

# Assignment Number:4

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Aim: To understand Continuous integration, Jenkins installation.

LO mapped: LO1, LO3

Theory:

Continuous Integration is a development practice that promotes collaboration, early issue detection, and automated testing to enhance the quality and efficiency of software development.

Jenkins is an open-source automation server that facilitates continuous integration and continuous delivery (CI/CD) of software projects. It helps developers automate various stages of the software development lifecycle, from building and testing to deployment and monitoring. Jenkins supports a wide range of plugins and integrations, making it a versatile tool for automating various tasks in software development.

Steps to be followed while installing Jenkins:

- I. **Java Installation:** Ensure Java Development Kit (JDK) is installed on your system.

```
C:\Users\Asus>java --version
java 19.0.2 2023-01-17
Java(TM) SE Runtime Environment (build 19.0.2+7-44)
Java HotSpot(TM) 64-Bit Server VM (build 19.0.2+7-44, mixed mode, sharing)
C:\Users\Asus>
```

Fig. 1

- II. **Download Jenkins:** Get the latest Jenkins WAR file from the official website or package manager.

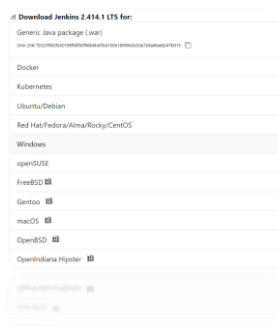
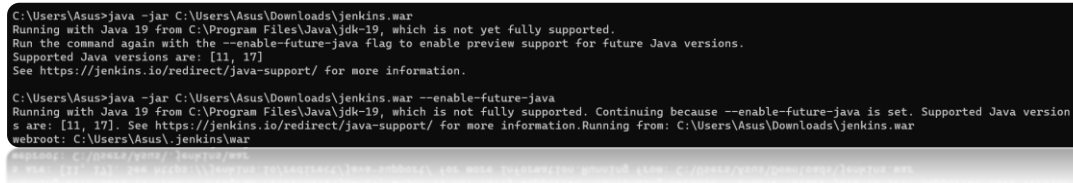


Fig. 2 Install Generic .war file

III. **Launch Terminal:** Open a terminal/command prompt on your system.

*command: java -jar C:\Users\Asus\Downloads\jenkins.war --enable-future-java*

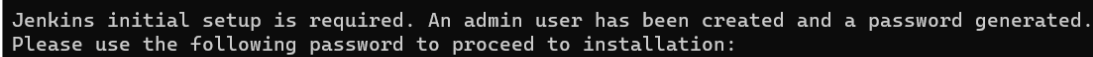


```
C:\Users\Asus>java -jar C:\Users\Asus\Downloads\jenkins.war
Running with Java 19 from C:\Program Files\Java\jdk-19, which is not yet fully supported.
Run the command again with the --enable-future-java flag to enable preview support for future Java versions.
Supported Java versions are: [11, 17]
See https://jenkins.io/redirect/java-support/ for more information.

C:\Users\Asus>java -jar C:\Users\Asus\Downloads\jenkins.war --enable-future-java
Running with Java 19 from C:\Program Files\Java\jdk-19, which is not fully supported. Continuing because --enable-future-java is set. Supported Java version
s are: [11, 17]. See https://jenkins.io/redirect/java-support/ for more information. Running from: C:\Users\Asus\Downloads\jenkins.war
webroot: C:\Users\Asus\.jenkins\war
```

Fig. 3 Run the above command

IV. **Navigate to Directory:** Use the cd command to navigate to the directory containing the Jenkins WAR file.



Jenkins initial setup is required. An admin user has been created and a password generated.  
Please use the following password to proceed to installation:

de884c3e1ebc429e92b025b1de15e733

This may also be found at: C:\Users\Asus\.jenkins\secrets\initialAdminPassword

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Fig. 4 Copy the Password and Directory path

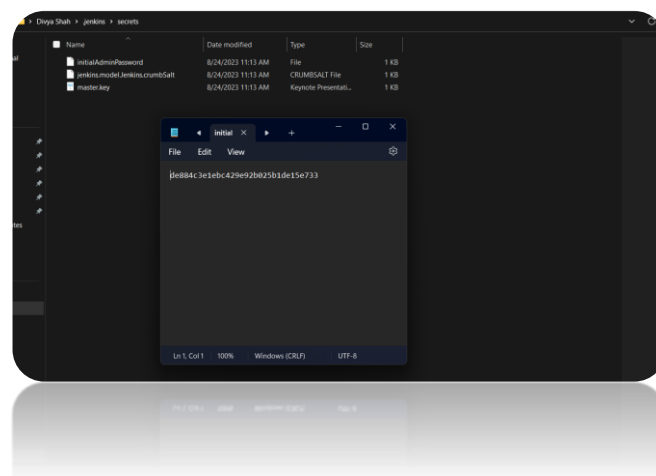


Fig. 5 The path contains following files and password too

- V. **Start Jenkins:** Run the command `java -jar jenkins.war` to start the Jenkins server.
- VI. **Access Web UI:** Open a web browser and go to `http://localhost:8080` to access the Jenkins setup wizard.

