Experiment-04

AIM: Jenkins Installation and Setup: Explore the Environment

Objective: To install Jenkins, perform initial setup, and explore the Jenkins environment for automation tasks.

Software Requirements

- Java installed (JDK 11 or higher)
- Jenkins package (https://www.jenkins.io/download/)
- Web browser

Lab Procedure
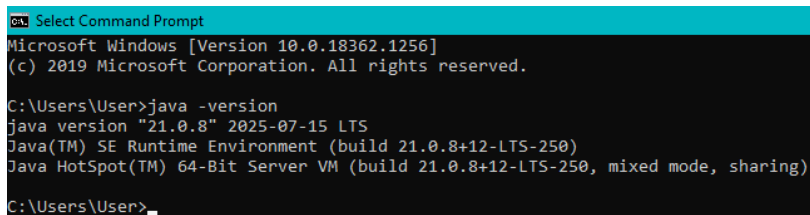
Install Java (If Not Installed)

sudo apt update

sudo apt install openjdk-11-jdk

java –version

Steps to install jdk

- search for jdk download
- go to the first link of oracle and click jdk 21 and download x64 installer
- give the permissions and install it
- go to command prompt and click java –version to know the version of java

```
Select Command Prompt
Microsoft Windows [Version 10.0.18362.1256]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\User>java -version
java version "21.0.8" 2025-07-15 LTS
Java(TM) SE Runtime Environment (build 21.0.8+12-LTS-250)
Java HotSpot(TM) 64-Bit Server VM (build 21.0.8+12-LTS-250, mixed mode, sharing)

C:\Users\User>_
```

Steps to install and setup Jenkins

1. search for Jenkins download
2. go to the first link (Download and deploy (jenkins.io))

3. now click on java generic package and download it
4. Now to run Jenkins go to command prompt and navigate to the folder where Generic java package.war (Jenkins.war) is downloaded
5. Now run this command

java -jar jenkins.war

6. Now a password will be generated, Copy that password

7. Access Jenkins Web Interface

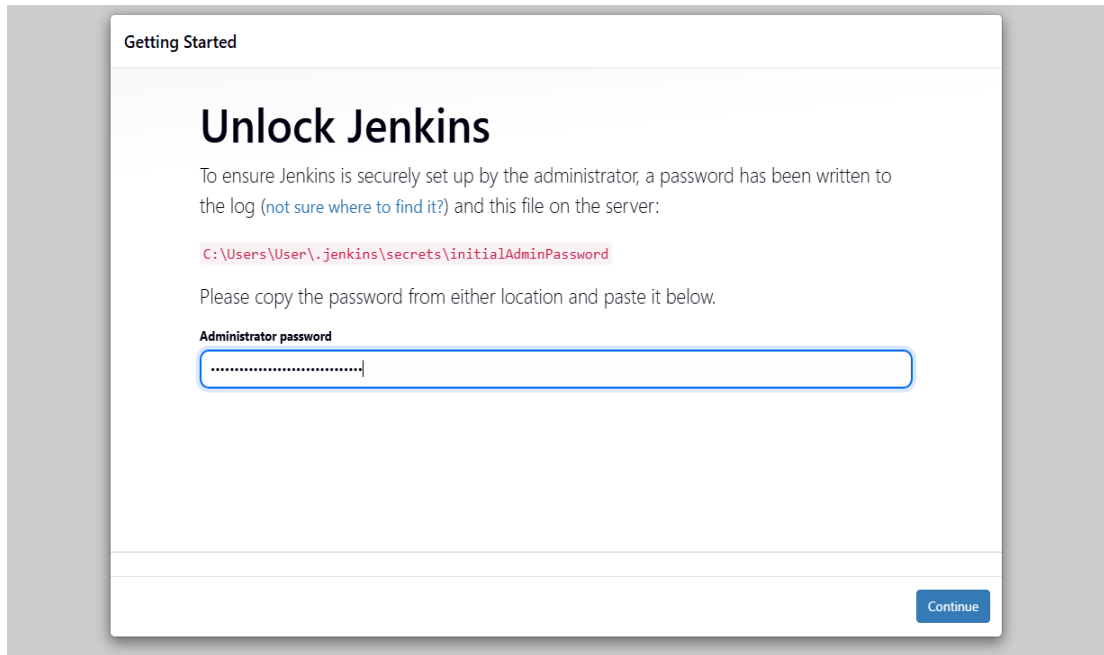- Open a web browser and navigate to:

http://localhost:8080

8. Unlock Jenkins

- Retrieve the administrator password:

sudo cat /var/lib/jenkins/secrets/initialAdminPassword

- Paste the password into the Jenkins setup wizard.

