


1- configure jenkins image to run docker commands on your host docker daemon.

Image:

```
FROM jenkins/jenkins:lts
USER root
RUN apt-get update \
    && apt-get -y install \
        apt-transport-https \
        ca-certificates \
        curl \
        software-properties-common
RUN curl -fsSL https://download.docker.com/linux/ubuntu/gpg | apt-key add - \
    && echo "deb [arch=amd64] https://download.docker.com/linux/ubuntu xenial stable" >> \
        /etc/apt/sources.list.d/additional-repositories.list \
    && echo "deb http://ftp-stud.hs-esslingen.de/ubuntu xenial main restricted universe multiverse" > \
        /etc/apt/sources.list.d/official-package-repositories.list \
    && apt-key adv --keyserver keyserver.ubuntu.com --recv-keys 437D05B5 \
    && apt-get update
RUN apt-get -y install docker-ce
RUN curl -L https://github.com/docker/compose/releases/download/1.16.1/docker-compose-`uname -s`-`uname -m` > /usr/local/bin/docker-compose \
    && chmod +x /usr/local/bin/docker-compose
RUN usermod -aG docker jenkins
```



The screenshot shows the Jenkins web interface. On the left, a sidebar contains navigation links: 'Back to Project', 'Status', 'Changes', 'Console Output' (highlighted), 'View as plain text', 'Edit Build Information', 'Delete build '#8'', 'Git Build Data', 'Restart from Stage', 'Replay', 'Pipeline Steps', 'Workspaces', and 'Previous Build'. The main area displays the 'Console Output' for build '#8' of the 'docker-pipeline'. A red arrow points to the build number '#8' in the breadcrumb 'Dashboard > docker-pipeline > #8'. The console output shows the build was started by user 'Toka Abdelhakim' and is running in 'MAX_SURVIVABILITY' mode. It details the execution of 'apt-get update', 'apt-get install docker-ce', and 'curl' to download 'docker-compose'. The output also shows the execution of 'usermod -aG docker jenkins'. At the bottom right, there is a watermark that says 'Activate Windows Go to Settings to activate Windows.'

Dashboard > docker-pipeline > #8

Console Output

Started by user Toka Abdelhakim
Running in Durability level: MAX_SURVIVABILITY
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/jenkins_home/workspace/docker-pipeline
[Pipeline] {
[Pipeline] stage
[Pipeline] { (preparation)
[Pipeline] git
The recommended git tool is: NONE
using credential GitHub
> git rev-parse --resolve-git-dir /var/jenkins_home/workspace/docker-pipeline/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/TokaAbdelhakim/jenkins_nodejs_example # timeout=10
Fetching upstream changes from https://github.com/TokaAbdelhakim/jenkins_nodejs_example
> git --version # timeout=10
> git --version # 'git version 2.30.2'
using GIT_ASKPASS to set credentials
> git fetch --tags --force --progress -- https://github.com/TokaAbdelhakim/jenkins_nodejs_example +refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision 8b23b90d16627ba5bea48bfa8d920121ea75ff87 (refs/remotes/origin/master)
> git config core.sparsecheckout # timeout=10
> git checkout -f 8b23b90d16627ba5bea48bfa8d920121ea75ff87 # timeout=10
> git branch -a -v --no-abbrev # timeout=10
> git branch -D master # timeout=10
> git checkout -b master 8b23b90d16627ba5bea48bfa8d920121ea75ff87 # timeout=10
Commit message: "Delete Jenkinsfile"
> git rev-list --no-walk 8b23b90d16627ba5bea48bfa8d920121ea75ff87 # timeout=10

2- create CI/CD for this repo https://github.com/mahmoud254/jenkins_nodejs_example.git.

