

Work Flow Docker & CI/CD Implement in AWS

- *Percobaan disini menggunakan 1 server backend 1 server frontend & 1 server jenkins serta 1 server reverse proxy.*

1. Persiapan install paket yang di butuhkan untuk docker dan tambahkan dependensi untuk docker diasumsikan cara pengerjaan untuk instalasi backend seperti ini.

```
ubuntu@ip-10-20-2-200:~/library-frontend$ sudo apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-backports InRelease [74.6 kB]
Hit:4 https://deb.nodesource.com/node_10.x bionic InRelease
Get:5 http://security.ubuntu.com/ubuntu bionic-security InRelease [88.7 kB]
Get:6 http://security.ubuntu.com/ubuntu bionic-security/main amd64 Packages [1543 kB]
Get:7 http://security.ubuntu.com/ubuntu bionic-security/main Translation-en [298 kB]
Get:8 http://security.ubuntu.com/ubuntu bionic-security/universe amd64 Packages [1108 kB]
Get:9 http://security.ubuntu.com/ubuntu bionic-security/universe Translation-en [248 kB]
Fetched 3449 kB in 2s (2000 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
All packages are up to date.
ubuntu@ip-10-20-2-200:~/library-frontend$ sudo apt install apt-transport-https ca-certificates curl software-properties-common
Reading package lists... Done
Building dependency tree
Reading state information... Done
ca-certificates is already the newest version (20210119~18.04.1).
ca-certificates set to manually installed.
curl is already the newest version (7.58.0-2ubuntu3.12).
software-properties-common is already the newest version (0.96.24.32.14).
software-properties-common set to manually installed.
The following NEW packages will be installed:
  apt-transport-https
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 1696 B of archives.
After this operation, 153 kB of additional disk space will be used.
Do you want to continue? [Y/n] █

ubuntu@ip-10-20-2-200:~$ sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu $(lsb_release -cs)
stable"
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu bionic-backports InRelease
Hit:4 https://deb.nodesource.com/node_10.x bionic InRelease
Get:5 https://download.docker.com/linux/ubuntu bionic InRelease [64.4 kB]
Hit:6 http://security.ubuntu.com/ubuntu bionic-security InRelease
Get:7 https://download.docker.com/linux/ubuntu bionic/stable amd64 Packages [16.0 kB]
Fetched 80.5 kB in 1s (150 kB/s)
Reading package lists... Done
-----
ubuntu@ip-10-20-2-200:~$ sudo apt install docker-ce
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  containerd.io docker-ce-cli docker-ce-rootless-extras libltdl7 pigz
Suggested packages:
  aufs-tools cgroupfs-mount | cgroup-lite
Recommended packages:
  slirp4netns
The following NEW packages will be installed:
  containerd.io docker-ce docker-ce-cli docker-ce-rootless-extras libltdl7 pigz
0 upgraded, 6 newly installed, 0 to remove and 0 not upgraded.
Need to get 103 MB of archives.
After this operation, 450 MB of additional disk space will be used.
Do you want to continue? [Y/n] █
```

2. Cek status docker dan agar dapat menjalankan user tersebut dengan docker beri hak akses user bisa mengakses docker.

```

ubuntu@ip-10-20-2-200:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2021-02-09 12:24:15 UTC; 10s ago
     Docs: https://docs.docker.com
   Main PID: 3870 (dockerd)
    Tasks: 8
   CGroup: /system.slice/docker.service
           └─3870 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock

Feb 09 12:24:15 ip-10-20-2-200 dockerd[3870]: time="2021-02-09T12:24:15.291549252Z" level=warning msg="Your kernel does not su
Feb 09 12:24:15 ip-10-20-2-200 dockerd[3870]: time="2021-02-09T12:24:15.291690502Z" level=warning msg="Your kernel does not su
Feb 09 12:24:15 ip-10-20-2-200 dockerd[3870]: time="2021-02-09T12:24:15.291825259Z" level=warning msg="Your kernel does not su
Feb 09 12:24:15 ip-10-20-2-200 dockerd[3870]: time="2021-02-09T12:24:15.292130383Z" level=info msg="Loading containers: start.
Feb 09 12:24:15 ip-10-20-2-200 dockerd[3870]: time="2021-02-09T12:24:15.444376390Z" level=info msg="Default bridge (docker0) i
Feb 09 12:24:15 ip-10-20-2-200 dockerd[3870]: time="2021-02-09T12:24:15.518003265Z" level=info msg="Loading containers: done."
Feb 09 12:24:15 ip-10-20-2-200 dockerd[3870]: time="2021-02-09T12:24:15.598403740Z" level=info msg="Docker daemon" commit=4622
Feb 09 12:24:15 ip-10-20-2-200 dockerd[3870]: time="2021-02-09T12:24:15.598813992Z" level=info msg="Daemon has completed initi
Feb 09 12:24:15 ip-10-20-2-200 systemd[1]: Started Docker Application Container Engine.
Feb 09 12:24:15 ip-10-20-2-200 dockerd[3870]: time="2021-02-09T12:24:15.660251817Z" level=info msg="API listen on /var/run/doc
lines 1-19/19 (END)

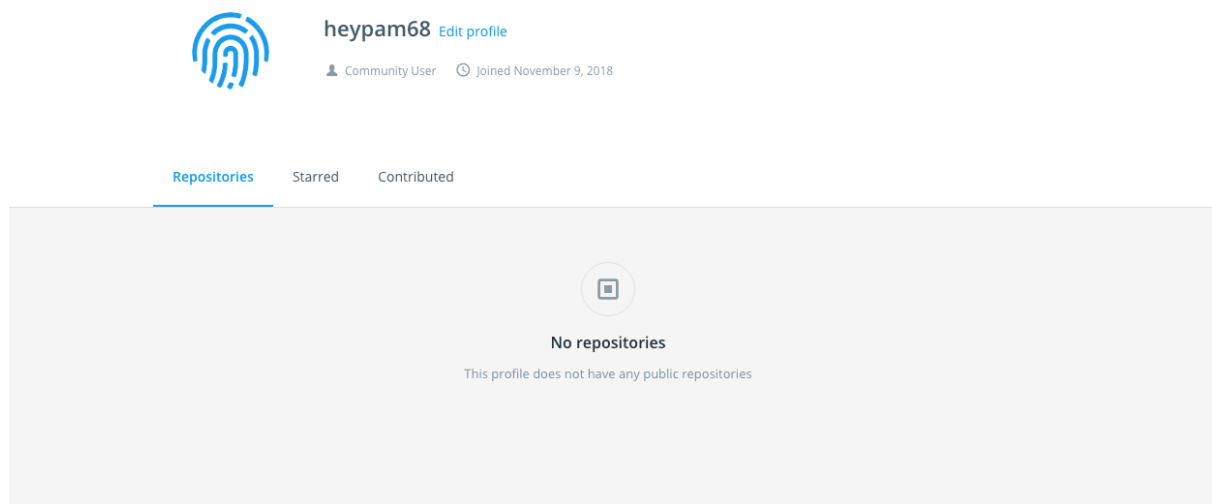
```

```

ubuntu@ip-10-20-2-200:~$ sudo usermod -aG docker $USER
ubuntu@ip-10-20-2-200:~$

