

EXPERIMENT – 4

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

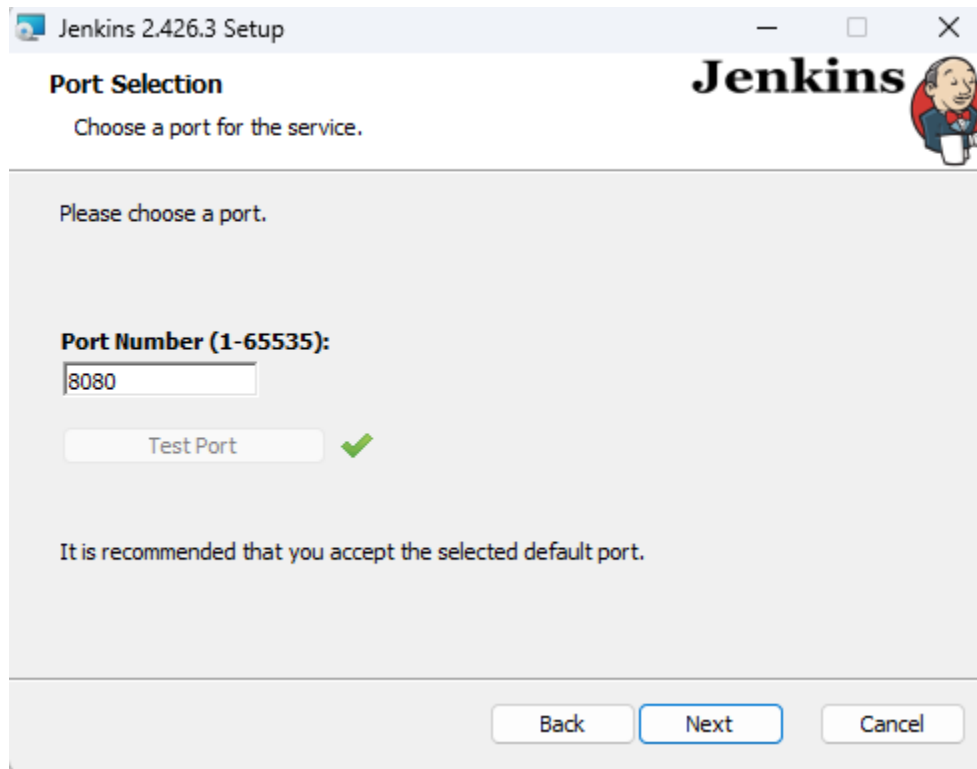
THEORY:

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.