The screenshot shows the Jenkins web interface. The left sidebar contains navigation links: Back to Project, Status, Changes, Console Output (selected), View as plain text, Edit Build Information, Delete build '#10', Git Build Data, Restart from Stage, Replay, Pipeline Steps, Workspaces, and Previous Build. The main area displays the 'Console Output' for build #10 of the 'docker-pipeline'. The output shows the pipeline starting, running on Jenkins in the workspace, and executing a series of git commands to fetch changes, checkout a specific revision, and commit a message. The output is as follows:

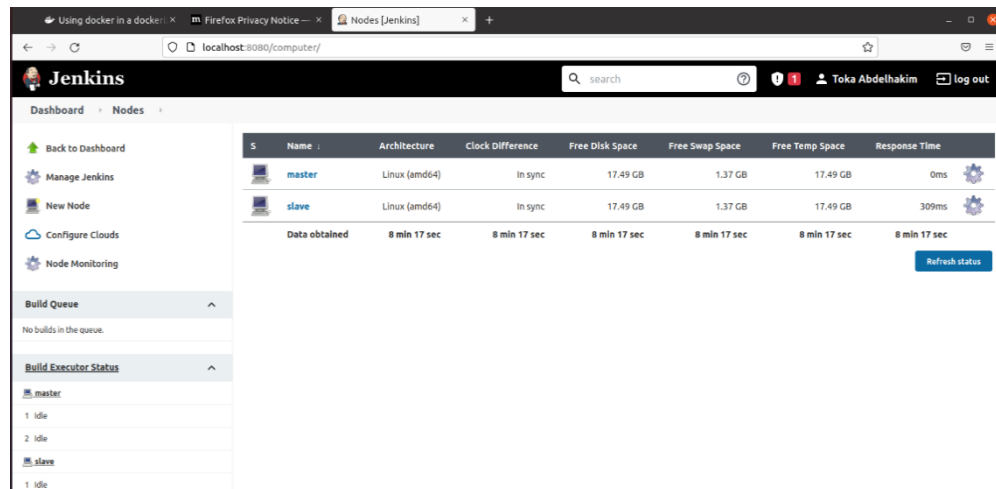
```
Started by user Toka Abdelhakim
Running in Durability level: MAX_SURVIVABILITY
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/jenkins_home/workspace/docker-pipeline
[Pipeline] {
[Pipeline] stage
[Pipeline] { (preparation)
[Pipeline] git
The recommended git tool is: NONE
using credential GitHub
> git rev-parse --resolve-git-dir /var/jenkins_home/workspace/docker-pipeline/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/TokaAbdelhakim/jenkins_nodejs_example # timeout=10
Fetching upstream changes from https://github.com/TokaAbdelhakim/jenkins_nodejs_example
> git --version # timeout=10
> git --version # 'git version 2.30.2'
using GIT_ASKPASS to set credentials
> git fetch --tags --force --progress -- https://github.com/TokaAbdelhakim/jenkins_nodejs_example +refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision 8b23b90d16627ba5bea48bfa8d920121ea75ff87 (refs/remotes/origin/master)
> git config core.sparsecheckout # timeout=10
> git checkout -f 8b23b90d16627ba5bea48bfa8d920121ea75ff87 # timeout=10
> git branch -a -v --no-abbrev # timeout=10
> git branch -D master # timeout=10
> git checkout -b master 8b23b90d16627ba5bea48bfa8d920121ea75ff87 # timeout=10
Commit message: "Delete Jenkinsfile"
> git rev-list --no-walk 8b23b90d16627ba5bea48bfa8d920121ea75ff87 # timeout=10
[Pipeline] }
[Pipeline] // stage
```

Not secure | ip172-18-0-45-c5f5monnjsv0009pbjk0-3000.direct.labs.play-with-docker.com

Hello World from ITI!

Activate Windows
Go to Settings to activate Windows.

