Jenkins Installation Steps in Windows & Mac OS

Before delving into the installation steps, let's gain a foundational understanding of Jenkins — what it is and why it matters ?

What is Jenkins ?

Jenkins is an open-source automation server commonly used for building, testing, and deploying software projects. It facilitates continuous integration and continuous delivery (CI/CD) by automating various aspects of the software development process. Jenkins supports the integration of code from multiple contributors and automates the testing and deployment phases, helping developers catch and fix errors early in the development lifecycle. It has a large and active community, making it a popular choice for organizations seeking to streamline their software development processes. Jenkins can be extended through a vast array of plugins, allowing users to customize and enhance its functionality according to their specific needs

Why we need Jenkins ?

1. **Automation**: Jenkins automates building, testing, and deployment tasks.

2. **Continuous Integration (CI):** Identifies and addresses integration issues early, ensuring higher code quality.

3. **Continuous Delivery/Deployment (CD):** Automates the deployment process for faster and more reliable releases.

4. **Customization and Extensibility:** Highly customizable and extensible through a variety of plugins.

5. **Monitoring and Reporting:** Provides real-time monitoring and detailed reports for better visibility.

7. **Community Support:** Large and active community ensures continuous improvement and reliable usage.

Jenkins is crucial for streamlining development, promoting collaboration, and delivering high-quality software efficiently.

So, I believe you now have a basic foundation on Jenkins. Let's proceed with a step-by-step installation guide
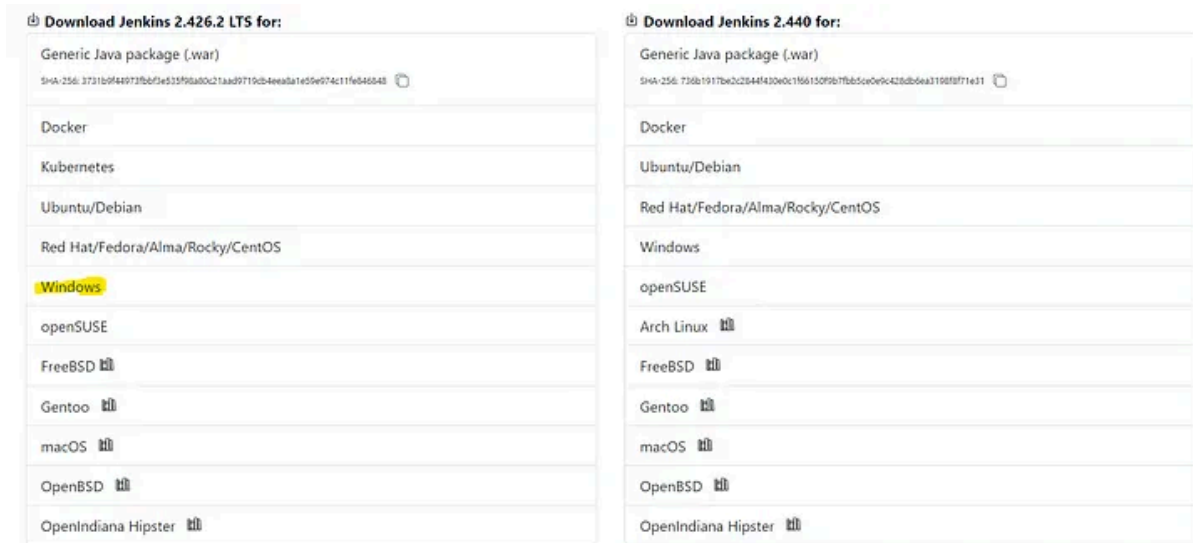
Jenkins Installation

Before you begin the installation, make sure you have the following prerequisite in place:

- Java Development Kit (JDK) installed on the server. Jenkins requires Java 8 or later.
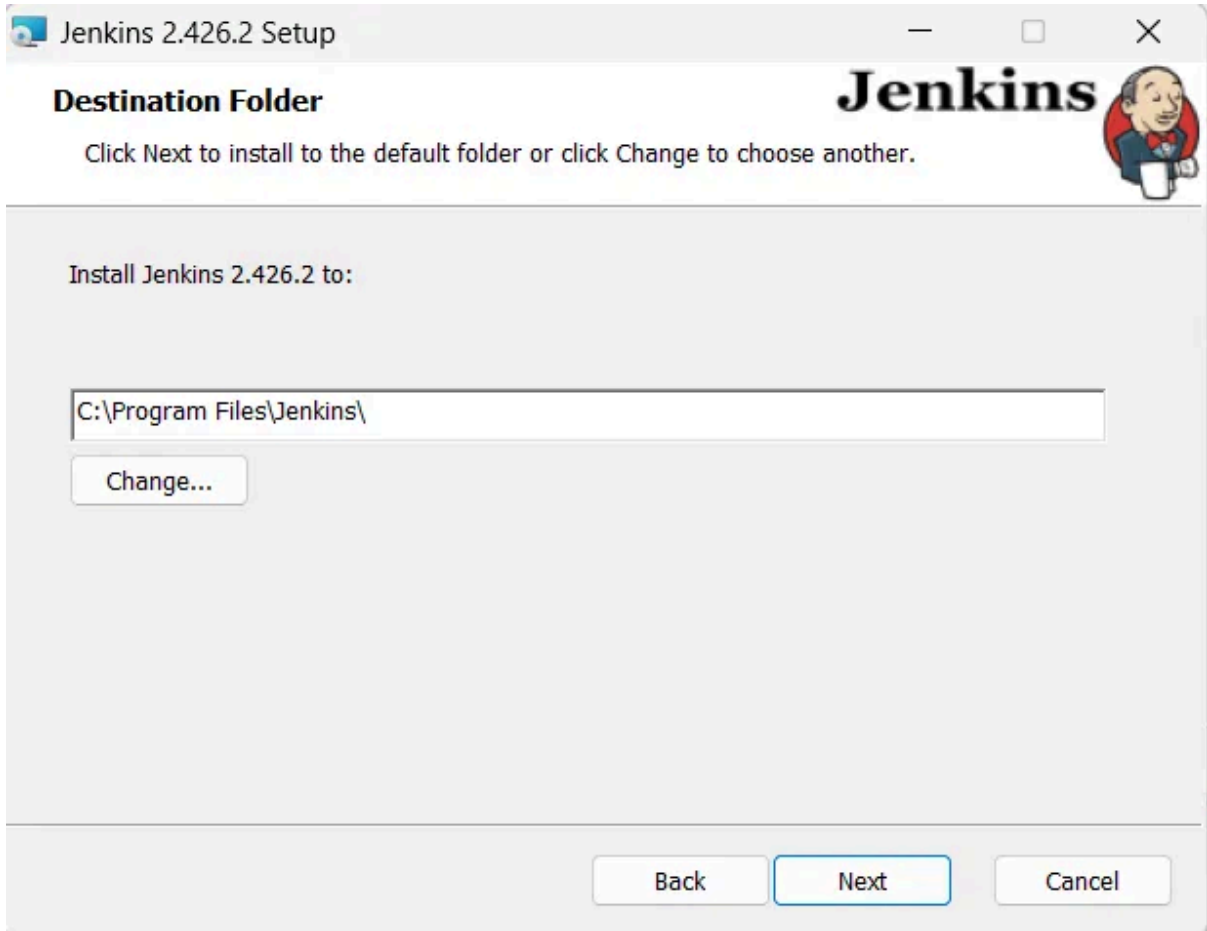
Installation steps in Windows :

1. Open your web browser and navigate to the Jenkins official website (https://www.jenkins.io/).

2. Click on the "Download" link in the top menu.

3. Choose the right package as per your OS and JDK Version

Once the download is finished, launch the Windows installer and proceed with the following steps to install Jenkins.

4. Open the Installation window and click "Next" to initiate the installation process.

5. Choose the destination directory where you want to install Jenkins, and then click "Next" to proceed.

Jenkins 2.426.2 Setup

Destination Folder

Click Next to install to the default folder or click Change to choose another.

Jenkins

Install Jenkins 2.426.2 to:

C:\Program Files\Jenkins\

Change...

