

## EXPERIMENT – 4

**AIM** - To understand Continuous Integration, install and configure Jenkins with Maven/Ant/Gradle to setup a build Job

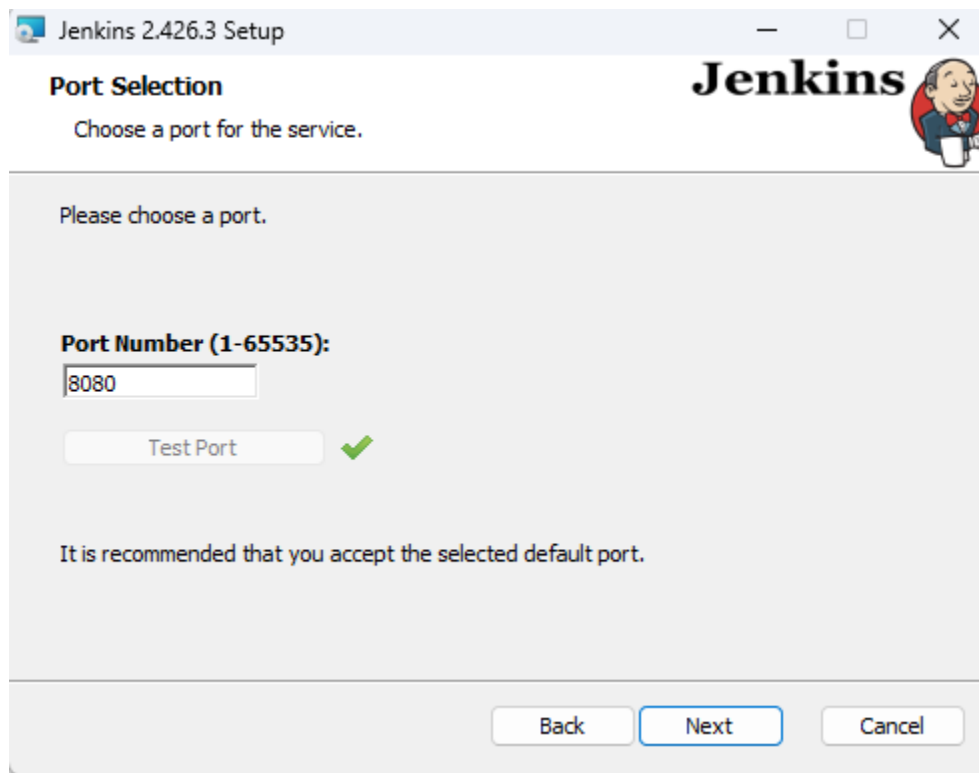
### **THEORY:**

Jenkins is an open-source automation tool written in Java with plugins built for Continuous Integration purpose. Jenkins is used to build and test your software projects continuously making it easier for developers to integrate changes to the project and making it easier for users to obtain a fresh build. It also allows you to continuously deliver your software by integrating with many testing and deployment technologies.

### **Step 1: Install Jenkins from website**



## Step 2: Select the desired options



The screenshot shows the 'Port Selection' window of the Jenkins 2.426.3 Setup. The window title is 'Jenkins 2.426.3 Setup'. The header area contains the Jenkins logo and the text 'Jenkins'. Below the header, the text 'Port Selection' is followed by 'Choose a port for the service.' The main area contains the instruction 'Please choose a port.' and a text box labeled 'Port Number (1-65535):' with the value '8080' entered. Below the text box is a 'Test Port' button with a green checkmark to its right. At the bottom, there is a message: 'It is recommended that you accept the selected default port.' and three buttons: 'Back', 'Next', and 'Cancel'.

Jenkins 2.426.3 Setup

**Port Selection**

Choose a port for the service.

Please choose a port.