```

3. Coba buat akun untuk docker-hub.



4. Login di server frontend & backend.

```

ubuntu@ip-10-20-3-89:~$ docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.doc
ker.com to create one.
Username: heypam68
Password:
WARNING! Your password will be stored unencrypted in /home/ubuntu/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded

ubuntu@ip-10-20-2-200:~$ docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.doc
ker.com to create one.
Username: heypam68
Password:
WARNING! Your password will be stored unencrypted in /home/ubuntu/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded

```

5. Buat dockerfile untuk frontend dan backend.

```
FROM node:latest
WORKDIR /home/ubuntu/dockerimages
COPY . ./
RUN npm install
EXPOSE 3000
CMD [ "npm", "start" ]
```

```
[ubuntu@ip-10-20-3-89:~/library-backend$ cat dockerfile
FROM node:latest
WORKDIR /home/ubuntu/dockerimages
COPY . ./
RUN npm install
EXPOSE 5000
CMD [ "npm", "start" ]
```

6. Build dockerfile frontend dan backend .

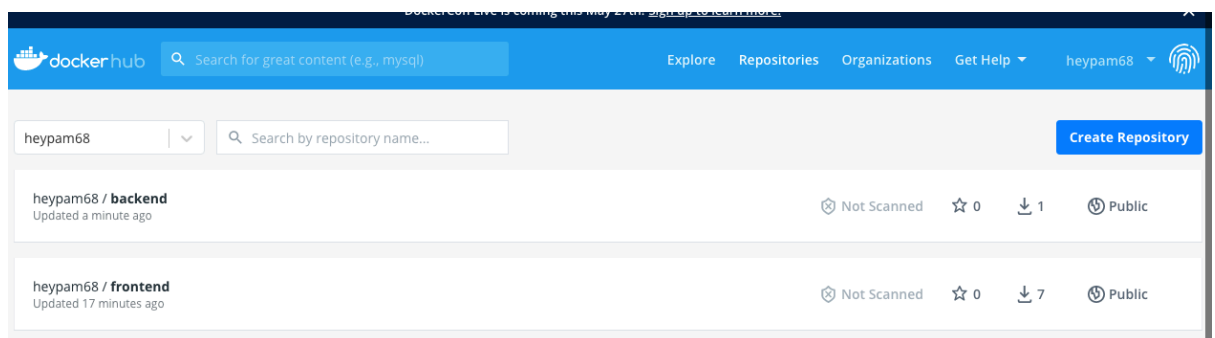
```
[ubuntu@ip-10-20-2-200:~/library-frontend$ docker build -t heypam68/frontend:0.0.1 .
Sending build context to Docker daemon 325.5MB
Step 1/6 : FROM node:latest
latest: Pulling from library/node
2587235a7635: Pull complete
d4ae0ade1586: Pull complete
911674ee9a54: Pull complete
a6954b219f55: Pull complete
a801a158184b: Pull complete
77451a036ccf: Pull complete
16f7d8659ed1: Pull complete
f6cd1bd8ad9f: Pull complete
33d87699a420: Pull complete
Digest: sha256:70be18973d634e619968cf69066ea7e1e6307ef381a9aa1acb5c83892ca45411
Status: Downloaded newer image for node:latest
----> 96e42e8537de
Step 2/6 : WORKDIR /home/ubuntu/dockerimages
----> Running in 3149269179fe
Removing intermediate container 3149269179fe
----> b504628ed52f
Step 3/6 : COPY . ./
```

```
[ubuntu@ip-10-20-3-89:~/library-backend$ docker build -t heypam68/backend:0.0.1 .
Sending build context to Docker daemon 52.29MB
Step 1/6 : FROM node:latest
latest: Pulling from library/node
2587235a7635: Extracting [=====] 21.56MB/45.38MB
d4ae0ade1586: Download complete
911674ee9a54: Download complete
a6954b219f55: Download complete
a801a158184b: Downloading [=====] 188.3MB/214.3MB
77451a036ccf: Download complete
16f7d8659ed1: Download complete
f6cd1bd8ad9f: Download complete
33d87699a420: Download complete
```

