Abdullah Hanoosh

Milestone 4: Continuous Integration and Continuous Delivery (Jenkins)

https://github.com/abduh3131/SQLAB4

https://drive.google.com/file/d/1eJ2vt-KH8enloRlFZLiuGGmPuVVEs2-T/view?usp=sharing

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Terms that can be used to describe the key concepts in its continuous integration and continuous delivery (CI/CD) processes include but are not limited to:

Pipeline: A pipeline in Jenkins is a collection of interconnected events or jobs. It represents the overall workflow process of delivering a piece of software. In the Jenkins file, a pipeline can be defined with domain-specific language (DSL) syntax. Pipelines describe complex workflows such as build, test, and deploy; often these are stages with arrows between them.

Node: A node is a machine that is part of the Jenkins environment and is capable of executing a pipeline or projects. Jenkins contains two types of nodes: master and agent. A master node is a central entity that holds control of Jenkins, scheduling the jobs, dispatching them to the worker nodes for execution, and later observing their execution. It can execute jobs directly.

Agent: In this context, the agent is a worker node. It is a configured system that offloads build projects from the master and executes jobs dispatched by the master. The agents may run on different operating systems as physical or virtual machines, Docker containers, or cloud instances. The terms "agent" and "slave" are more or less interchangeable, but "agent" is a newer term and is to be preferred.

Stage: Stage is the step that has been taken in the pipeline but has been implemented to act as a logical boundary in the CI/CD process. This is made to create a group of steps into a phase of the process. These stages are run in sequence, and the pipeline makes it possible that the user know where they are in the build/test/deploy process.

Steps: Steps are the smallest units of work within a pipeline and are contained within stages. Steps can be a specific command or task to be executed, such as code checkout from the version control system, or execution of any shell script or application deployment. Steps are running in order within a stage, and the success or failure of the steps can influence the advancement of the pipeline to the next stage. This is where Jenkins works in automating code integration, testing, and deployment processes, which makes it easier for the developers' team to integrate the change more often and hence identify the problem at an earlier stage of the development cycle.

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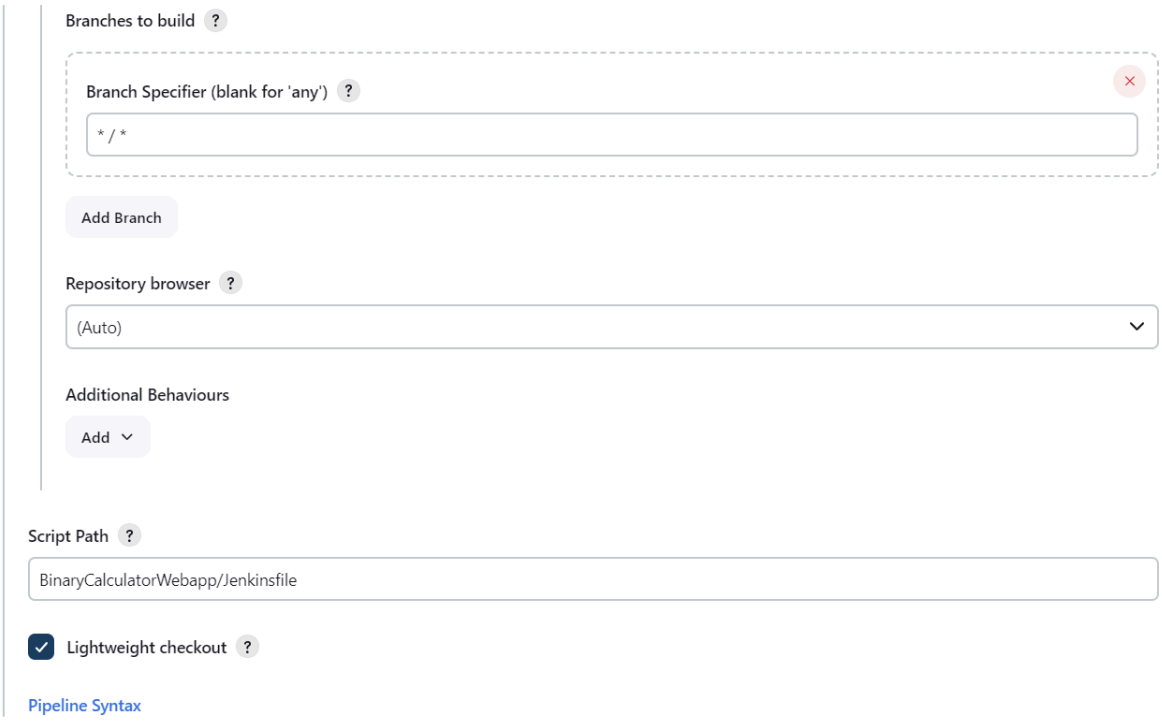
```
Seen 1 remote branch
 > git show-ref --tags -d # timeout=10
ERROR: Couldn't find any revision to build. Verify the repository and branch configuration for this job.
ERROR: Maximum checkout retry attempts reached, aborting
ERROR: Couldn't find any revision to build. Verify the repository and branch configuration for this job.
ERROR: Maximum checkout retry attempts reached, aborting
[withMaven] downstreamPipelineTriggerRunListener - Failure to introspect build steps: java.io.IOException: BinaryCalculator_pipeline #7 did not yet start
[withMaven] downstreamPipelineTriggerRunListener - Failure to introspect build steps: java.io.IOException: BinaryCalculator_pipeline #7 did not yet start
Finished: FAILURE
```



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