**Port Number (1-65535):**

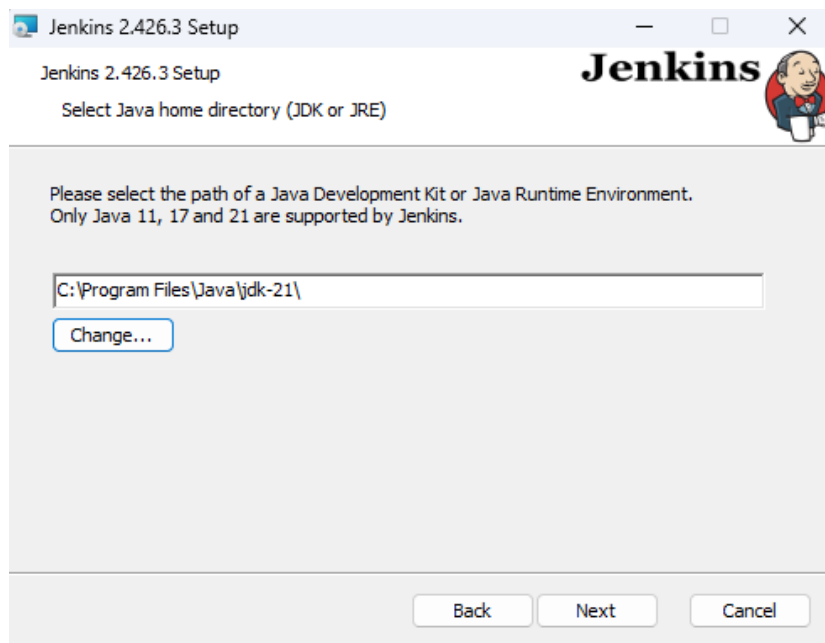
8080

Test Port ✓

It is recommended that you accept the selected default port.

Back Next Cancel

## Step 3: Select the files where jdk 21 is installed



The screenshot shows the 'Select Java home directory (JDK or JRE)' window of the Jenkins 2.426.3 Setup. The window title is 'Jenkins 2.426.3 Setup'. The header area contains the Jenkins logo and the text 'Jenkins'. Below the header, the text 'Jenkins 2.426.3 Setup' is followed by 'Select Java home directory (JDK or JRE)'. The main area contains the instruction 'Please select the path of a Java Development Kit or Java Runtime Environment. Only Java 11, 17 and 21 are supported by Jenkins.' and a text box containing the path 'C:\Program Files\Java\jdk-21\'. Below the text box is a 'Change...' button. At the bottom, there are three buttons: 'Back', 'Next', and 'Cancel'.

Jenkins 2.426.3 Setup

**Jenkins 2.426.3 Setup**

Select Java home directory (JDK or JRE)

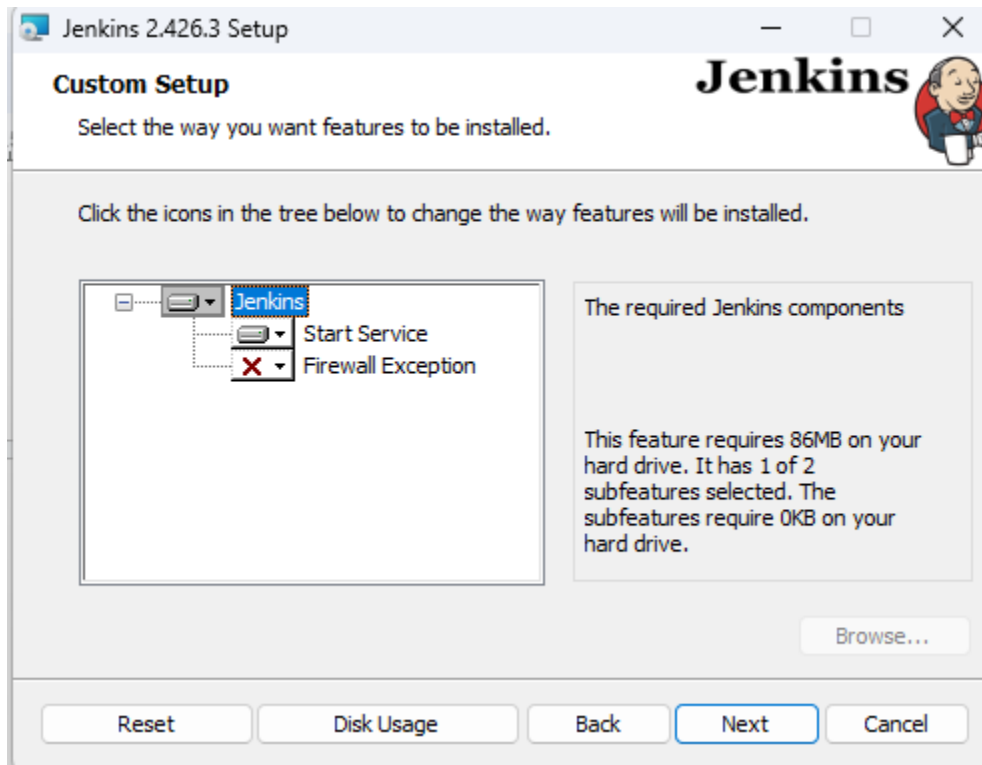
Please select the path of a Java Development Kit or Java Runtime Environment.  
Only Java 11, 17 and 21 are supported by Jenkins.