7. Push hasil build ke docker-hub untuk frontend & backend.

```
[ubuntu@ip-10-20-2-200:~/library-frontend$ docker push heypam68/frontend:0.0.1
The push refers to repository [docker.io/heypam68/frontend]
6ab1c43207e1: Pushed
15c16c0c1a27: Pushing [=====>] 67.14MB/283.8MB
34477fd92a78: Pushed
ef23c6920b17: Mounted from library/node
5bb4dcf03b1b: Mounted from library/node
6e2ca66f6436: Mounted from library/node
1cf5a0faae92: Mounted from library/node
bf01b197a1e9: Mounted from library/node
fea6a3964664: Mounted from library/node
0c752dfe1218: Mounted from library/node
25dce16aeba5: Waiting
1fb0a31fe7c2: Waiting
[ubuntu@ip-10-20-3-89:~/library-backend$ docker push heypam68/backend:0.0.1
The push refers to repository [docker.io/heypam68/backend]
a2d3029f9bf7: Pushed
0e66e266e5b1: Pushed
7fa46077d356: Pushed
ef23c6920b17: Mounted from library/node
5bb4dcf03b1b: Mounted from library/node
6e2ca66f6436: Mounted from library/node
1cf5a0faae92: Mounted from library/node
bf01b197a1e9: Mounted from library/node
fea6a3964664: Mounted from library/node
0c752dfe1218: Mounted from library/node
25dce16aeba5: Mounted from library/node
1fb0a31fe7c2: Mounted from library/node
```

8. Cek repositori docker-hub



9. Lakukan instalasi untuk docker compose untuk server frontend & backend.

```
[ubuntu@frontend:~]$ sudo curl -L "https://github.com/docker/compose/releases/download/1.23.1/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
100 633 100 633 0 0 5601 0 --:--:-- --:--:-- --:--:-- 5601
100 11.1M 100 11.1M 0 0 39.9M 0 --:--:-- --:--:-- --:--:-- 39.9M
[ubuntu@backend:~]$ sudo curl -L "https://github.com/docker/compose/releases/download/1.23.1/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
100 633 100 633 0 0 6593 0 --:--:-- --:--:-- --:--:-- 6593
100 11.1M 100 11.1M 0 0 44.0M 0 --:--:-- --:--:-- --:--:-- 44.0M
```

10. Buat file docker compose untuk frontend & backend.

```
version: '3.9'
services:
  backend:
    container_name: backendcompose
    image: backendnodemon:1.0
    ports:
      - 5000:5000

version: '3.3'
services:
  backend:
    container_name: frontendcompose
    image: frontendbisa:1.1
    stdin_open: true
    ports:
      - 3000:3000
```

11. Build docker compose untuk frontend & backend.

```
[ubuntu@backend:~/library-backend$ docker-compose up -d
Creating network "library-backend_default" with the default driver
Creating backendcompose ... done
ubuntu@backend:~/library-backend$

[ubuntu@frontend:~/library-frontend$ docker-compose up -d
Creating network "library-frontend_default" with the default driver
Creating frontendcompose ... done
ubuntu@frontend:~/library-frontend$
```

12. Buat 1 server untuk Jenkins dan install dependensi yang di butuhkan , download file Jenkins dari docker hub.

```
ubuntu@jenkins:~$ docker pull jenkins/jenkins
Error response from daemon: manifest for jenkins/jenkins:latest not found. manifest: unknown
Using default tag: latest
latest: Pulling from jenkins/jenkins
b9a857cbf04d: Pull complete
ce7facb6eb28: Pull complete
a19dc5962ace: Pull complete
d529f2911809: Pull complete
c3eef3ae0596: Pull complete
0328881a0a11: Pull complete
cd7e87d97dcd: Pull complete
df0afc70b392: Pull complete
d7135b4f49de: Pull complete
6fdeb6b5a1f2: Pull complete
0cfc048c9698: Pull complete
be5464ae6d91: Pull complete
49f63c01de8e: Pull complete
2daab64491de: Pull complete
567ac1d13f5a: Pull complete
390cc16090d5: Pull complete
Digest: sha256:51be1d23a806c380aa7a32984a6bf12bdb1920f42c288bb38a6587e8139646af
Status: Downloaded newer image for jenkins/jenkins:latest
docker.io/jenkins/jenkins:latest
```