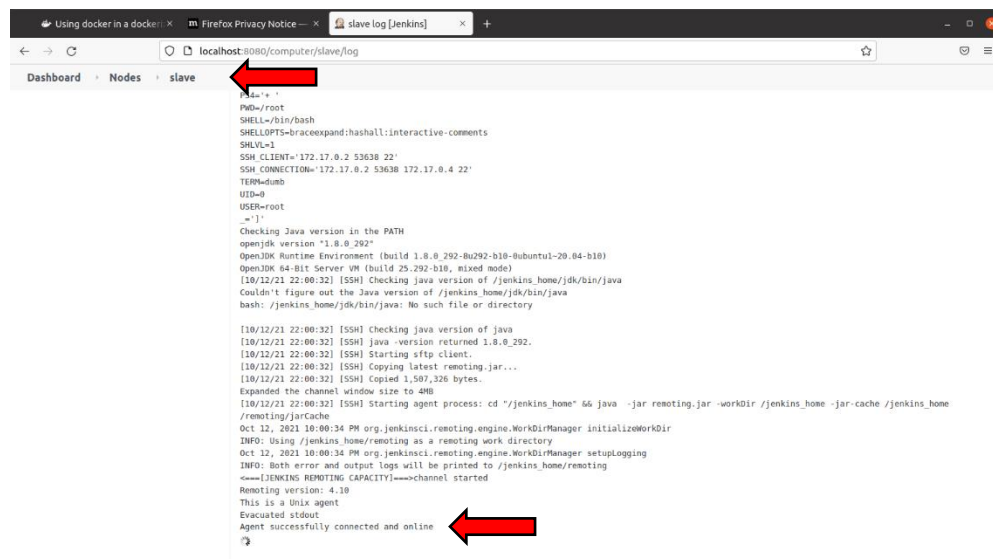
- 3- create docker file to build image for jenkins slave.
- 4- create container from this image and configure ssh.
- 5- from jenkins master dashboard create new node for the slave container and test connection.



The screenshot shows the Jenkins dashboard with the 'Nodes' tab selected. A table displays the status of the Jenkins nodes:

S	Name	Architecture	Clock Difference	Free Disk Space	Free Swap Space	Free Temp Space	Response Time
1	master	Linux (amd64)	In sync	17.49 GB	1.37 GB	17.49 GB	0ms
2	slave	Linux (amd64)	In sync	17.49 GB	1.37 GB	17.49 GB	309ms

Below the table, a row of data indicates the time since the last update for each node: 8 min 17 sec. A 'Refresh status' button is located at the bottom right of the table.



The screenshot shows the Jenkins slave log. The log contains the following information:

```

PWD=/root
SHELL=/bin/bash
SHELLOPTS=braceexpand:hashall:interactive-comments
SHLV=1
SSH_CLIENT=172.17.0.2 53638 22
SSH_CONNECTION=172.17.0.2 53638 172.17.0.4 22
TERM=dumb
UID=0
USER=root
_='']'
Checking Java version in the PATH
openjdk version "1.8.0.292"
OpenJDK Runtime Environment (build 1.8.0.292-b10-Rubuntul-20.04-b10)
OpenJDK 64-Bit Server VM (build 25.292-b10, mixed mode)
[10/12/21 22:00:32] [SSH] Checking java version of /jenkins_home/jdk/bin/java
Couldn't figure out the Java version of /jenkins_home/jdk/bin/java
bash: /jenkins_home/jdk/bin/java: No such file or directory

[10/12/21 22:00:32] [SSH] Checking java version of java
[10/12/21 22:00:32] [SSH] java -version returned 1.8.0.292.
[10/12/21 22:00:32] [SSH] Starting sftp client.
[10/12/21 22:00:32] [SSH] Copying latest remoting.jar...
[10/12/21 22:00:32] [SSH] Copied 1,507,326 bytes.
Expanded the channel window size to 4MB
[10/12/21 22:00:32] [SSH] Starting agent process: cd "/jenkins_home" && java -jar remoting.jar -workDir /jenkins_home -jar-cache /jenkins_home/remoting.jarCache
Oct 12, 2021 10:00:34 PM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /jenkins_home/remoting as a remoting work directory
Oct 12, 2021 10:00:34 PM org.jenkinsci.remoting.engine.WorkDirManager setupLogging
INFO: Both error and output logs will be printed to /jenkins_home/remoting
====[JENKINS REMOTING CAPACITY]====channel started
Remoting version: 4.10
This is a Unix agent
Evacuated stdout
Agent successfully connected and online
?
```