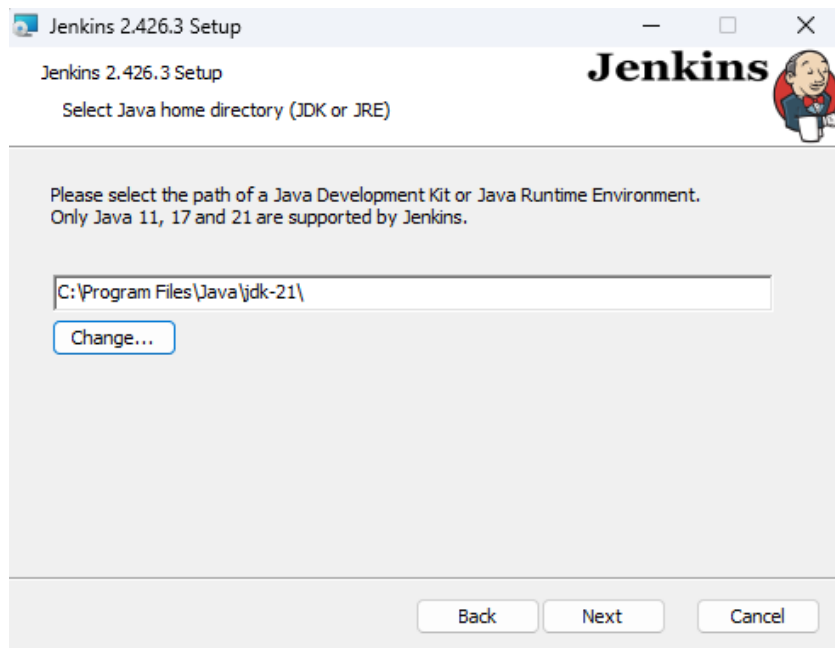
Step 1: Install Jenkins from website

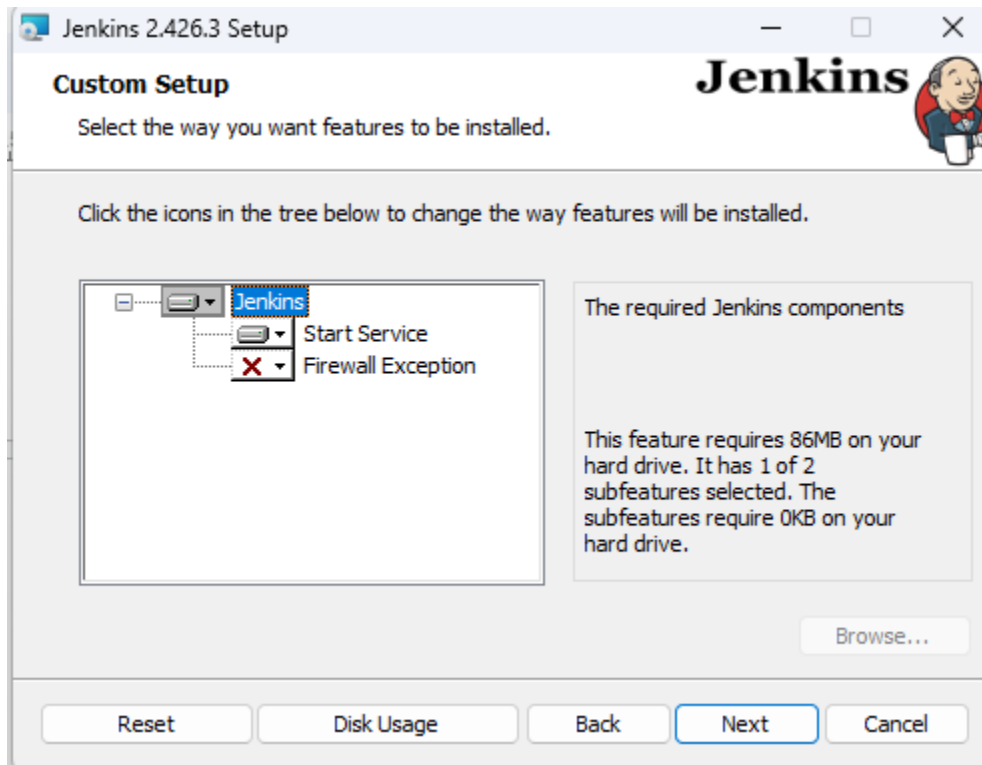
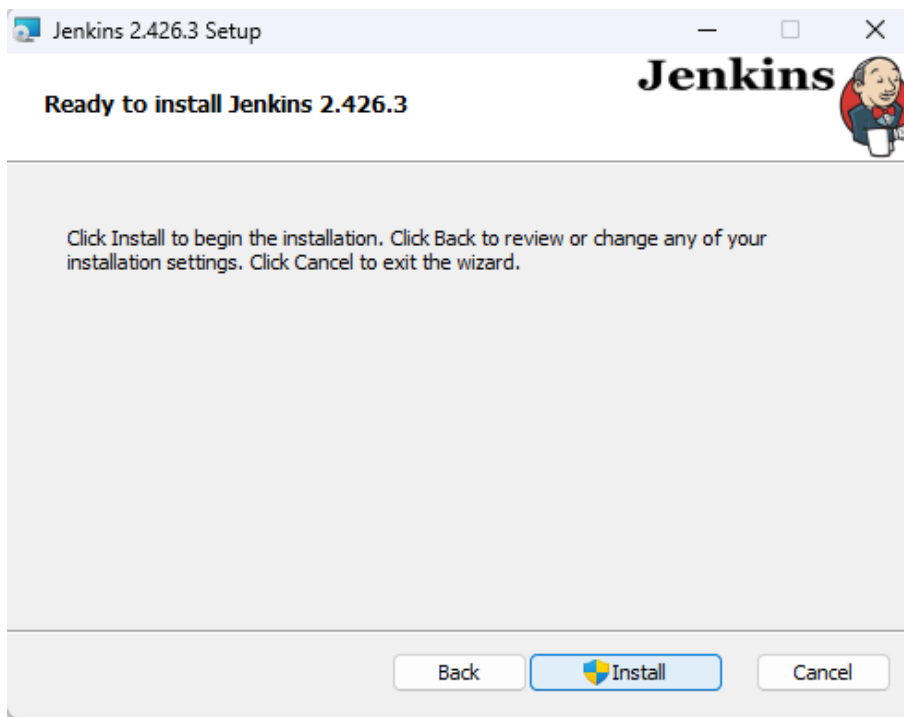