C:\Program Files\Java\jdk-21\

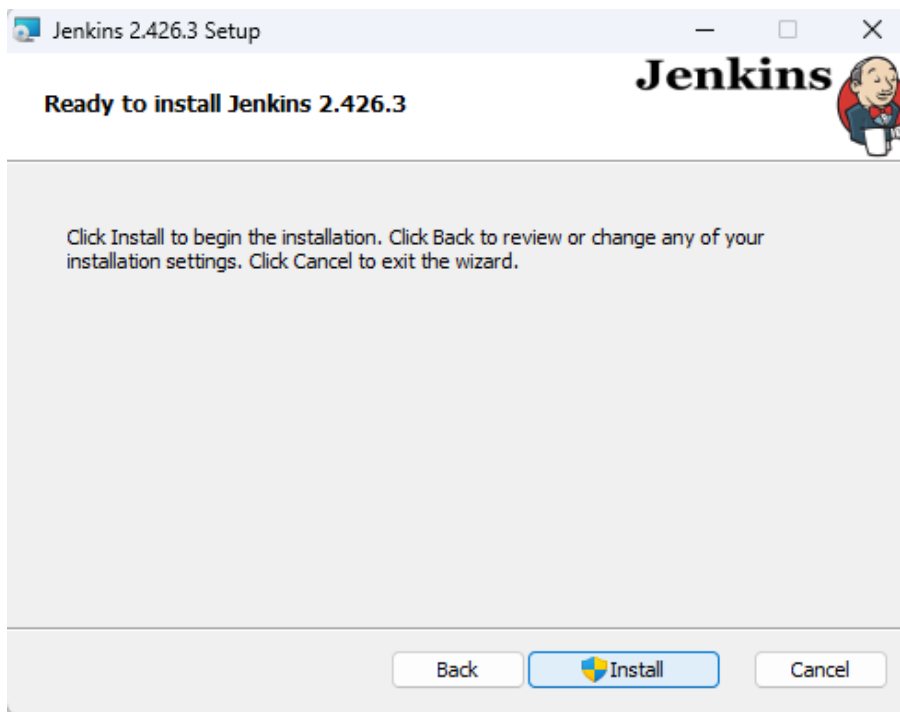
Change...