13. Buat docker-compose untuk server Jenkins

```
version: '3.3'
services:
  jenkins:
    image: jenkins:latest
    ports:
      - 8080:8080
      - 50000:50000
    # uncomment for docker in docker
    privileged: true
    volumes:
      # enable persistent volume (warning: make sure that the local jenkins_home folder is created)
      - /var/wisestep/data/jenkins_home:/var/jenkins_home
      # mount docker sock and binary for docker in docker (only works on linux)
      - /var/run/docker.sock:/var/run/docker.sock
      - /usr/bin/docker:/usr/bin/docker
```

14. Lalu build docker compose , setelah di build maka cek docker ps.

```
[root@jenkins:/# docker images -a
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
jenkins/jenkins     lts        3f6389c017cc  2 days ago   566MB
[root@jenkins:/# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
cd04c00e665d  jenkins/jenkins:lts  "/sbin/tini -- /usr/_..." About a minute ago Up About a minute  0.0.0.0:8080->8080/tcp, 0.0.0.0:50000->50000/tcp  jenkins
```

15. Agar mendapatkan password admin Jenkins pada docker yang telah di build , exec file dan liat passwordnya.

```
[root@jenkins:/# docker exec jenkins cat /var/jenkins_home/secrets/initialAdminPassword
c2709fd97b6447af94eb1dd50d067378
```

16. Akses ke domain Jenkins atau port , lalu install standar plugin yang telah di siapkan oleh pihak Jenkins.

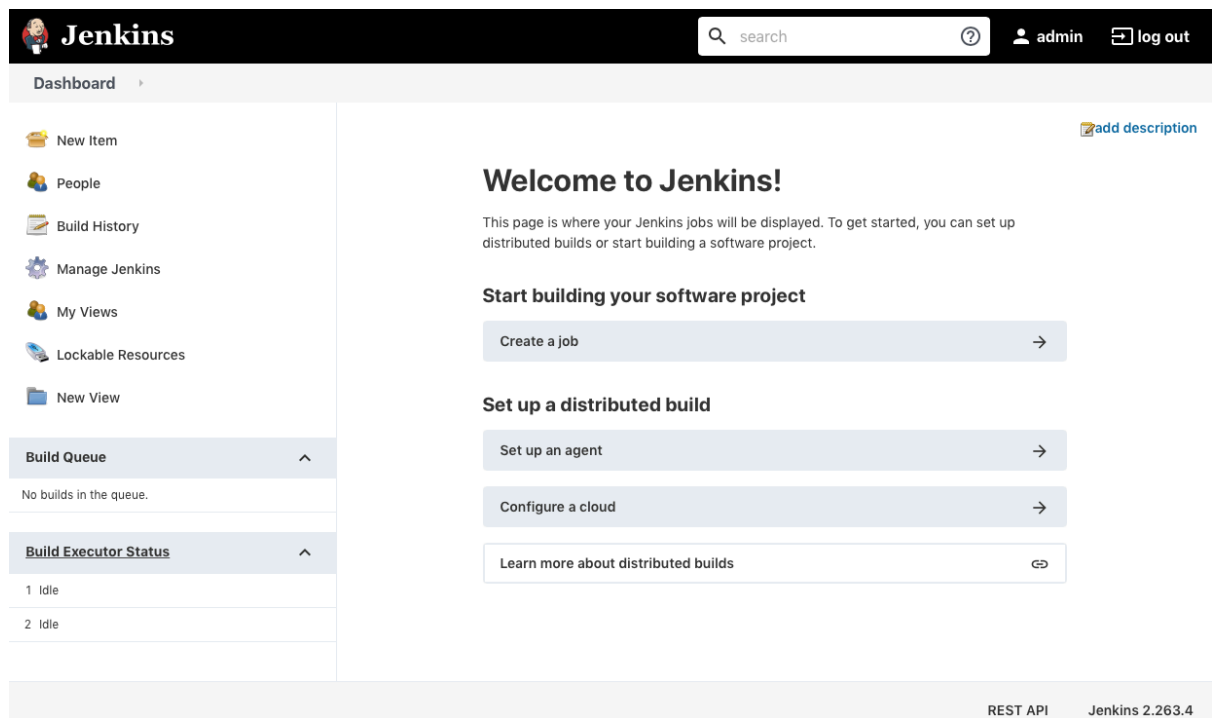
Getting Started

Getting Started

✓ Folders	✓ OWASP Markup Formatter	✓ Build Timeout	✓ Credentials Binding	OWASP Markup Formatter
✓ Timestampers	Workspace Cleanup	Ant	Gradle	** Oracle Java SE Development Kit Installer
Pipeline	GitHub Branch Source	Pipeline: GitHub Groovy Libraries	Pipeline: Stage View	** Structs
Git	SSH Build Agents	Matrix Authorization Strategy	PAM Authentication	** Pipeline: Step API
LDAP	Email Extension	Mailer		** Token Macro
				Build Timeout
				** Credentials
				** Plain Credentials
				** SSH Credentials
				Credentials Binding
				** SCM API
				** Pipeline: API
				Timestampers
				** Script Security
				** Pipeline: Supporting APIs
				** Durable Task
				** Pipeline: Nodes and Processes
				** Plugin Utilities API
				** Font Awesome API
				** Popper.js API
				** JQuery3 API
				** Bootstrap 4 API
				** - required dependency