Back   Next   Cancel

6. Choose Service logon credential then proceed by clicking "Next"

Note: As opposed to running Jenkins as LocalSystem (Windows' equivalent of the root), which would give it complete access to your computer and its services. is recommended to install and operate Jenkins as an independent Windows service using a local or domain user because doing so is considerably safer. However, if you cannot operate the Jenkins service as a local or domain user, you can operate as a LocalSystem, and grant Jenkins all privileges.
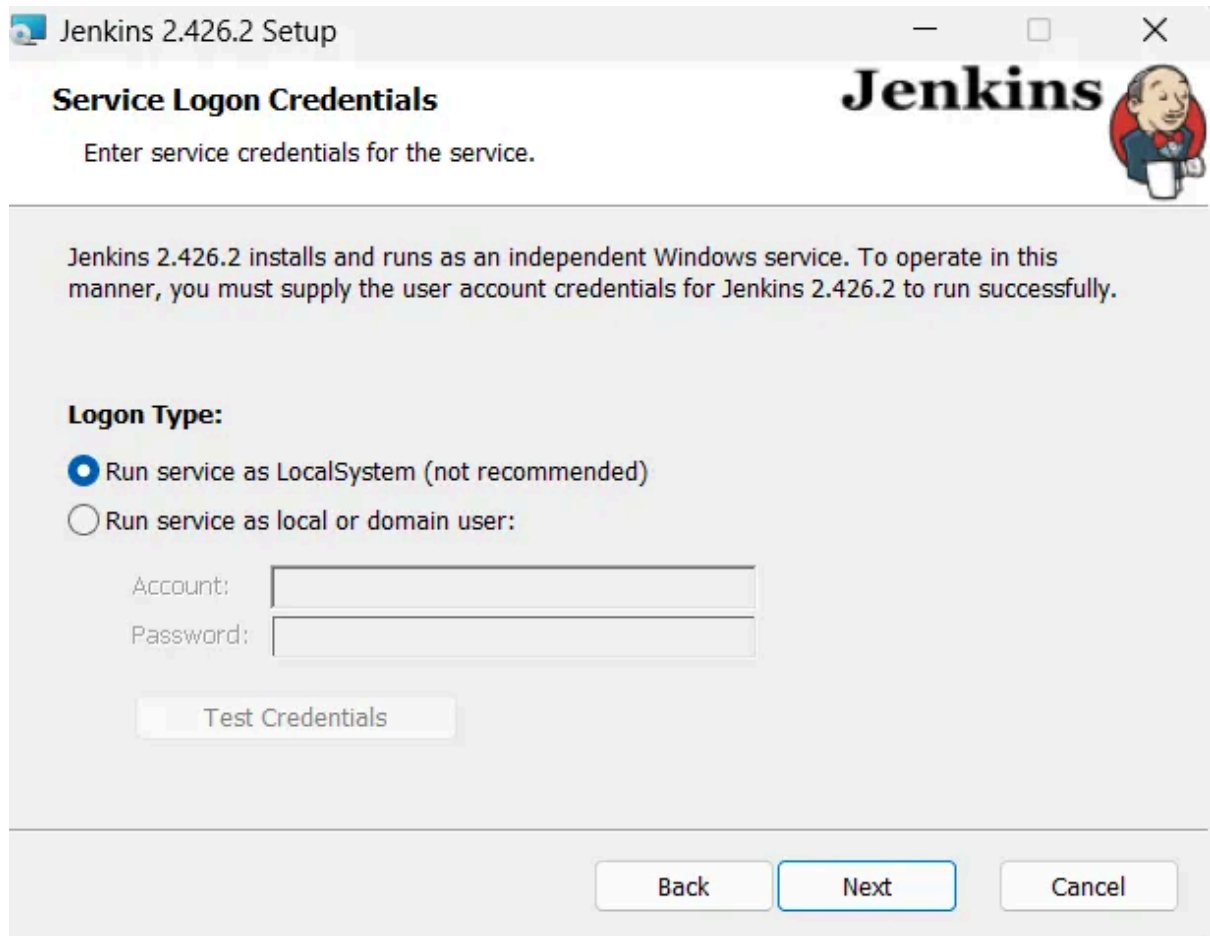
7. Make port selection and click "Next" to continue

Indicate the port on which Jenkins will operate, and validate its availability by using the "Test Port" button. A green checkmark will be displayed if the specified port is available on your machine.

By default, the port number will be set to 8080.

Jenkins 2.426.2 Setup — □ ×

Port Selection

Choose a port for the service.