Getting Started

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

`C:\Users\User\.jenkins\secrets\initialAdminPassword`

Please copy the password from either location and paste it below.

Administrator password

`................................`

Continue

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9. Install Suggested Plugins

- Choose **Install suggested plugins** when prompted.
- Wait for installation to complete.

localhost:8080

Getting Started   ✕

Customize Jenkins

Plugins extend Jenkins with additional features to support many different needs.

Install suggested plugins

Install plugins the Jenkins community finds most useful.

Select plugins to install

Select and install plugins most suitable for your needs.

Jenkins 2.516.1
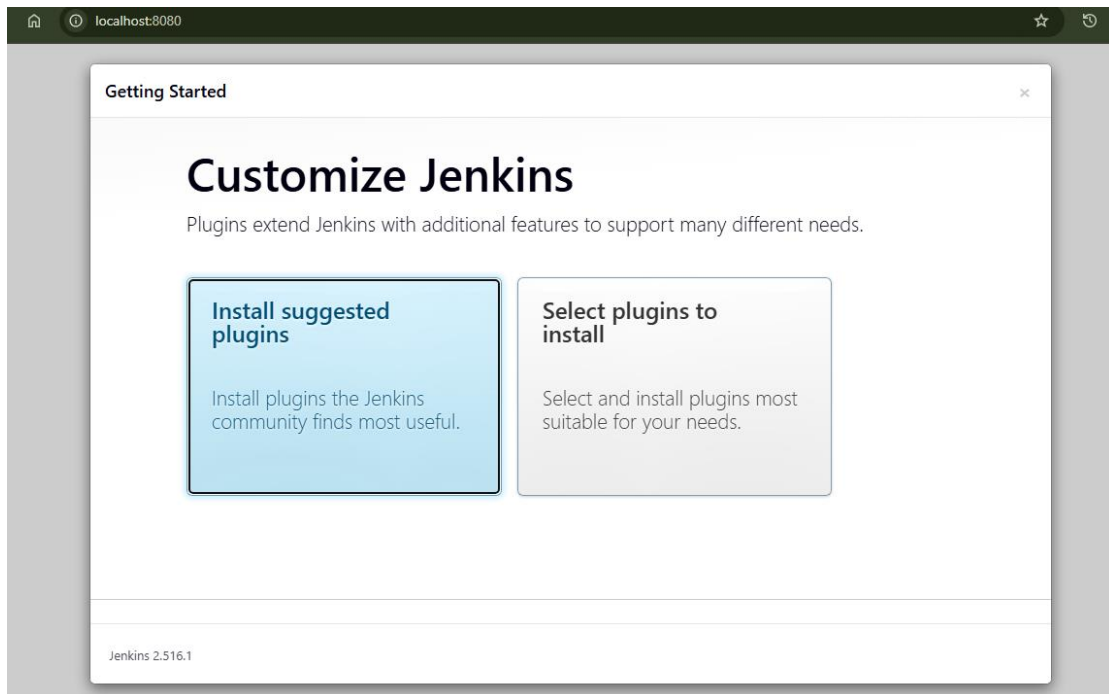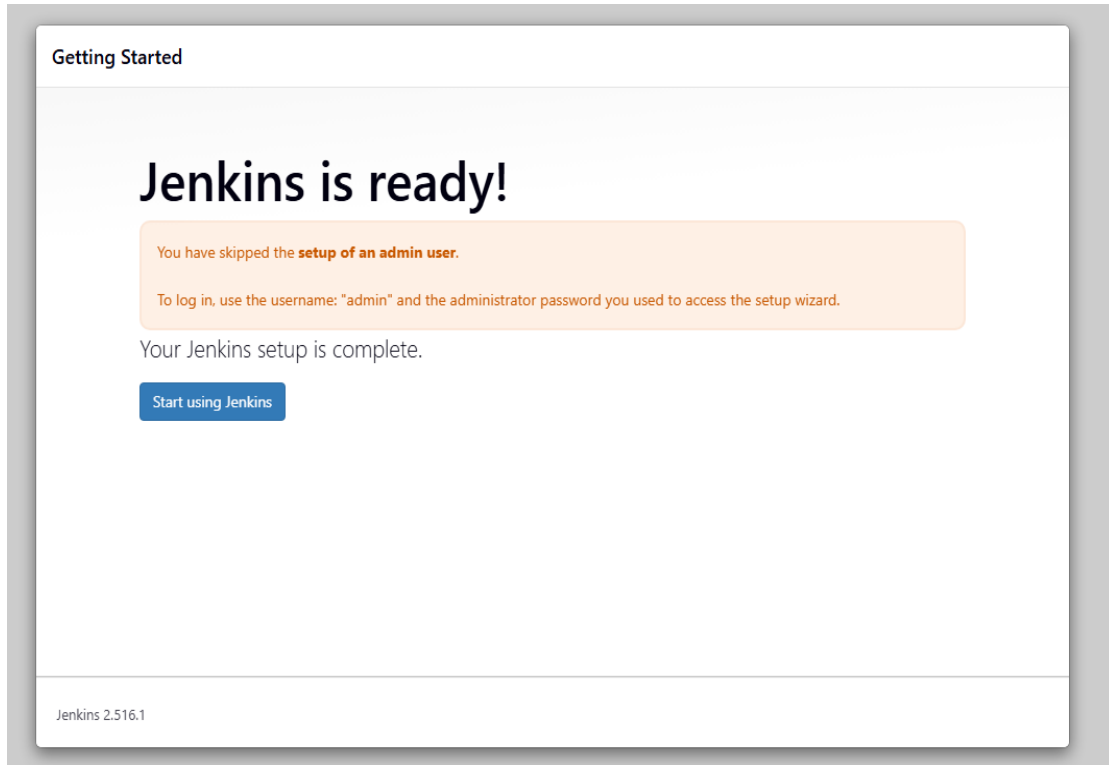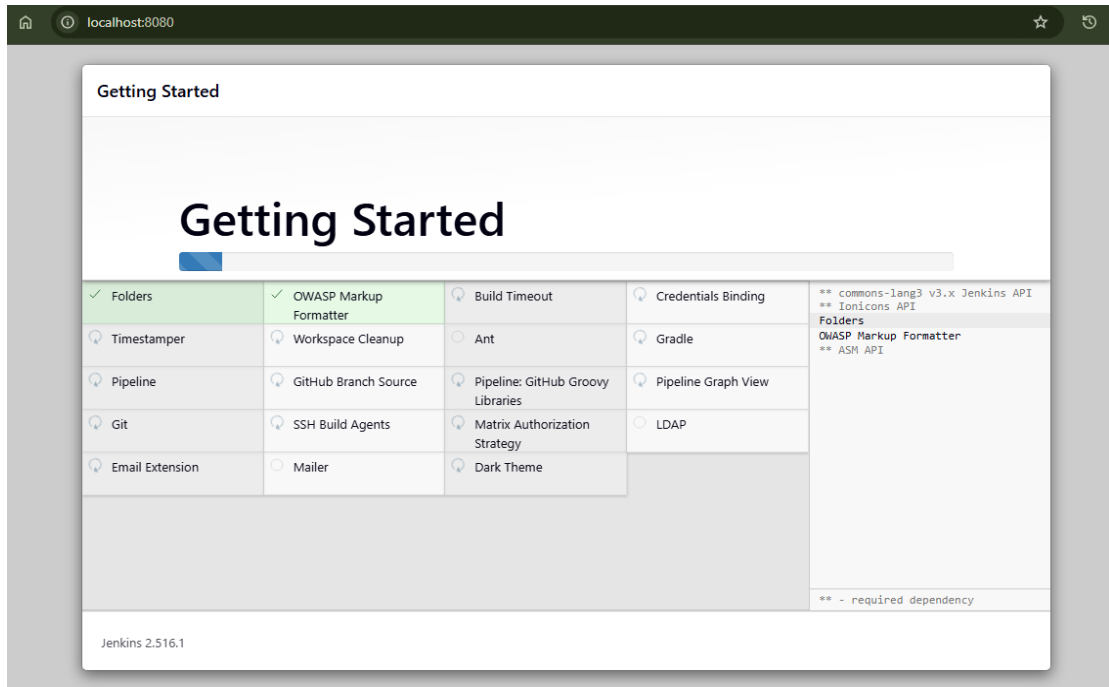
10. Create First Admin User

- Enter details like username, password, full name, and email address.