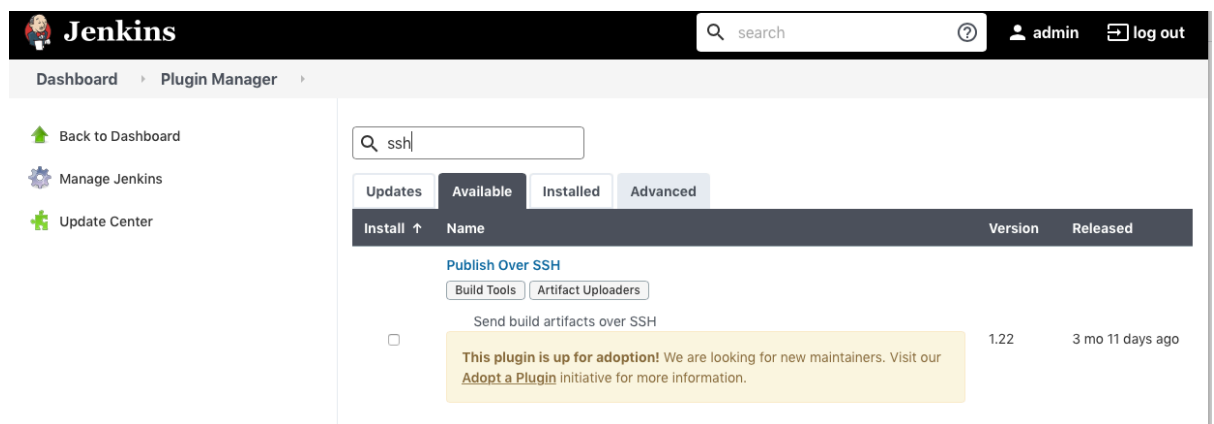
Jenkins 2.263.4

17. Setelah proses instalasi selesai maka muncul tampilan awal.



The screenshot shows the Jenkins Dashboard. The top navigation bar includes the Jenkins logo, a search bar, and user information (admin, log out). The left sidebar contains links to various features: New Item, People, Build History, Manage Jenkins, My Views, Lockable Resources, and New View. The main content area displays a 'Welcome to Jenkins!' message, followed by a 'Start building your software project' section with a 'Create a job' button. Below this is a 'Set up a distributed build' section with buttons for 'Set up an agent', 'Configure a cloud', and a link to 'Learn more about distributed builds'. The 'Build Queue' section shows 'No builds in the queue.' and the 'Build Executor Status' section shows two idle executors. The bottom right corner indicates 'REST API' and 'Jenkins 2.263.4'.

18. Install plugin untuk koneksi ke server frontend & backend , dengan nama plugin ssh publish over ssh.



The screenshot shows the Jenkins Plugin Manager. The top navigation bar is the same as the dashboard. The left sidebar includes links to 'Back to Dashboard', 'Manage Jenkins', and 'Update Center'. The main content area has a search bar with 'ssh' entered. Below the search bar are tabs for 'Updates', 'Available', 'Installed', and 'Advanced'. The 'Available' tab is selected, showing a table of available plugins. The table has columns for 'Install', 'Name', 'Version', and 'Released'. The 'Publish Over SSH' plugin is listed with version 1.22 and released 3 months and 11 days ago. A yellow warning box is displayed below the plugin name, stating: 'This plugin is up for adoption! We are looking for new maintainers. Visit our Adopt a Plugin initiative for more information.'

Install	Name	Version	Released
<input type="checkbox"/>	Publish Over SSH	1.22	3 mo 11 days ago

19. Tambahkan destinasi server frontend & backend , bila kunci sama dapat di tambahkan juga.

Key

```
-----BEGIN RSA PRIVATE KEY-----
L
JAh/me823kgvkSESCWRqwxG8LHhbOgqADqW3mqDoIWvHXkwPG8tyhrQr0xCE
SK6h
kPAIQ6f6887aJiyfsXG8oZaQxSU6iJxxJdi1iQNJ1G7Bdbm+y4Ly
-----END RSA PRIVATE KEY-----
```

The private key.

Paste the private key here, or provide the path to the file containing the key in `Path to key`.

(from [Publish Over SSH](#))

Disable exec

☐

SSH Servers

SSH Server

Name

frontend

?

Hostname

10.20.2.78

?

Username

ubuntu

?

Remote Directory

/home/ubuntu/library-frontend

?

Advanced...

Success

Test Configuration

SSH Server

Name

backend

?

Hostname

10.20.2.166

?

Username

ubuntu

?

Remote Directory

/home/ubuntu/library-backend

?

Advanced...

Success

Test Configuration

Delete

Add





20. Buat job untuk server frontend.

Dashboard >

Enter an item name

frontend

» Required field

- **Freestyle project**
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.
- **Pipeline**
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.
- **Multi-configuration project**
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.
- **Folder**
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.