Jenkins

Please choose a port.
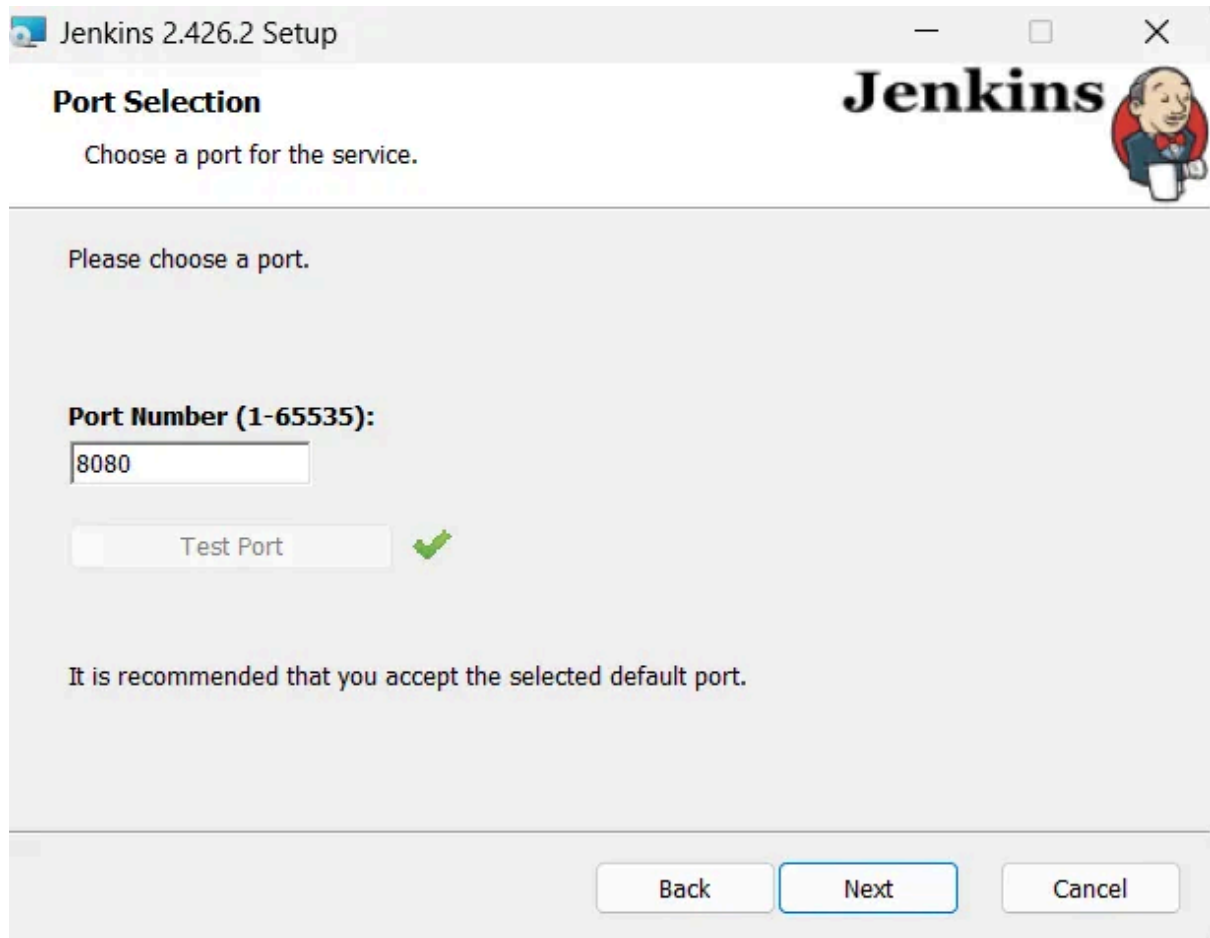
Port Number (1-65535):

8080

Test Port ⚠ Click 'Test Port' button to proceed

It is recommended that you accept the selected default port.
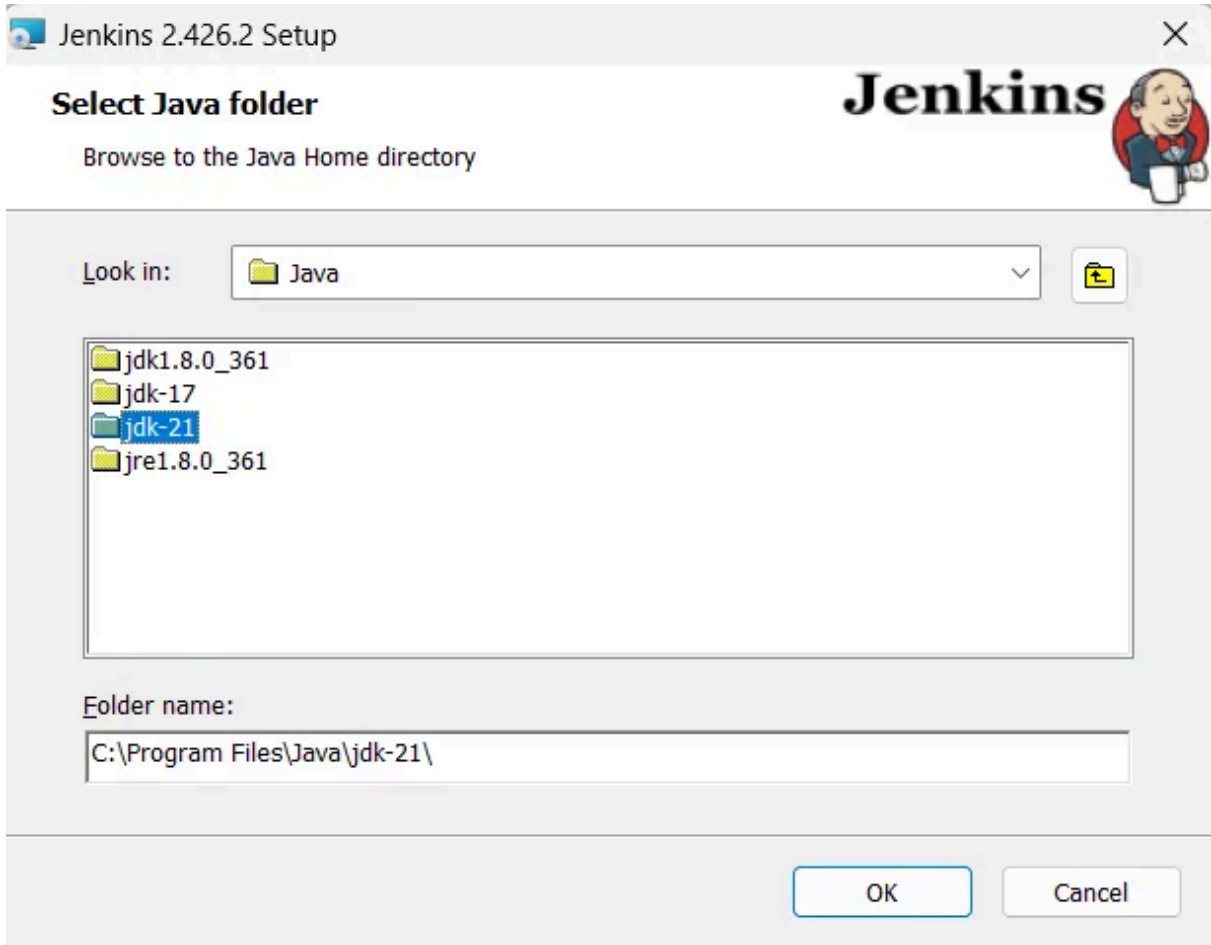
Back   Next   Cancel