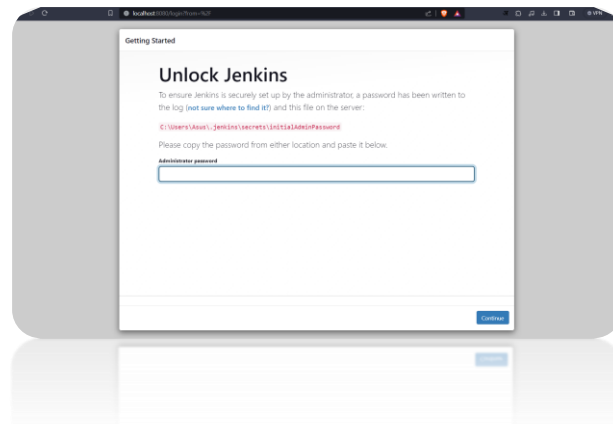


Fig. 6 In browser go to “localhost:8080” and enter your passwords

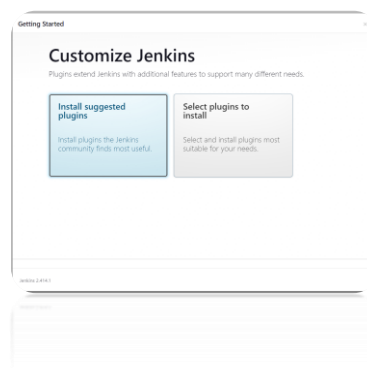


Fig. 6 After correct password entered you will be redirected to this page. Then click on Install suggested plugins

- VII. **Unlock Jenkins:** Retrieve the initial admin password from the terminal and enter it in the setup wizard.
- VIII. **Customize Plugins:** Choose recommended or custom plugins to install during setup.
- IX. **Create Admin User:** Set up an admin user account with credentials.
- X. **Jenkins URL:** Confirm the Jenkins URL and complete the setup process.

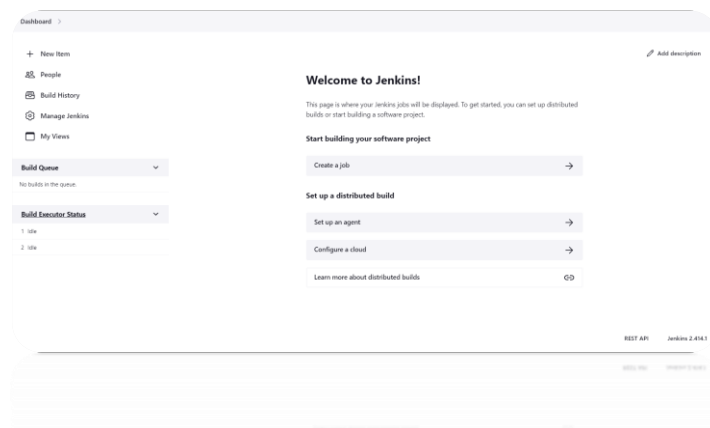


Fig. 7 After successful setup of plugins and Jenkins setup

- XI. **Dashboard:** Log in with the admin credentials to access the Jenkins dashboard.

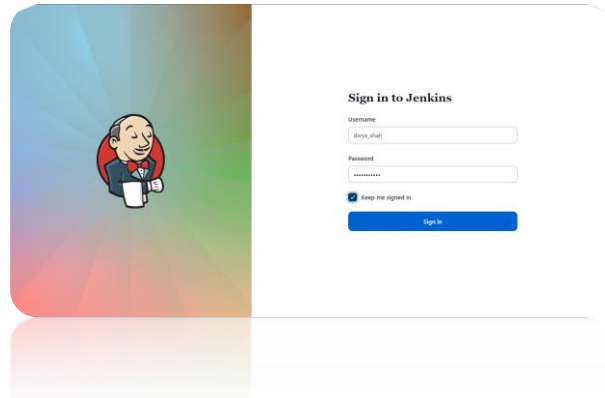


Fig. 8 For login you can now use your username and password you gave while set up of Jenkins

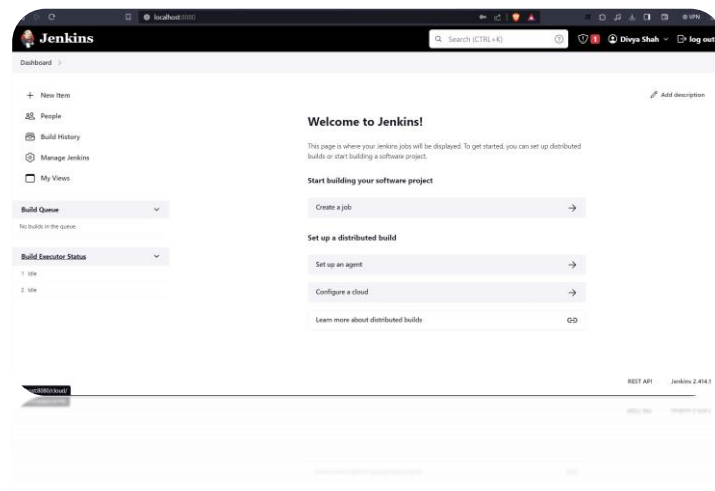


Fig. 9 Dashboard of Jenkins

Conclusion: By this assignment we learned about Continuous integration and way to install Jenkins.