21. Tambahkan repositori github frontend.

Source Code Management

☐ None
☒ Git

Repositories

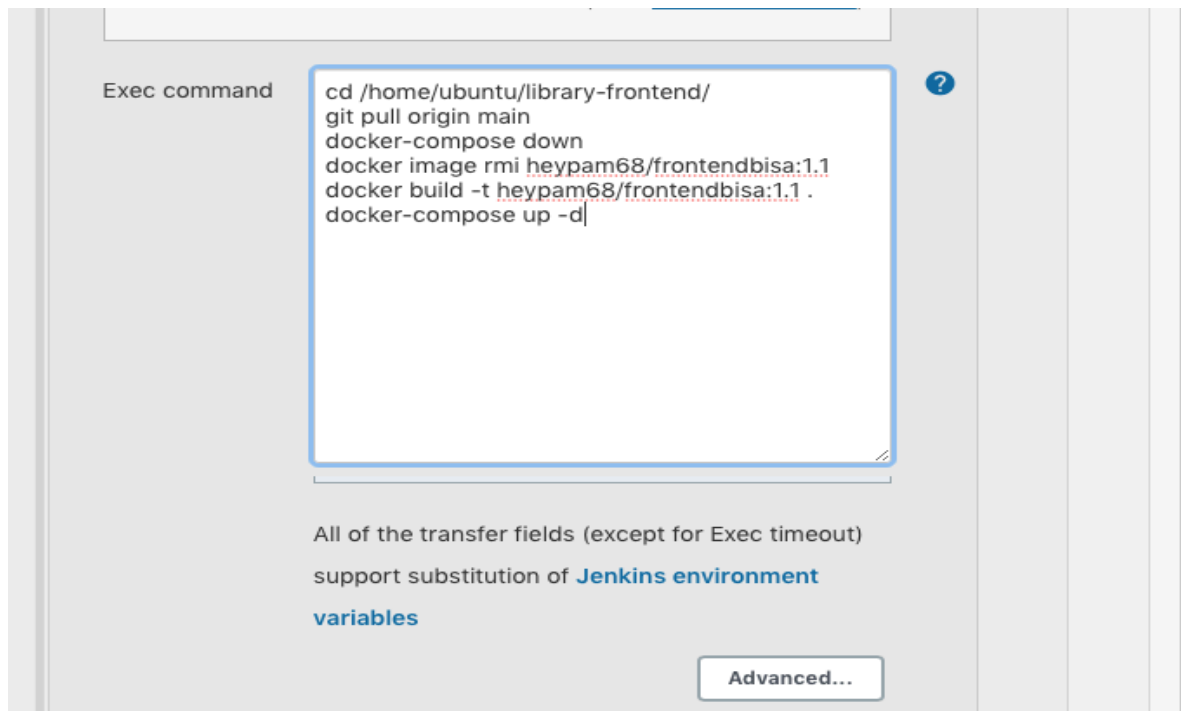
Repository URL

Credentials

Branches to build

Branch Specifier (blank for 'any')

22. Pada bagian build tambahkan publish over ssh dan post build action sama dengan membuat docker compose.

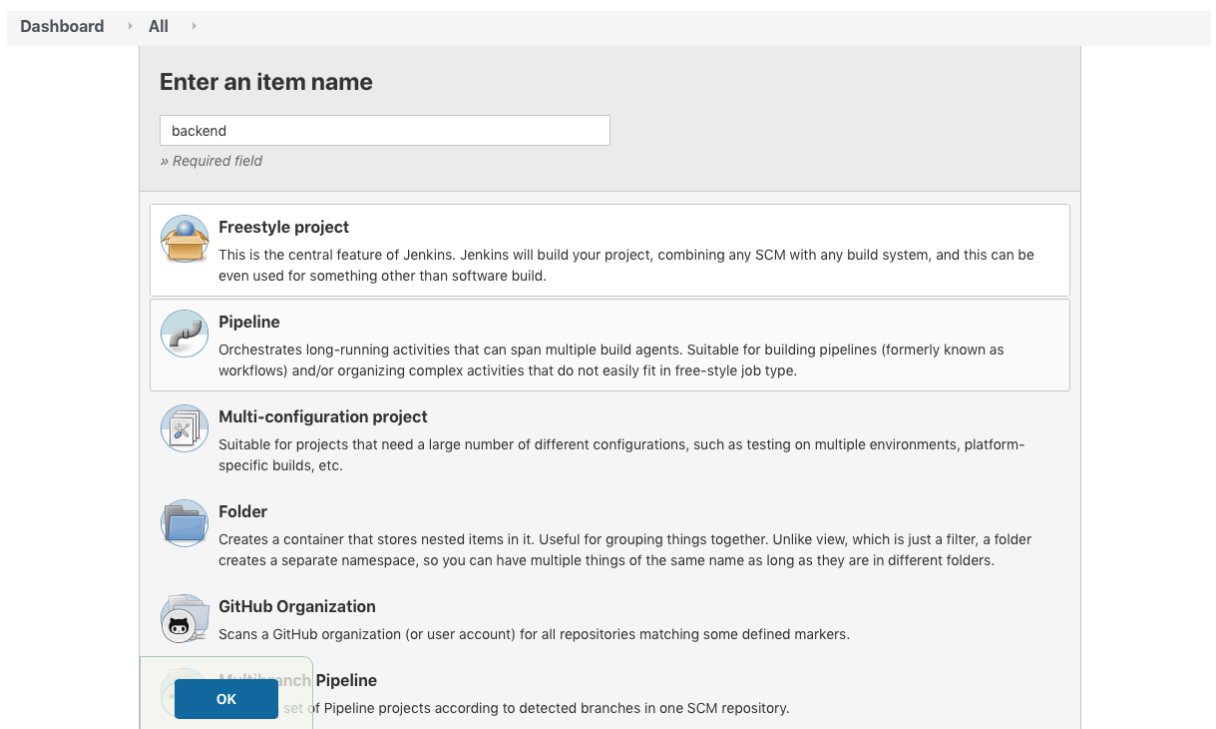


The screenshot shows the Jenkins configuration interface for a build step. The 'Exec command' field is highlighted with a blue border and contains the following commands:

```
cd /home/ubuntu/library-frontend/  
git pull origin main  
docker-compose down  
docker image rmi heypam68/frontendbisa:1.1  
docker build -t heypam68/frontendbisa:1.1 .  
docker-compose up -d
```

Below the command field, there is a note: "All of the transfer fields (except for Exec timeout) support substitution of **Jenkins environment variables**". At the bottom right, there is a button labeled "Advanced...".

