

How to Install and Set PATH for Java

1. For Windows

Step 1: Download Java

1. Visit the java download page. :
<https://www.oracle.com/in/java/technologies/downloads/>
2. Select the latest Java Development Kit (JDK) [jdk 21] for Windows.
3. Download the installer (.exe file).

Step 2: Install Java

1. Run the downloaded .exe file.
2. Follow the installation wizard steps:
 - Accept the license agreement.
 - Choose an installation directory (default is usually fine).
3. Click **Finish** when the installation is complete.

Step 3: Set the PATH Environment Variable

1. Open the Start menu and search for **Environment Variables**.
2. Click **Edit the system environment variables**.
3. In the System Properties window, click the **Environment Variables** button.
4. Under **System Variables**, find and select the **Path variable**, then click **Edit**. If not available create one
5. Add the following to the list of paths:

- C:\Program Files\Java\jdk-<version>\bin (*Replace <version> with the installed JDK version number*).

6. Click **OK** to save changes.

Step 4: Verify Installation

1. Open **Command Prompt**.
2. Run the command:

```
java -version
```

If Java is installed correctly, it will display the installed version.

2. For macOS

Step 1: Download Java

1. Visit the Java Download page.
2. Select the latest JDK for macOS.
3. Download the .dmg file.

Step 2: Install Java

1. Open the downloaded .dmg file.
2. Follow the installation prompts:
 - Drag the Java installer to the Applications folder.
3. Once the installation is complete, Java will be installed in /Library/Java/JavaVirtualMachines/.

Step 3: Set the PATH Environment Variable

1. Open the **Terminal** application.
2. Edit the ~/.zshrc or ~/.bash_profile file (depending on your shell):

```
nano ~/.zshrc
```

3. Add the following line at the end of the file:

```
export PATH=$PATH:/Library/Java/JavaVirtualMachines/jdk-  
<version>/Contents/Home/bin
```

(Replace <version> with the installed JDK version).

4. Save the file and reload it:

```
source ~/.zshrc
```

Step 4: Verify Installation

1. Open the **Terminal**.
2. Run the command:

```
java -version
```

If Java is installed correctly, it will display the installed version.

3. For Linux

Step 1: Download Java

1. Open your browser and visit the Java Download page.
2. Select the latest JDK for Linux.
3. Download the .tar.gz file.

Step 2: Install Java

1. Open the **Terminal**.
2. Navigate to the directory where the .tar.gz file was downloaded:

```
cd /path/to/downloaded/file
```

3. Extract the file:

```
tar -xvzf jdk-<version>.tar.gz
```

4. Move the extracted folder to /usr/local/:

```
sudo mv jdk-<version> /usr/local/
```

Step 3: Set the PATH Environment Variable

1. Open the ~/.bashrc or ~/.zshrc file:

```
nano ~/.bashrc
```

2. Add the following line at the end of the file:

```
export PATH=$PATH:/usr/local/jdk-<version>/bin
```

3. Save the file and reload it:

```
source ~/.bashrc
```

Step 4: Verify Installation

1. Open the **Terminal**.

2. Run the command:

```
java -version
```

If Java is installed correctly, it will display the installed version.
