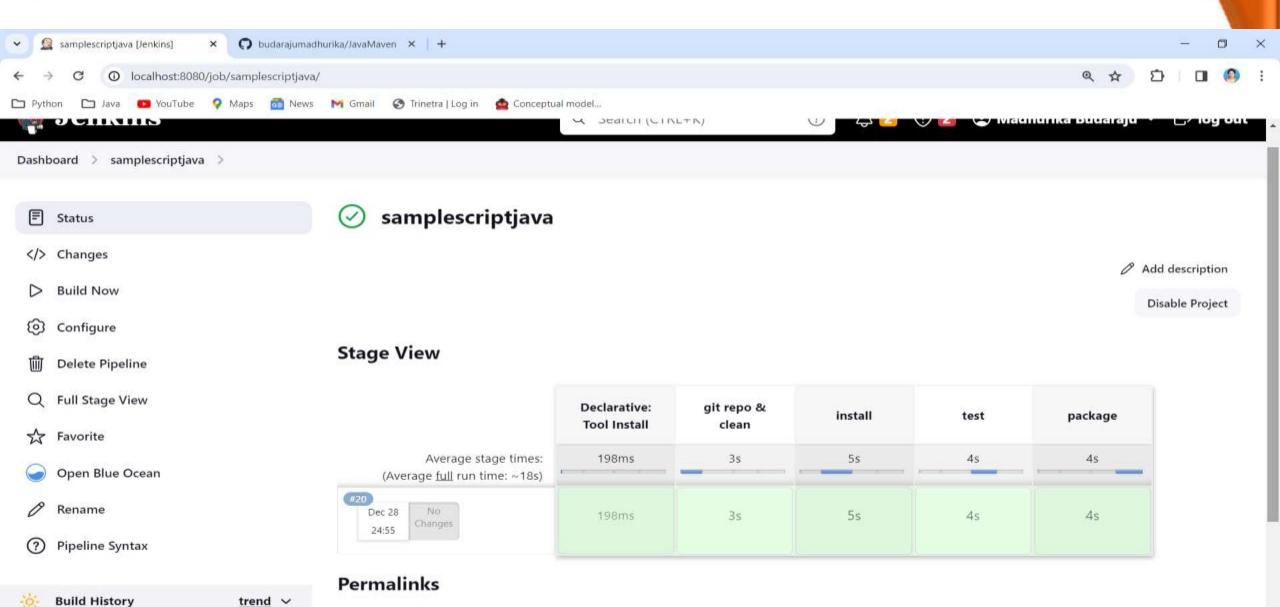
Click on build now





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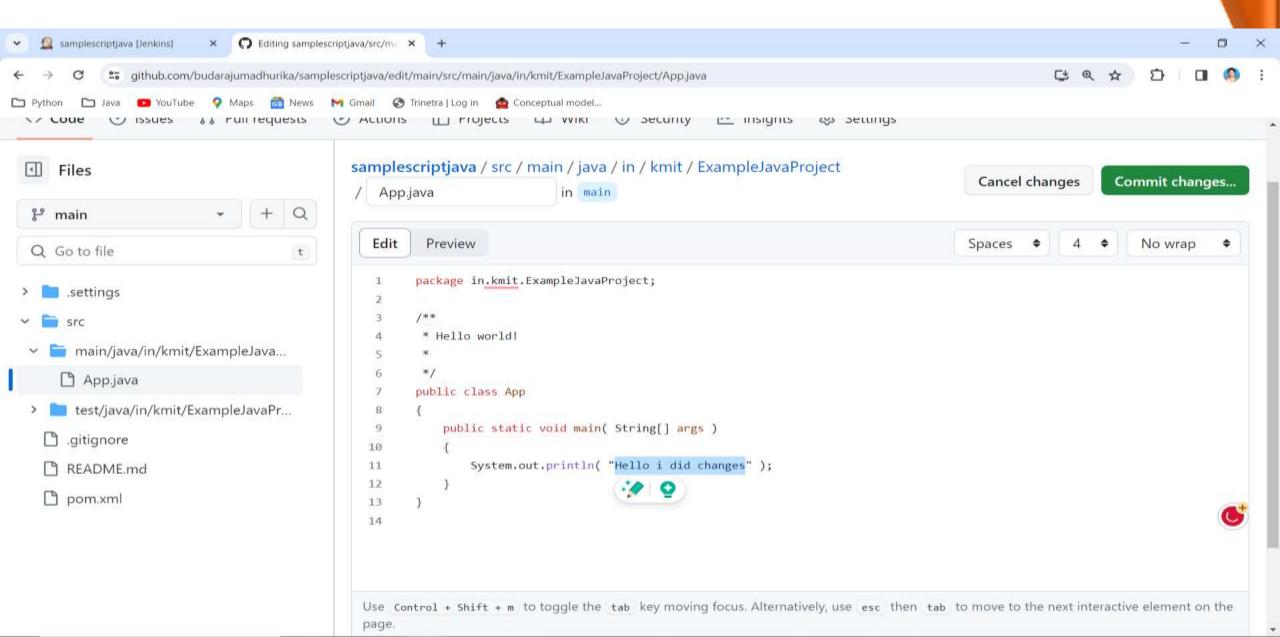
The build is successful



