Jenkins Lab 1

01) What is Jenkins used for?

>> Jenkins is an open-source continuous integration/continuous delivery and deployment (CI/CD) automation software DevOps tool written in the Java programming language. It is used to implement CI/CD workflows, called pipelines.

02) What is Jenkins agent? What is Jenkins executor (Build Executor)?

>> A Jenkins executor is one of the basic building blocks which allow a build to run on a node/agent (e.g., build server). Think of an executor as a single "process ID", or as the basic unit of resource that Jenkins executes on your machine to run a build.

>> Jenkins agent is typically a machine, or container, which connects to a Jenkins controller and executes tasks when directed by the controller. Artifact. An immutable file generated during a Build or Pipeline run which is archived onto the Jenkins Controller for later retrieval by users.

03) Explain Jenkins master-slave architecture?

a) Jenkins Master

Your main Jenkins server is the Master. The Master's job is to handle:

- Scheduling build jobs.
- Dispatching builds to the slaves for the actual execution.
- Monitor the slaves (possibly taking them online and offline as required).
- Recording and presenting the build results.
- A Master instance of Jenkins can also execute build jobs directly.

b) Jenkins Slave

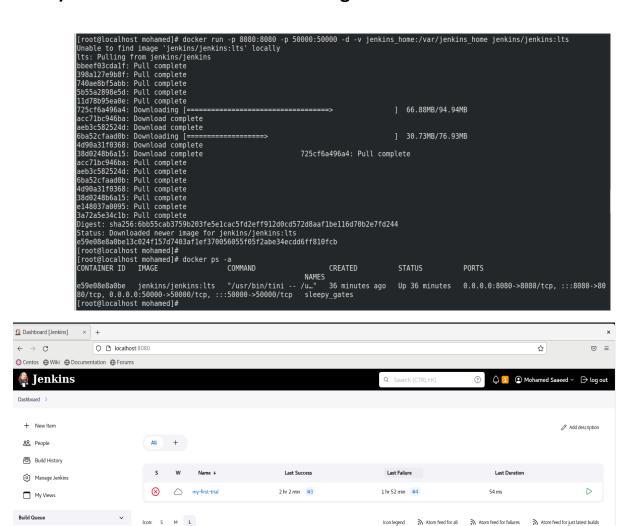
A Slave is a Java executable that runs on a remote machine. Following are the characteristics of Jenkins Slaves:

- It hears requests from the Jenkins Master instance.
- Slaves can run on a variety of operating systems.
- The job of a Slave is to do as they are told to, which involves executing build jobs dispatched by the Master.

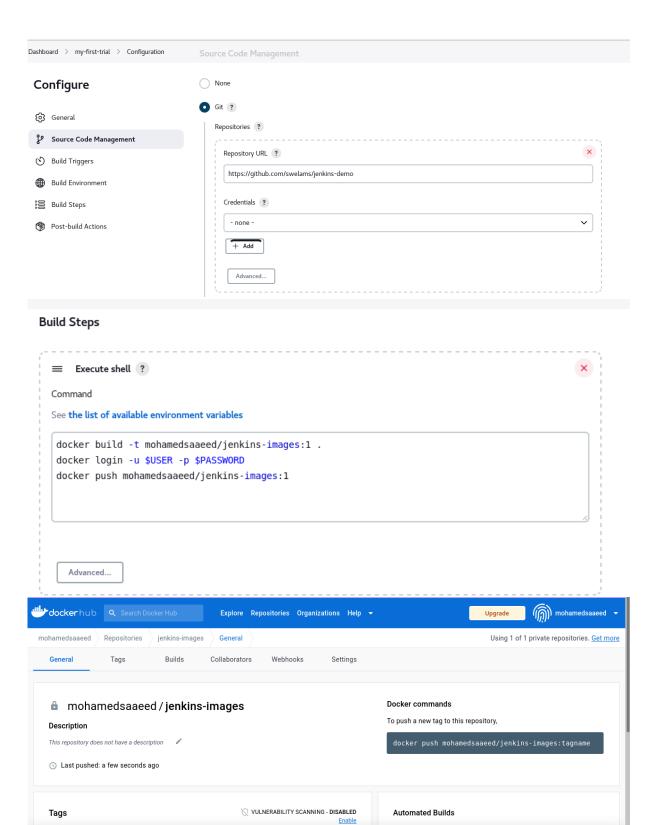
 You can configure a project to always run on a particular Slave machine or a particular type of Slave machine, or simply let Jenkins pick the next available Slave.

04) Install Jenkins with docker image.

Build Executor Status



05) Create free style project and link it to private git repo containing any docker file then build an image from this docker file and push it to private docker repo



```
The push refers to repository [docker.io/mohamedsaaeed/jenkins-images]
a5962e2283d8: Preparing
6b5aaff44254: Preparing
53a0b163e995: Preparing
b626401ef603: Preparing
9b55156abf26: Preparing
293d5db30c9f: Preparing
03127cdb479b: Preparing
9c742cd6c7a5: Preparing
293d5db30c9f: Waiting
03127cdb479b: Waiting
9c742cd6c7a5: Waiting
6b5aaff44254: Mounted from library/openjdk
b626401ef603: Mounted from library/openjdk
53a0b163e995: Mounted from library/openjdk
9b55156abf26: Mounted from library/openjdk
a5962e2283d8: Pushed
293d5db30c9f: Mounted from library/openjdk
03127cdb479b: Mounted from library/openjdk
9c742cd6c7a5: Mounted from library/openjdk
1: digest: sha256:91eb8e5d4dea8c169738304af0fc756d3e218903e1373a8e5a2d0a23d63a7886 size: 2003
Finished: SUCCESS
```