8. Choose Your Java Location and click "Next" to proceed.

During the installation, the process automatically detects and fills in the Java

home directory. In case it's not detected, you need to manually select your

Java home directory

Jenkins 2.426.2 Setup

Jenkins 2.426.2 Setup

Jenkins

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\

Change...

Back   Next   Cancel

Jenkins 2.426.2 Setup

Select Java folder

Browse to the Java Home directory

Jenkins

Look in: 📁 Java

📁 jdk1.8.0_361
📁 jdk-17
📁 jdk-21
📁 jre1.8.0_361

Folder name:

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

OK   Cancel

9. Choose any additional services that you wish to install alongside Jenkins, and then click "Next." If you don't want to install any additional services at the moment, simply proceed by clicking "Next."

Jenkins 2.426.2 Setup

Custom Setup

Select the way you want features to be installed.

Click the icons in the tree below to change the way features will be installed.

- Jenkins
  - Start Service
  - Firewall Exception

The required Jenkins components

This feature requires 85MB on your hard drive. It has 1 of 2 subfeatures selected. The subfeatures require 0KB on your hard drive.

Browse...

| Reset | Disk Usage | Back | Next | Cancel |

10. Initiate the Jenkins installation by clicking on the "Install" button.
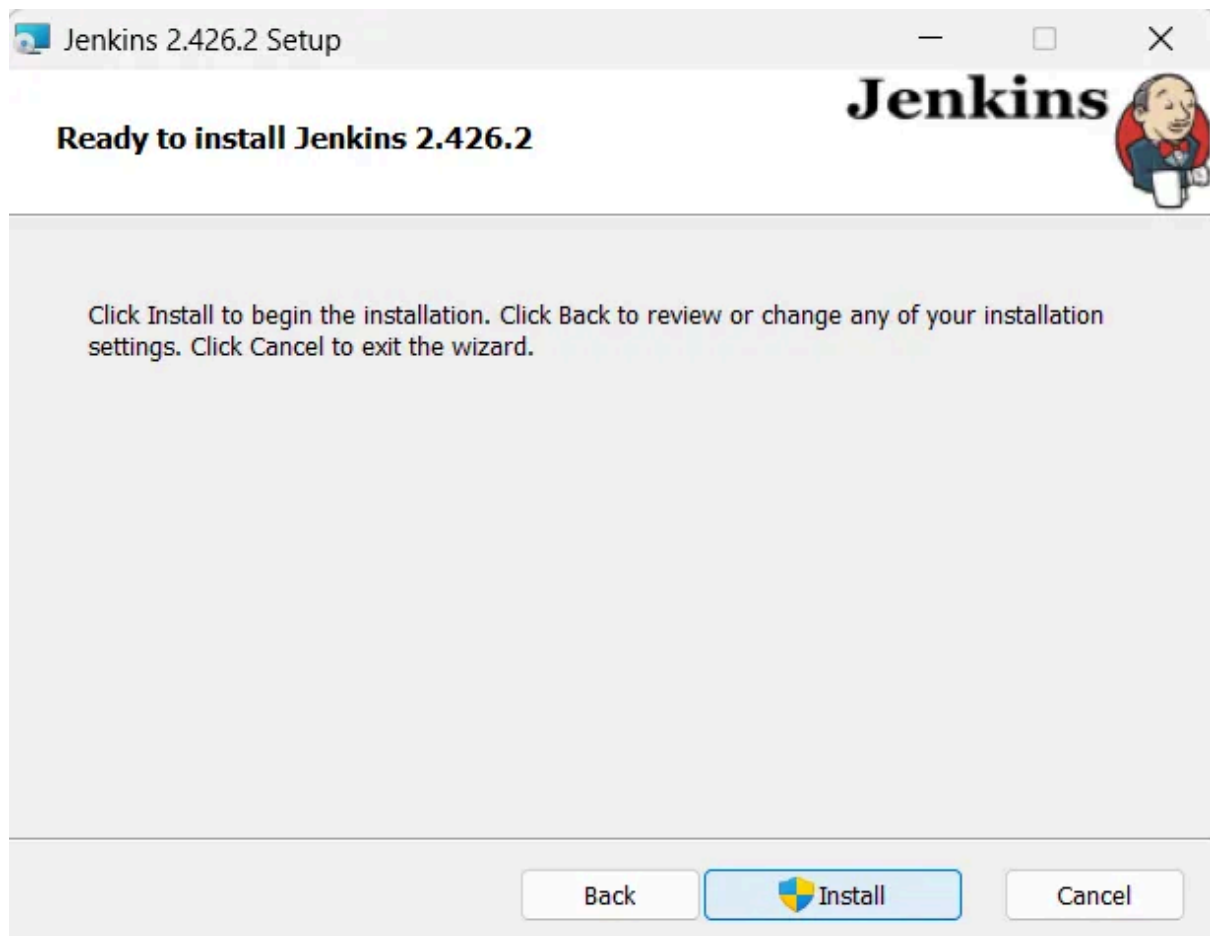
11. Done!!