11. Explore Jenkins Dashboard

- View Jenkins dashboard interface.
- Explore options like **New Item**, **Manage Jenkins**, **Build History**, and **Credentials**.
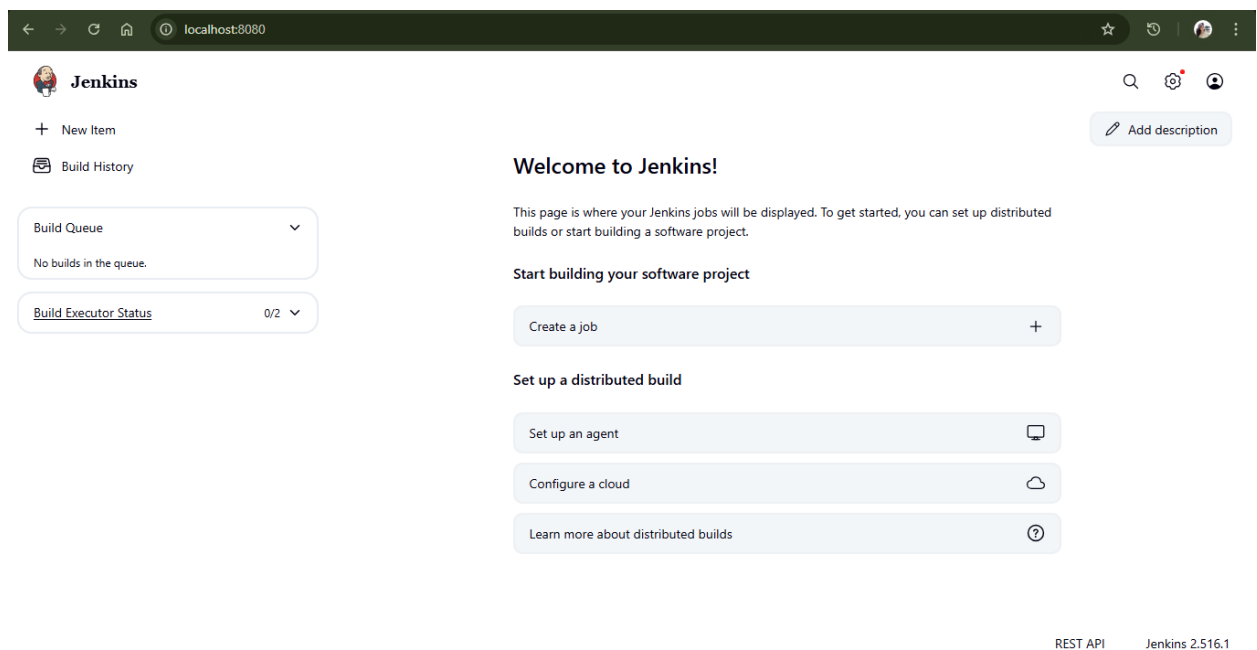

12. Verify Installation

- Create a simple freestyle project.
- Run the project to verify Jenkins build functionality.

Install Jenkins

For Ubuntu/Debian:

wget -q -O - https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo apt-key add -
sudo sh -c 'echo deb https://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'
sudo apt update
sudo apt install Jenkins

For RedHat/CentOS:

Follow instructions from the official Jenkins website.

Start Jenkins Service

```
sudo systemctl start jenkins
sudo systemctl enable jenkins
sudo systemctl status jenkins
```

Conclusion

- Students should be able to install and configure Jenkins.
- Explore the Jenkins environment for automating builds and tasks.
- Understand Jenkins dashboard and management interface.