23. Buat job untuk backend.



The screenshot shows the Jenkins 'Enter an item name' dialog. The 'Item name' field contains the text 'backend'. Below the field, it says '» Required field'. The dialog lists several project types with their descriptions:

- Freestyle project**: This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.
- Pipeline**: Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.
- Multi-configuration project**: Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.
- Folder**: Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.
- GitHub Organization**: Scans a GitHub organization (or user account) for all repositories matching some defined markers.

At the bottom, there is a button labeled "OK" and a partially visible "Pipeline" option.

24. Tambahkan repositori github backend.

The screenshot shows the Jenkins configuration page for Source Code Management, specifically the Git section. The tabs at the top are General, Source Code Management (selected), Build Triggers, Build Environment, Build, and Post-build Actions. On the left, there is a sidebar with 'Git' selected. The main area is divided into two sections: 'Repositories' and 'Branches to build'. In the 'Repositories' section, the 'Repository URL' is set to 'git@github.com:heypam68/library-backend.git'. The 'Credentials' dropdown is set to 'ubuntu (jenkins)' with an 'Add' button next to it. The 'Name' and 'Refspec' fields are empty. An 'Add Repository' button is at the bottom right of this section. In the 'Branches to build' section, the 'Branch Specifier (blank for 'any')' is set to '*/7.Deploy'. An 'Add Branch' button is at the bottom right of this section. There are blue question mark icons next to each input field.

25. Sama seperti frontend , Pada bagian build tambahkan publish over ssh dan post build action sama dengan membuat docker compose.

The screenshot shows the Jenkins configuration page for Transfers, specifically the 'Transfer Set' section. The 'Source files' field is set to '/'. The 'Remove prefix' field is empty. The 'Remote directory' field is set to '/home/ubuntu'. The 'Exec command' field contains the following commands:

```
cd /home/ubuntu/library-backend
git pull origin 7.Deploy
docker-compose down
docker image rmi
heypam68/backendnodemon:1.0
docker build -t heypam68/backendnodemon:1.0 .
docker-compose up -d
```

 At the bottom, there is a note: 'All of the transfer fields (except for Exec timeout) support substitution of [Jenkins environment](#)'. There are blue question mark icons next to each input field.

26. Hubungkan github dengan webhook untuk frontend & backend.

Webhooks / Add webhook

We'll send a POST request to the URL below with details of any subscribed events. You can also specify which data format you'd like to receive (JSON, x-www-form-urlencoded, etc). More information can be found in [our developer documentation](#).

Payload URL *

https://cicd.aulia.instructype.com/github-webhooks/

Content type

application/x-www-form-urlencoded ↕

Secret

SSL verification

🔒 By default, we verify SSL certificates when delivering payloads.

☒ Enable SSL verification ☐ Disable (not recommended)

Which events would you like to trigger this webhook?

Options

Manage access

Security & analysis

Branches

Webhooks

Notifications

Integrations

Deploy keys

Actions

Environments

Secrets

Webhooks / Add webhook

We'll send a POST request to the URL below with details of any subscribed events. You can also specify which data format you'd like to receive (JSON, x-www-form-urlencoded, etc). More information can be found in [our developer documentation](#).

Payload URL *

https://cicd.aulia.instructype.com/github-webhooks/

Content type

application/x-www-form-urlencoded ↕

Secret










SSL verification

🔒 By default, we verify SSL certificates when delivering payloads.

☒ Enable SSL verification ☐ Disable (not recommended)

27. Coba test update pada github apakah Jenkins dapat menerima perubahan , untuk frontend.

This branch is 8 commits ahead, 1 commit behind sgnd:main. [Pull request](#) [Compare](#)

 heypam68 add library	332f5bc 1 minute ago	 31 commits
 public	fix bug	4 months ago
 src	update https	9 days ago
 .gitignore	update config	4 months ago
 README.md	Update README.md	4 months ago
 ecosystem.config.js	add library	1 minute ago
 package-lock.json	update config	11 days ago
 package.json	update config	11 days ago