Step 2: Select the desired options



Step 3: Select the files where jdk 21 is installed

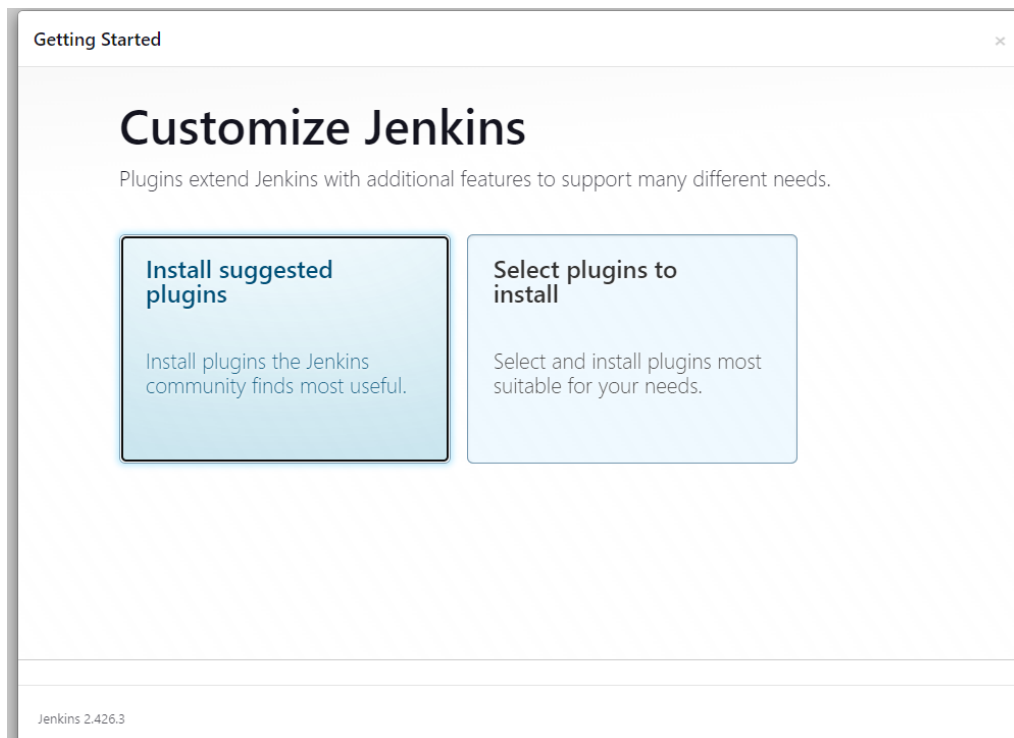


Step 4: Select the desired options**Step 5: Install the file**

Step 6: Installation is finished



Step 7: Go on localhost:8080



Step 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	** Icons 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

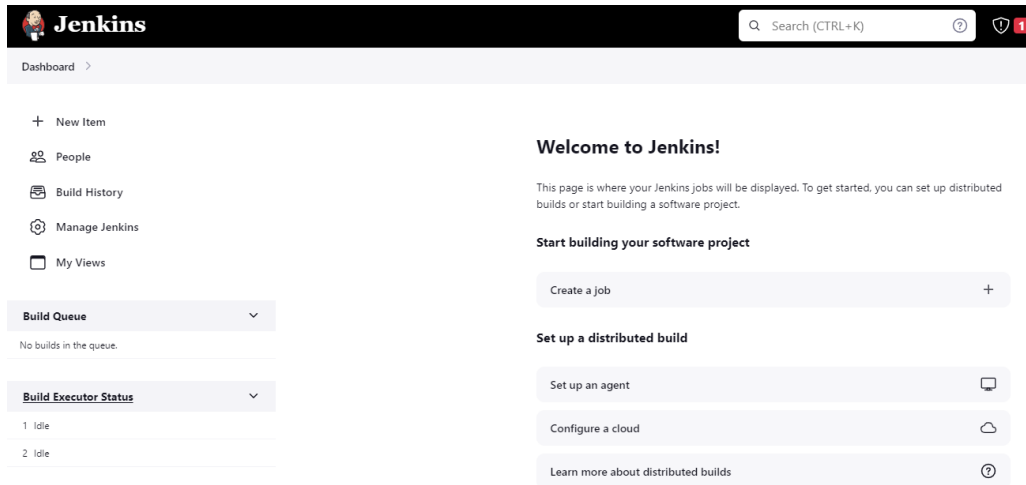
Full name

E-mail address

Jenkins 2.426.3

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

Step 10: Congratulations! You have created your Jenkins account



The screenshot displays the Jenkins dashboard interface. At the top, there is a black header bar with the Jenkins logo on the left, a search bar in the center, and a shield icon with a red '1' on the right. Below the header, a light gray bar shows 'Dashboard >'. The main content area is divided into two columns. The left column contains a sidebar with a '+ New Item' button and a list of links: 'People', 'Build History', 'Manage Jenkins', and 'My Views'. Below these links are two expandable sections: 'Build Queue' (showing 'No builds in the queue.') and 'Build Executor Status' (showing two 'Idle' executors). The right column features a 'Welcome to Jenkins!' message, followed by a paragraph explaining the dashboard's purpose. Below this is a section titled 'Start building your software project' with a 'Create a job' button. Further down is a 'Set up a distributed build' section with three options: 'Set up an agent', 'Configure a cloud', and 'Learn more about distributed builds'.

Jenkins

Search (CTRL+K)

Dashboard >

+ New Item

People

Build History

Manage Jenkins

My Views

Build Queue

No builds in the queue.

Build Executor Status

1 Idle

2 Idle

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.