Back Next Cancel

#### Step 4: Select the desired options



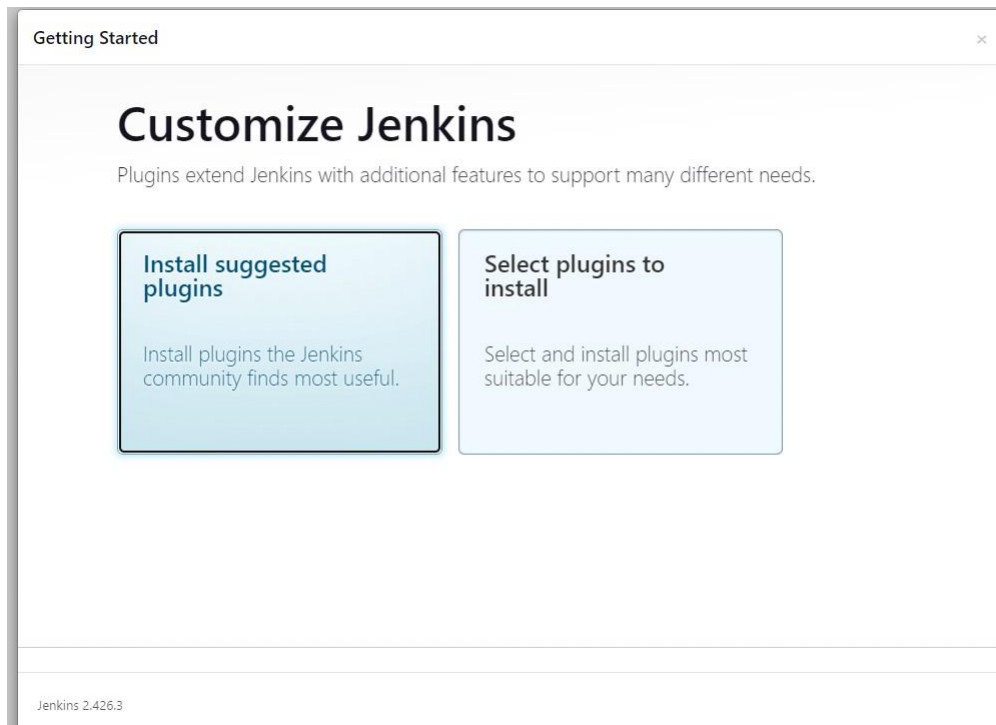
#### Step 5: Install the file



## Step 6: Installation is finished



## Step 7: Go on localhost:8080



## Step 8: Select the options and wait for a few minutes

Getting Started

# Getting Started

|   |  |  |   |                        |
|---|--|--|---|------------------------|
| <input checked="" type="checkbox"/> Folders | <input checked="" type="checkbox"/> OWASP Markup Formatter | <input type="checkbox"/> Build Timeout                     | <input type="checkbox"/> Credentials Binding  | ** Ionicons API        |
| <input type="checkbox"/> Timestampers       | <input type="checkbox"/> Workspace Cleanup                 | <input type="checkbox"/> Ant                               | <input type="checkbox"/> Gradle               | Folders                |
| <input type="checkbox"/> Pipeline           | <input type="checkbox"/> GitHub Branch Source              | <input type="checkbox"/> Pipeline: GitHub Groovy Libraries | <input type="checkbox"/> Pipeline: Stage View | OWASP Markup Formatter |
| <input type="checkbox"/> Git                | <input type="checkbox"/> SSH Build Agents                  | <input type="checkbox"/> Matrix Authorization Strategy     | <input type="checkbox"/> PAM Authentication   |                        |
| <input type="checkbox"/> LDAP               | <input type="checkbox"/> Email Extension                   | <input type="checkbox"/> Mailer                            |   |                        |

\*\* - required dependency

Jenkins 2.426.3

## Step 9: Fill the appropriate credentials

Getting Started

# Create First Admin User

Username

Password

Confirm password

Full name

E-mail address

Jenkins 2.426.3

[Skip and continue as admin](#) [Save and Continue](#)

## Step 10:

### Getting Started

TanushBidkar

Password

.....

Confirm password

.....

Full name

Tanush Ashish Bidkar

E-mail address


tanush.bidkar@gmail.com

Jenkins 2.492.3

[Skip and continue as admin](#)

Save and Continue

## Step 11: Congratulations! You have created your Jenkins account

 **Jenkins**

🔍

🔔

🛡️

👤 Tanush Ashish Bidkar

🚪 log out

Dashboard >

+ New Item

📅 Build History

⚙️ Manage Jenkins

📄 My Views

Build Queue

▼

No builds in the queue.

Build Executor Status

0/2 ▼

### Welcome to Jenkins!

This page is where your Jenkins jobs will be displayed. To get started, you can set up distributed builds or start building a software project.

#### Start building your software project

Create a job

+

#### Set up a distributed build

Set up an agent

🖥️

Configure a cloud

☁️

Learn more about distributed builds

?

## CONCLUSION:

Jenkins with Maven simplifies Continuous Integration, automating builds and improving project efficiency for faster development cycles and higher software quality.