

## EXPERIMENT – 4

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

### **THEORY:**

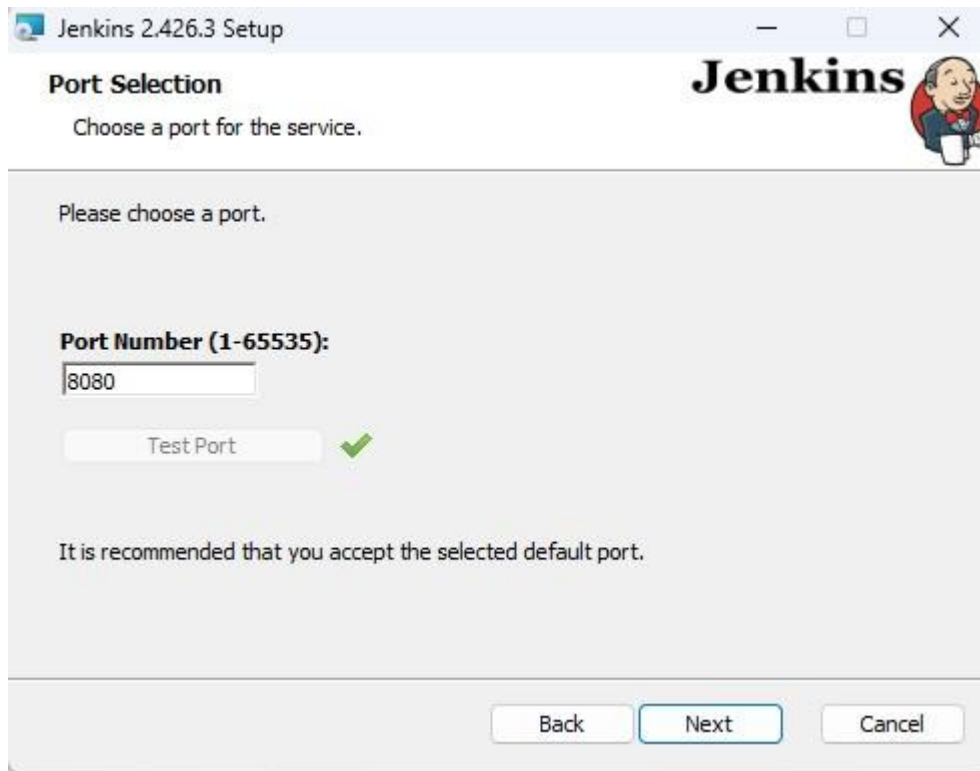
Jenkins is an open-source automation tool written in Java with plugins built for Continuous Integration purpose. Jenkins is used to build and test your software projects continuously making it easier for developers to integrate changes to the project and making it easier for users to obtain a fresh build. 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 image shows a Windows-style window titled "Jenkins 2.426.3 Setup". The window has a standard title bar with minimize, maximize, and close buttons. Below the title bar, the text "Port Selection" is displayed in a bold font, followed by the instruction "Choose a port for the service." In the top right corner, the Jenkins logo (a cartoon character) is visible. The main content area of the window contains the text "Please choose a port." followed by a label "Port Number (1-65535):" and a text input field containing the number "8080". Below the input field is a button labeled "Test Port" with a green checkmark icon to its right. At the bottom of the window, there is a message: "It is recommended that you accept the selected default port." and three buttons: "Back", "Next" (which is highlighted with a blue border), and "Cancel".

Jenkins 2.426.3 Setup

**Port Selection**

Choose a port for the service.

Please choose a port.

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

8080

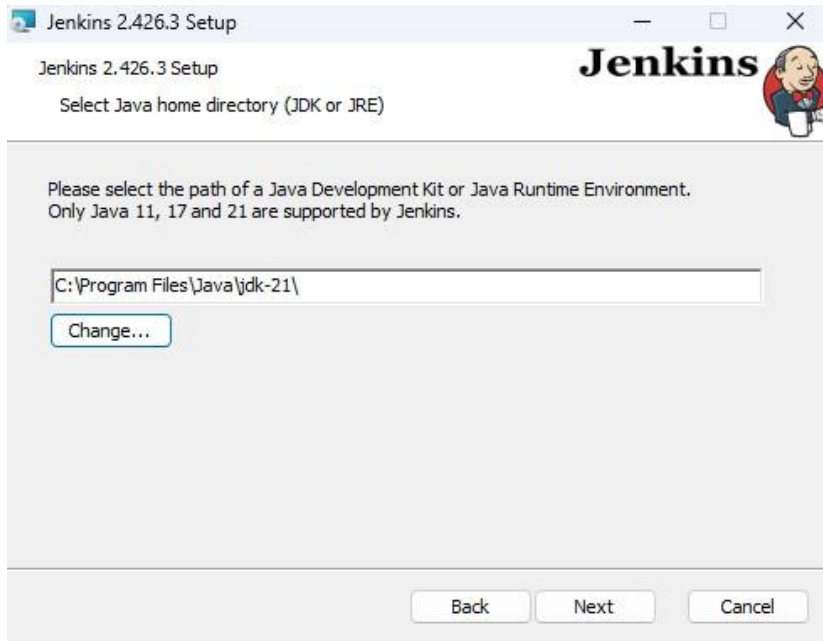
Test Port ✓

It is recommended that you accept the selected default port.

