

01) What is Jenkins used for?

Jenkins is a software automation tool that DevOps Use to implement CI/CD Workflow(run tests ,build , deploy and publish artifacts)

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

Jenkins agent is worker node that execute the job assigned to it

Jenkins executor is one of basic building block which allow build to run on worker node

03) Explain Jenkins master-slave architecture?

Master : master node that control all workflow like scheduling ,assign jobs to worker node

Slave: slave nodes or agent is a worker node that execute the jobs assigned to it

04) Install jenkins with docker image.

The screenshot shows the Jenkins Dashboard in a web browser at localhost:8080. The dashboard includes a sidebar with links to New Item, People, Build History, Manage Jenkins, and My Views. The main content area displays 'Welcome to Jenkins!' and a message about job execution. A terminal window is overlaid on the dashboard, showing the command to run Jenkins in a Docker container and the resulting output.

```
hawila@localhost:~$ sudo docker run -p 8080:8080 -p 50000:50000 -d -v jenkins_home:/var/jenkins_home jenkins/jenkins:lts
```

[sudo] password for hawila:
0c677691b88141a6a715ff2b2bd415e6c7694b2453e0feea7abd2be668b9a269
[hawila@localhost ~]\$ docker ps

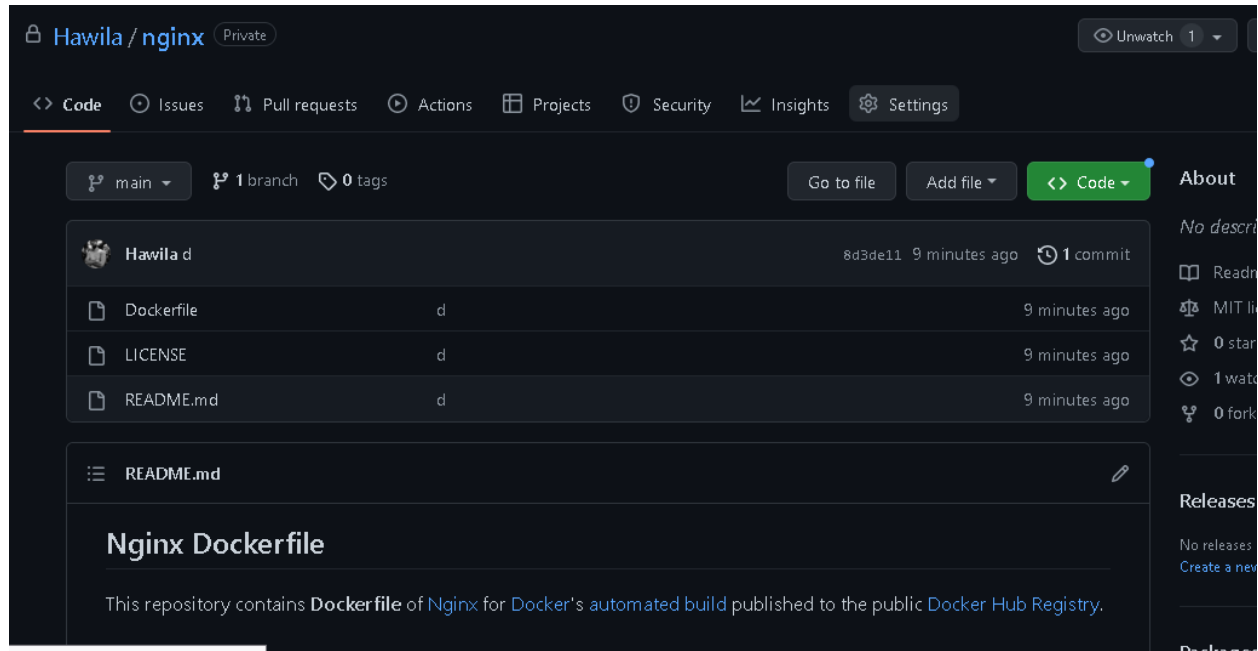
CONTAINER ID	IMAGE	COMMAND	CREATED NAMES	STATUS	PORTS
0c677691b881	jenkins/jenkins:lts	"/usr/bin/tini -- /u..."	8 seconds ago	Up 6 seconds	0.0.0.0:8080->8080/tcp, :::8080->8080/tcp, 0.0.0.0:50000->50000/tcp, :::50000->50000/tcp

[hawila@localhost ~]\$

To return to your computer, move the mouse pointer outside or press Ctrl+Alt.

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

1- priv repo



2- secret cred



3-priv docker

GeneralTagsBuildsCollaboratorsWebhooksSettings

🔒

hawila / priv-lab1

Description

This repository does not have a description

🕒

Last pushed: a few seconds ago

Docker commands

To push a new tag to this repository,

docker push hawila/priv-lab1:tagname

Tags

VULNERABILITY SCANNING - DISABLED

Enable

This repository is empty. When it's not empty, you'll see a list of the most recent tags here.