Last build (#20), 34 sec ago

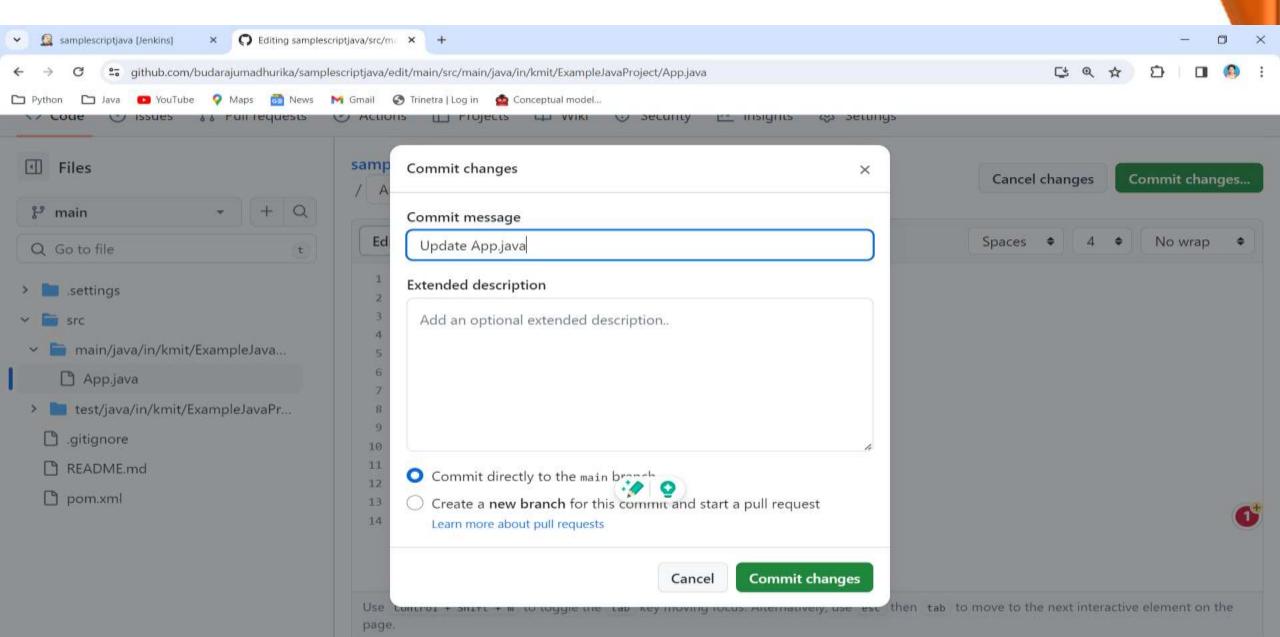


I changed my code in GitHub as shown



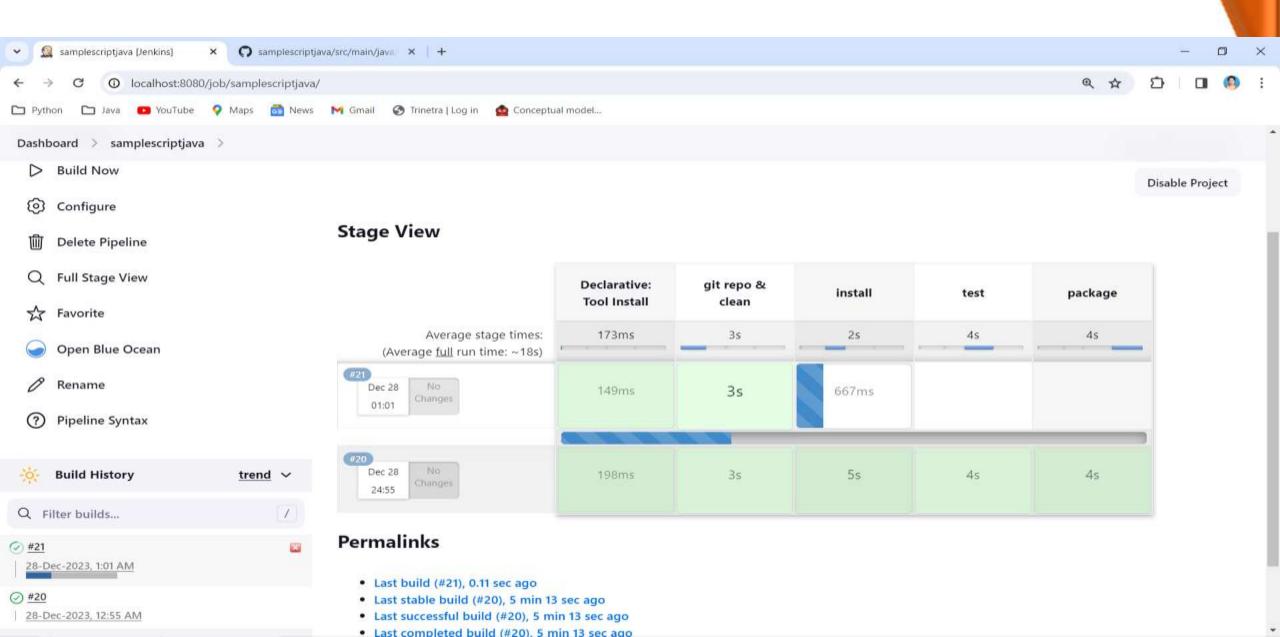


Commit the changes





Even if we do changes or not, every minute a new build is triggered as shown





This is how it automatically builds \rightarrow but let's leave it H/15 * * * * (to trigger every 15 min) or H * * 3 * (to trigger every 3 months)

