LAB1

01) What is Jenkins used for?

Jenkins is used to enable the integration and automation of different processes, including building, testing, and deployment. Jenkins creates 'pipelines', which define the series of steps that the server will take to perform the required tasks

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

A jenkins agent is typically a machine, or container, which connects to a Jenkins controller and executes tasks when directed by the controller

A Jenkins executor is one of the basic building blocks which allow a build to run on a node/agent

03) Explain Jenkins master-slave architecture?

- The Jenkins master acts to schedule the jobs, assign slaves, and send builds to slaves to execute the jobs

- The jenkins master monitor the slave state (offline or online) and get back the build result responses from slaves and the display build results on the console output.

04) Install jenkins with docker image.

```
root@ip-172-31-21-251:~# docker ps
CONTAINER ID   IMAGE                COMMAND                 CREATED       STAT
US           PORTS
                     NAMES
5a62cfe48b5f   jenkins/jenkins:lts  "/usr/bin/tini -- /u…"  7 hours ago   Up 3
1 minutes    0.0.0.0:8080->8080/tcp, :::8080->8080/tcp, 0.0.0.0:50000->50000/tcp,
 :::50000->50000/tcp   sleepy_sanderson
root@ip-172-31-21-251:~#
```

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

```
Login Succeeded
+ docker push naghamahmed/jenkins:v.1
The push refers to repository [docker.io/naghamahmed/jenkins]
8383f112b735: Preparing
6b5aaff44254: Preparing
53a0b163e995: Preparing
b626401ef603: Preparing
9b55156abf26: Preparing
293d5db30c9f: Preparing
03127cdb479b: Preparing
9c742cd6c7a5: Preparing
293d5db30c9f: Waiting
03127cdb479b: Waiting
9c742cd6c7a5: Waiting
9b55156abf26: Mounted from library/openjdk
6b5aaff44254: Mounted from library/openjdk
b626401ef603: Mounted from library/openjdk
53a0b163e995: Pushed
293d5db30c9f: Mounted from library/openjdk
03127cdb479b: Mounted from library/openjdk
8383f112b735: Pushed
9c742cd6c7a5: Mounted from library/openjdk
v.1: digest: sha256:b00ade36d4e5e7a5b3fce5a7a1fc8c42da0e780660af8ceccd8b6fdf24641600 size: 2003
Finished: SUCCESS
```

naghamahmed › Repositories › jenkins › General

Using 1 of 1 private repositories. Get more

General   Tags   Builds   Collaborators   Webhooks   Settings

🔒 naghamahmed / jenkins

Description

This repository does not have a description ✏️

🕐 Last pushed: a minute ago

Docker commands

To push a new tag to this repository,

```
docker push naghamahmed/jenkins:tagname
```

Tags

🚫 VULNERABILITY SCANNING - DISABLED
Enable

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
🟢 v.1	🐧	Image	---	a minute ago

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🎨 **Jenkins**   🔍 Search (CTRL+K)   ❓   🛡️ 1   👤 Nagham Ahmed ⌄   🔓 log out

📄 Status
</> Changes
▶️ Console Output
✏️ Edit Build Information
🗑️ Delete build '#4'
🔶 Git Build Data
← Previous Build

✅ **Build #4 (Feb 1, 2023, 5:48:58 AM)**

Keep this build forever

Started 19 sec ago
✏️ Add description   Took **10 sec**

</> Changes
1. Add files via upload (details / githubweb)
2. Update Dockerfile (details / githubweb)

🕐 Started by user Nagham Ahmed

🔶 git   **Revision**: bec10ac8361660968737797ad471085454c4a6c1
Repository: https://github.com/naghamahmed/jenkins.git

• refs/remotes/origin/main