Automated Builds

Manually pushing images to Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new Images whenever your code is updated, so you can focus your time on creating.

Available with Pro, Team and Business subscriptions.

Upgrade

Learn more

4-build steps

GeneralSource Code ManagementBuild TriggersBuild EnvironmentBuild StepsPost-build Actions

Build Steps

Execute shell

Command

See the list of available environment variables

docker build -t=hawila/priv-lab1:1

docker login -u \$USER -p \$PASSWORD

docker push hawila/priv-lab1:1

Exit code to set build unstable

5- perm

```
[hawila@localhost ~]$ docker run -p 8080:8080 -p 50000:50000 -d \
-v jenkins_home:/var/jenkins_home \
-v /var/run/docker.sock:/var/run/docker.sock \
-v $(which docker):/usr/bin/docker jenkins/jenkins:lts
b6f38df0cfc704e31f84cf7fd305e1f0871da2ecb6436080c3d2db2bb7a23048
[hawila@localhost ~]$ docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	NAMES	CREATED	STATUS	PORTS
b6f38df0cfc7	jenkins/jenkins:lts	"/usr/bin/tini -- /u..."	elated_noyce	4 seconds ago	Up 1 second	0.0.0.0:8080->8080/tcp, :::8080->8080/tcp, 0.0.0.0:50000->50000/tcp, :::50000->50000/tcp

```
[hawila@localhost ~]$ docker exec -u 0 -it b6f38df0cfc7 bash
root@b6f38df0cfc7:/# chmod 666 /var/run/docker.sock
```

6-build

✓ #6	Jan 31, 2023, 6:50 AM
✗ #5	Jan 31, 2023, 6:48 AM
✗ #4	Jan 31, 2023, 6:39 AM
✗ #3	Jan 31, 2023, 6:38 AM
✗ #2	Jan 31, 2023, 6:35 AM
✗ #1	Jan 31, 2023, 6:34 AM

Atom feed for all Atom feed for failures

logs:

Dashboard lab1 > #6

Console Output

Changes

Console Output

View as plain text

Edit Build Information

Delete build '#6'

Git Build Data

Previous Build

Started by user Hawila

Running as SYSTEM

Building in workspace /var/jenkins_home/workspace/lab1

The recommended git tool is: NONE

using credential git-cred

> git rev-parse --resolve-git-dir /var/jenkins_home/workspace/lab1/.git # timeout=10

Fetching changes from the remote Git repository

> git config remote.origin.url https://github.com/Hawila/nginx.git # timeout=10

Fetching upstream changes from https://github.com/Hawila/nginx.git

> git --version # timeout=10

> git --version # 'git version 2.30.2'

using GIT_ASKPASS to set credentials github token

> git fetch --tags --force --progress -- https://github.com/Hawila/nginx.git +refs/heads/*:refs/remotes/origin/* # timeout=10

Seen branch in repository origin/main

Seen 1 remote branch

> git show-ref --tags -d # timeout=10

Checking out Revision 40bdc0277efa98788ae9daf6752c7fa8e886bc65 (origin/main)

> git config core.sparsecheckout # timeout=10

> git checkout -f 40bdc0277efa98788ae9daf6752c7fa8e886bc65 # timeout=10

Commit message: "Update Dockerfile"

> git rev-list --no-walk 5cb5ba29a8c887601e8c4d82d8e091278b15ca35 # timeout=10

[lab1] \$ /bin/sh -xe /tmp/jenkins14253859709835971911.sh

+ docker build -t hawila/priv-lab1:1 .

Sending build context to Docker daemon 76.29kB

Step 1/6 : FROM node:alpine

----> 141305fe74b5

Step 2/6 : ARG APP_VERSION=latest

----> 5436e7c0c0f4

Removing intermediate container 106e12da91a4

----> f3e804cc553a

Step 6/6 : CMD ["node"]

----> Running in f1b97e4a17fa

Removing intermediate container f1b97e4a17fa

----> efe05a7df1d5

Successfully built efe05a7df1d5

Successfully tagged hawila/priv-lab1:1

+ docker login -u hawila -p ****

WARNING! Using --password via the CLI is insecure. Use --password-stdin.

WARNING! Your password will be stored unencrypted in /var/jenkins_home/.docker/config.json.

Configure a credential helper to remove this warning. See

<https://docs.docker.com/engine/reference/commandline/login/#credentials-store>

Login Succeeded

+ docker push hawila/priv-lab1:1

The push refers to repository [docker.io/hawila/priv-lab1]

07248e5314ee: Preparing

683a2ed728dc: Preparing

423f68dd19dc: Preparing

8e012198eeal: Preparing

07248e5314ee: Mounted from library/node

423f68dd19dc: Mounted from library/node

683a2ed728dc: Mounted from library/node

8e012198eeal: Mounted from library/node

1: digest: sha256:f2f3bbdc125d6f5b94636a61e4f82b7f6604409d7d2408f7937faa55056bec0c size: 1158

Finished: SUCCESS

REST API Jenkins 2.375.2