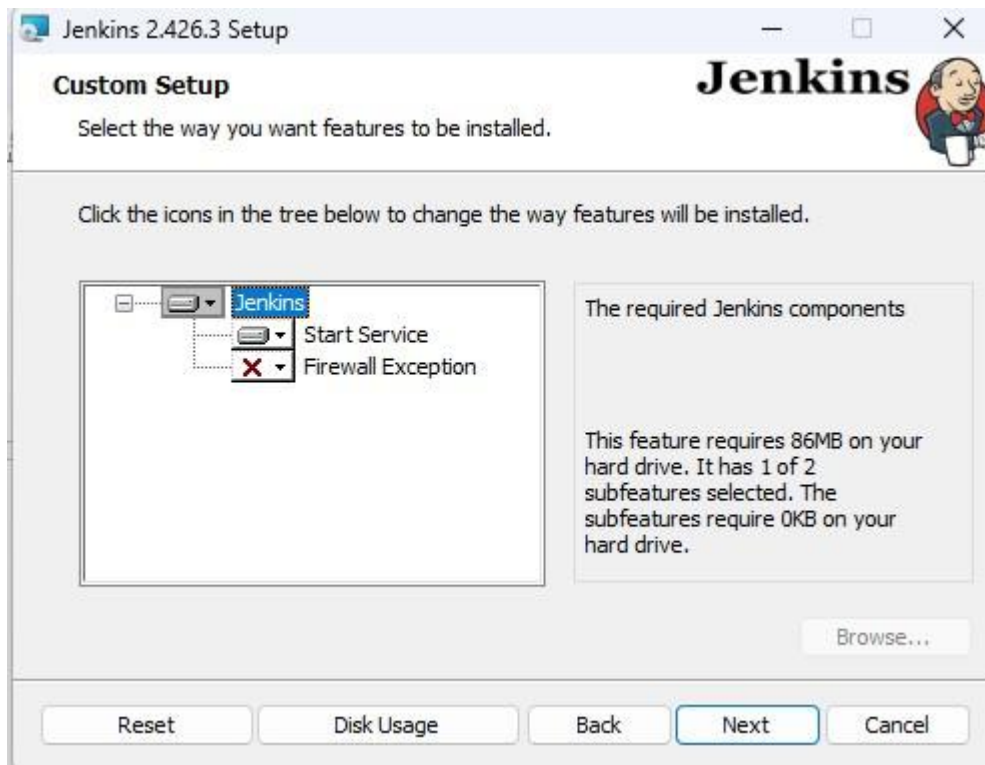
Back Next Cancel

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

## Step

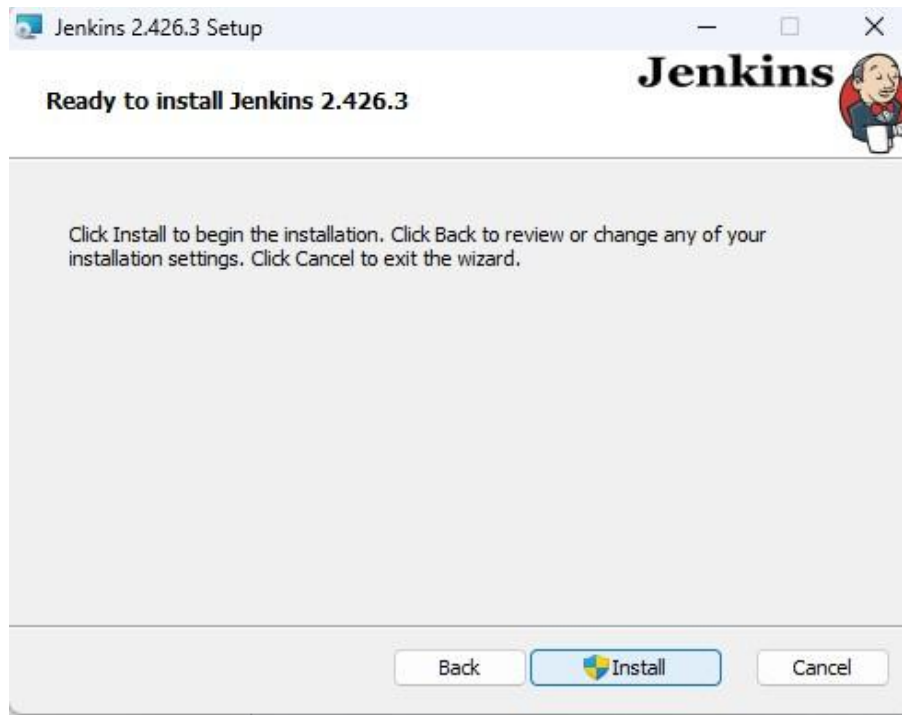


### 4: Select the desired options



## Step 5: Install the file

## Step



### 6: Installation is finished



### Step 7: Go on localhost:8080

## Step

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 2.426.3

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

\*\* - required dependency

Jenkins 2.426.3

## Step

### 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

10:

## Step

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 11: Congratulations! You have created your Jenkins account

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 ?

[Add description](#)

## **Step**

### **CONCLUSION:**

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