Once the installation process has finished, click "Finish" to complete the

installation.

All sets to go now , Lets navigate to the Jenkins dashboard,

12. Open your web browser and navigate to http://localhost:8080 (or the port you specified during Jenkins installation). Wait until the "Unlock Jenkins" page becomes available.

13. Find and Provide initial Administrator Password to unlock the Jenkins

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:\ProgramData\Jenkins\.jenkins\secrets\initialAdminPassword`

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

Administrator password

[   ]

Continue

To obtain the initial Administrator password, follow these steps:

- By default, you can find the password in a file named "initialAdminPassword" under below path

  C:\ProgramData\Jenkins\.jenkins\secrets\

- If you chose a custom installation path for Jenkins, you should
  check the specific location you selected for the
  "initialAdminPassword" file.

Open the "initialAdminPassword" file in notepad and copy the password and paste it into the Adminstrator password field and click "Continue" to proceed.

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:\ProgramData\Jenkins\.jenkins\secrets\initialAdminPassword`

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

Administrator password

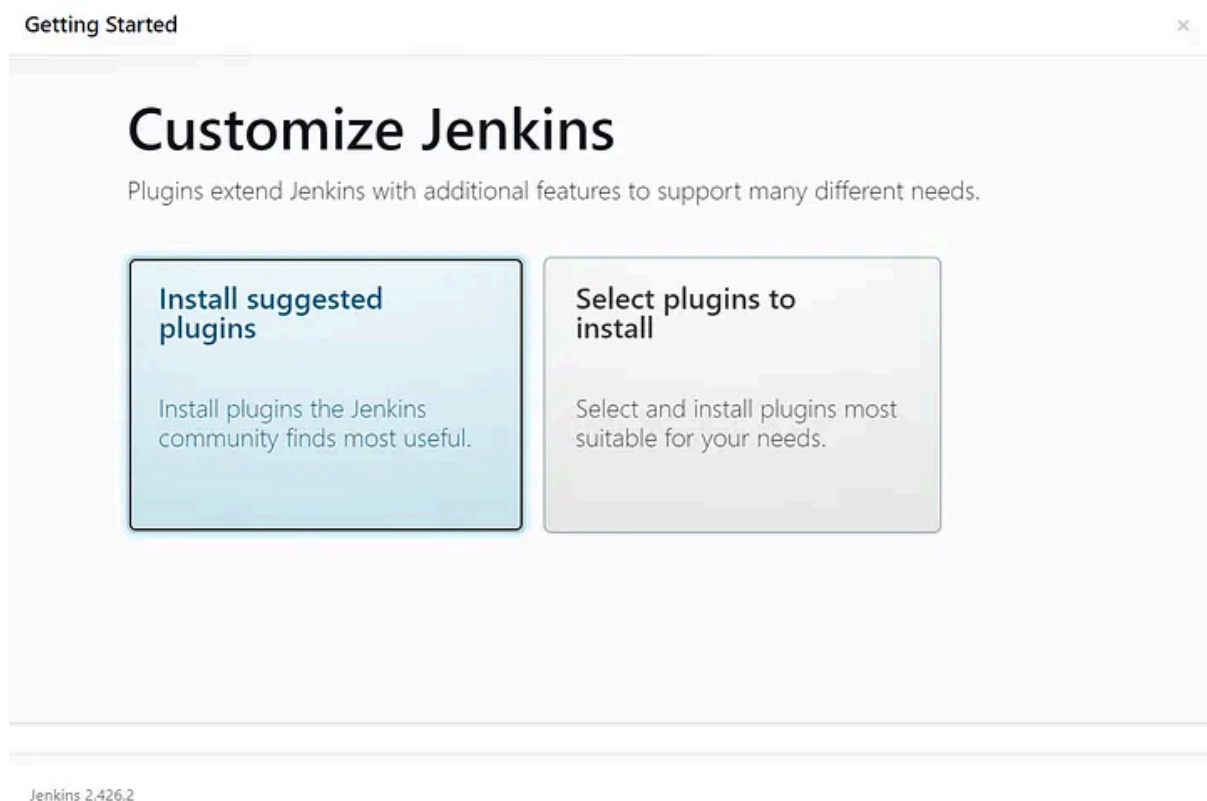`..............................`

Continue

14. Customizing Jenkins with Plugins

Click one of these options:

- "Install suggested plugins" — to get a standard set of plugins recommended for common tasks.

- "Select plugins to install" — to choose the specific plugins you want. Initially, the suggested plugins are already selected for you.

If you're not sure which plugins to pick, go with "Install suggested plugins." You can always add or remove more plugins later from the Manage Jenkins > Plugins page.