28. Jenkins menerima perubahan dari github frontend.

Console Output

```
Started by GitHub push by heypam68
Running as SYSTEM
Building in workspace /var/jenkins_home/workspace/frontend
The recommended git tool is: NONE
using credential jenkins
Cloning the remote Git repository
Cloning repository https://github.com/heypam68/library-frontend.git
> git init /var/jenkins_home/workspace/frontend # timeout=10
Fetching upstream changes from https://github.com/heypam68/library-frontend.git
> git --version # timeout=10
> git --version # 'git version 2.20.1'
using GIT_SSH to set credentials jenkins
> git fetch --tags --force --progress -- https://github.com/heypam68/library-frontend.git
+refs/heads/*:refs/remotes/origin/* # timeout=10
> git config remote.origin.url https://github.com/heypam68/library-frontend.git # timeout=10
> git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
> git rev-parse refs/remotes/origin/main^{commit} # timeout=10
Checking out Revision 332f5bc2d9699e1b6a835a194602bb3fb828d5 (refs/remotes/origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 332f5bc2d9699e1b6a835a194602bb3fb828d5 # timeout=10
Commit message: "add library"
First time build. Skipping changelog.
SSH: Connecting from host [cd04c00e665d]
SSH: Connecting with configuration [frontend] ...
SSH: EXEC: completed after 3,803 ms
SSH: Disconnecting configuration [frontend] ...
SSH: Transferred 0 file(s)
Finished: SUCCESS
```

29. Coba test update pada github apakah Jenkins dapat menerima perubahan , untuk backend.

The screenshot shows the GitHub interface for the repository 'heypam68 / library-backend'. At the top, there are buttons for 'Watch', 'Star', and 'Fork'. Below the repository name, there are tabs for 'Code', 'Pull requests', 'Actions', 'Projects', 'Wiki', 'Security', 'Insights', and 'Settings'. The main content area shows a commit titled 'heypam68 update jenkins library' with the latest commit hash '40718d5' and a timestamp '14 seconds ago'. Below the commit information, there is a section for the file 'ecosystem.config.js' with 10 lines of code. The code is displayed in a light blue box with line numbers. The code defines a module with an 'apps' array containing a single object for 'library-be' with a script 'npm start'.

```
1 module.exports = {
2   apps: [
3     {
4       name: 'library-be',
5       script: 'npm start'
6     }
7   ]
8 };
9
10 library
```

30. Jenkins menerima perubahan dari github backend.

The screenshot shows the Jenkins console output for a build. The output starts with 'Started by GitHub push by heypam68' and 'Running as SYSTEM'. It then shows the build process in the workspace '/var/jenkins_home/workspace/backend'. The output includes the following steps:


- The recommended git tool is: NONE
- using credential jenkins
- > git rev-parse --is-inside-work-tree # timeout=10
- Fetching changes from the remote Git repository
- > git config remote.origin.url <https://github.com/heypam68/library-backend.git> # timeout=10
- Fetching upstream changes from <https://github.com/heypam68/library-backend.git>
- > git --version # timeout=10
- > git --version # 'git version 2.20.1'
- using GIT_SSH to set credentials jenkins
- > git fetch --tags --force --progress -- <https://github.com/heypam68/library-backend.git>
- +refs/heads/*:refs/remotes/origin/* # timeout=10
- > git rev-parse refs/remotes/origin/7.Deploy^{commit} # timeout=10
- Checking out Revision 40718d51ed81ace7412618bccead81f8b6a354d7 (refs/remotes/origin/7.Deploy)
- > git config core.sparsecheckout # timeout=10
- > git checkout -f 40718d51ed81ace7412618bccead81f8b6a354d7 # timeout=10
- Commit message: "update jenkins library"
- First time build. Skipping changelog.
- SSH: Connecting from host [cd04c00e665d]
- SSH: Connecting with configuration [backend] ...
- SSH: EXEC: completed after 9,609 ms
- SSH: Disconnecting configuration [backend] ...
- SSH: Transferred 0 file(s)
- Finished: SUCCESS

31. Agar dapat terhubung notifikasi ke beberapa platform, disini mencoba memakai discord, pada menu Jenkins install discord notify.

Installing Plugins/Upgrades

Preparation

- Checking internet connectivity
- Checking update center connectivity
- Success

Discord Notifier  Installing


[Go back to the top page](#)
(you can start using the installed plugins right away)

☐ Restart Jenkins when installation is complete and no jobs are running


32. Coba buat room untuk notifikasi server dan hubungkan dengan webhooks, sebelum dihubungkan kita buat webhook di discord.


INTEGRATIONS

Customize your server with integrations. Manage webhooks, followed channels, and bots, as well as Twitch and YouTube settings for creators. [Learn more about managing integrations.](#)

**Webhooks**
0 webhooks [Create Webhook](#)

POSTING TO #WELCOME-AND-RULES

**Spidey Bot**
Created on Feb 15, 2021 by atasnama#8568



Minimum Size: 128x128

NAME

CHANNEL

[Copy Webhook URL](#) [Delete Webhook](#)

33. Masukan url yang telah di buat di discord ke Jenkins.

Post-build Actions

Discord Notifier X

Webhook URL ?

Only send on state change ☐ ?

Enabling this will only send the message to the Discord channel if the state of the build differs from the previous.
(from [Discord Notifier](#))

Title ?

Branch name ?


Thumbnail URL ?



Link to an image that will be shown on the right side of Discord message (Optional)
(from [Discord Notifier](#))

Notes ?

Save **Apply**

34. Coba buat update code untuk github apakah ada pemberitahuan ke Jenkins dan discord.



 **Build started: frontend #2**
Build: 2

 **build2.log**
1.29 KB 



frontend #2
Build: 2
Status: success
Artifacts:
No artifacts saved.

1:41 AM

Build started: backend #2
Build: 2

 **build2.log**
1.29 KB 

backend #2
Build: 2

 Message #general  **GIF** 