Getting Started ×

Customize Jenkins

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

Install suggested plugins	Select plugins to install
Install plugins the Jenkins community finds most useful.	Select and install plugins most suitable for your needs.

Jenkins 2.426.2

The installation process will start promptly, but it might take a little while to complete. Please be patient while plugins is being set up.

Jenkins 2.426.2

15. Create your first admin user or choose "skip and continue as admin".

Here I choose to configure my credential for Jenkins

16. Instance Configuration will prompt with default Jenkins URL. Click "Save and Finish"

Instance Configuration

Jenkins URL:

http://localhost:8080/

The Jenkins URL is used to provide the root URL for absolute links to various Jenkins resources. That means this value is required for proper operation of many Jenkins features including email notifications, PR status updates, and the BUILD_URL environment variable provided to build steps.

The proposed default value shown is **not saved yet** and is generated from the current request, if possible. The best practice is to set this value to the URL that users are expected to use. This will avoid confusion when sharing or viewing links.

Not now   Save and Finish

17. Finally!! Jenkins is ready!. Click "Start usign Jenkins" to navigate to the

Jenkins dashboard page.

Getting Started

Jenkins is ready!

Your Jenkins setup is complete.

Start using Jenkins

Congratulations! 🎊 You have successfully installed Jenkins on your Windows

Operating system!

How to stop Jenkins service ?

Since we have installed Jenkins as a Windows service, you can stop it using
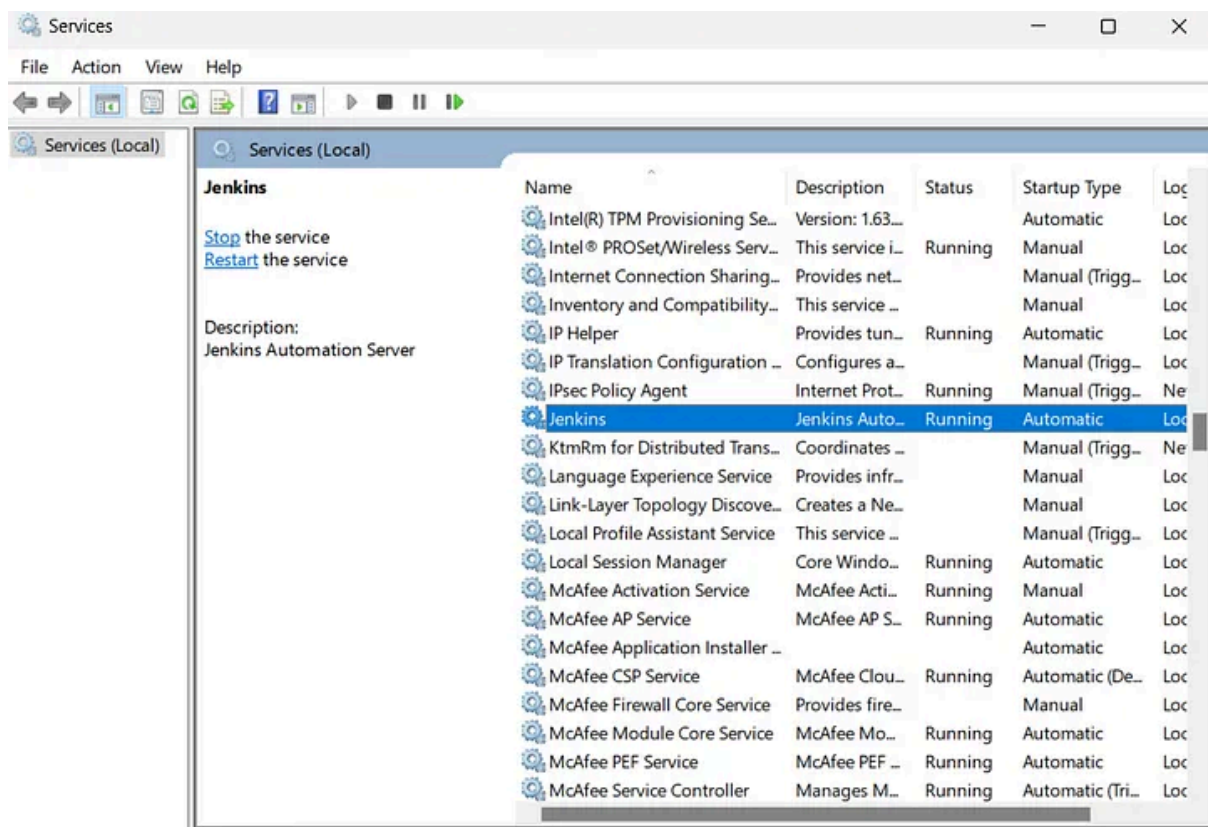
the following steps:

1. Open Services:

- Press Win + R to open the Run dialog.

- Type services.msc and press Enter to open the Services window.

2. Locate Jenkins:

- In the Services window, locate the Jenkins service.

3. Stop Jenkins Service:

- Right-click on the Jenkins service and choose "Stop" from the context menu.

Installation steps in Mac OS:

If you are looking how to install the Jenkins on mac you land to the right place.

There is different way to install the Jenkins on the MAC-

1. Using the Brew
2. Run using the Docker

Using the Brew

If you don't already have the Homebrew package manager installed, you will first need to follow the installation steps from https://brew.sh/.

To validate if brew is installed you can run the following command

brew --version
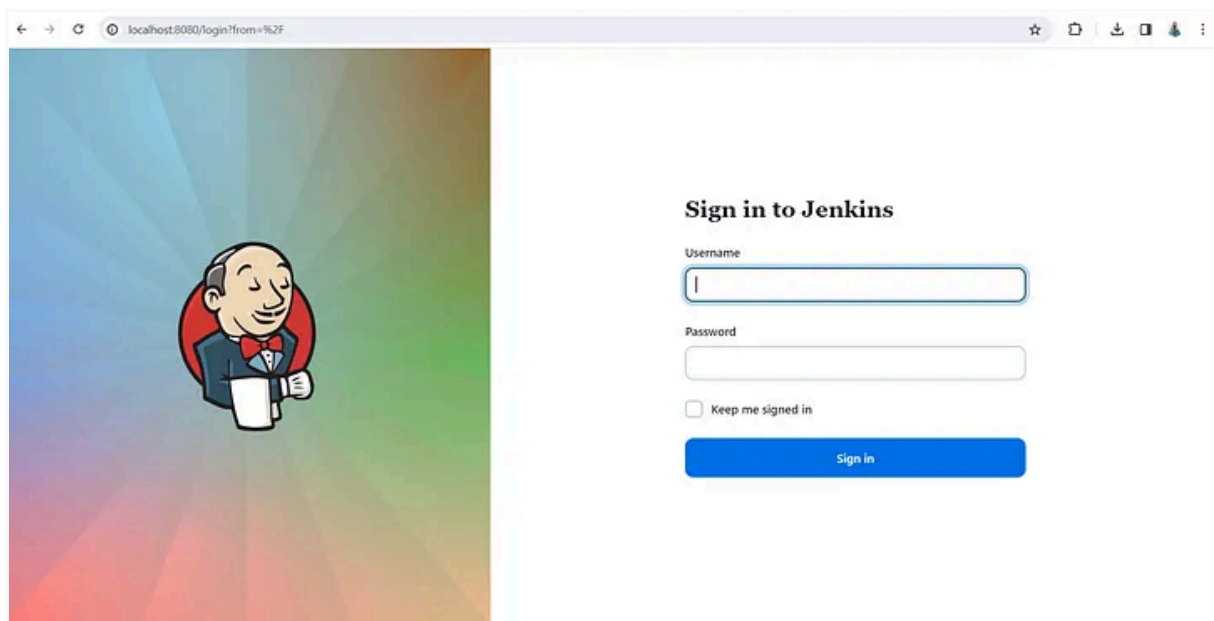
To install the Jenkins you can run the following command-

brew install jenkins-lts

Once the installation is completed. Please run following command to run the

Jenkins server-

brew services start jenkins-lts

You can access to Jenkins server on

http://localhost:8080/

Since you are starting the service first time on your machine , you need to follow steps 12 to 17 from above windows guide

To stop the Jenkins service you can run

brew services stop jenkins-lts

Congratulations! 🎊 You have successfully installed Jenkins on your Mac Operating system!