

Install JDK8 on Windows

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This document outlines the steps needed to install Java Development Kit (JDK) on Windows Operating system.

1. Overview:

Many software applications are needed to built based on Java programming language and one should have Java Development Kit (JDK) to create application source files and run using Java.

The **Java Development Kit** (JDK) is a Java distribution being sponsored by **Oracle Corporation**. It implements the Java Language Specification and the Java Virtual Machine Specification and provides the Standard Edition of the Java Application Programming Interface (API).

JDK provides a software environment such as Java Virtual Machine (JVM), Compiler, Debugger, Performance monitoring tools and other utilities which are needed for developing Java applications and applets. **JDK** comes with a complete **Java Runtime Environment** (JRE) (also called as private runtime) which is separated from the regular JRE and has extra contents.

JRE consists of **Java Virtual Machine** (JVM) and core libraries. JVM is a virtual machine that allows computer to run Java based programs. Since JVM is responsible to execute the Java program line by line, it is also called as **interpreter**.

Oracle corporation releases Java binaries for X86-64 Windows architecture, MacOS and Linux based operating systems.

For the purpose of this documentation, we will install JDK8 on Windows.

2. JDK Installation:

First, download Oracle JDK from [Oracle Java Downloads](https://www.oracle.com/java/technologies/downloads/#jdk22-windows) website.

The screenshot shows the Oracle Java Downloads website for JDK 22 on Windows. The page features the Oracle logo and navigation links for Products, Industries, Resources, Customers, Partners, Developers, and Company. Below the navigation bar, there are tabs for Java downloads, Tools and resources, and Java archive. A message states that JDK 21 is the latest long-term support release of Java SE Platform. A button for 'Learn about Java SE Subscription' is also present. The main content area highlights 'JDK 22' and 'JDK 21' with links to 'GaalVM for JDK 22', 'GaalVM for JDK 21', and 'GaalVM for JDK 17'. A section titled 'JDK Development Kit 22.0.1 downloads' provides information about the binaries and their availability. A table lists the download options for Windows, including x64 Compressed Archive, x64 Installer, and x64 MSI Installer, with their respective file sizes and download links. A 'Documentation Download' button is located at the bottom of the table.

Product/file description	File size	Download
x64 Compressed Archive	184.14 MB	https://download.oracle.com/java/22/latest/jdk-22-windows-x64_bin.zip (sha256)
x64 Installer	164.31 MB	https://download.oracle.com/java/22/latest/jdk-22-windows-x64_bin.exe (sha256)
x64 MSI Installer	163.06 MB	https://download.oracle.com/java/22/latest/jdk-22-windows-x64_bin.msi (sha256)

You can download the latest version of Java from this website. The latest JDK version released at the time of writing this document is **JDK 22**. Since most of the Java based applications prefer to run on the standard version of JDK 8, Oracle has agreed to provide JDK 8 updates until December 2030.

The previous versions of JDK are also available for download from [Oracle Java Archive Downloads](https://www.oracle.com/java/technologies/javase-downloads.html) website.

For the purpose of this documentation, let us install JDK8.

On the [Oracle Java Downloads](https://www.oracle.com/java/technologies/downloads/#jdk22-windows) website, scroll down to see the latest Java SE Development Kit8 release for Windows and download either x86 installer or x64 installer (*depending on your 32-bit or 64-bit Windows operating system architecture*) of `jdk*-windows*.exe` file.

← → ↻ 🔍 https://www.oracle.com/java/technologies/downloads/#java8-windows ☆ 📌 📄

ORACLE Products Industries Resources Customers Partners Developers Company 🔍 🇺🇸 👤 View Accounts 📄 Contact Sales

Java downloads Tools and resources Java archive

Java SE Development Kit 8u411

Java SE subscribers will receive JDK 8 updates until at least **December 2030**.

[Manual update required for some Java 8 users on macOS.](#)

The Oracle JDK 8 license changed in April 2019

The [Oracle Technology Network License Agreement for Oracle Java SE](#) is substantially different from prior Oracle JDK 8 licenses. This license permits certain uses, such as personal use and development use, at no cost -- but other uses authorized under prior Oracle JDK licenses may no longer be available. Please review the terms carefully before downloading and using this product. FAQs are available [here](#).

Commercial license and support are available for a low cost with [Java SE Universal Subscription](#).

JDK 8 software is licensed under the [Oracle Technology Network License Agreement for Oracle Java SE](#).

Java SE 8u411 checksums and OL 8 GPG Keys for RPMs

Linux macOS Solaris Windows

Product/file description	File size	Download
x86 Installer	141.01 MB	jdk-8u411-windows-i586.exe
x64 Installer	150.55 MB	jdk-8u411-windows-x64.exe

Note: You must accept Oracle license agreement to download JDK.

✕

You must accept the [Oracle Technology Network License Agreement for Oracle Java SE](#) to download this software.

☒ I reviewed and accept the Oracle Technology Network License Agreement for Oracle Java SE

Required

[Download jdk-8u411-windows-x64.exe](#) 📄

Then it asks you to sign in. Note that you would need an Oracle account to download JDK. Create one if not already available.

← → ↻ 🔍 https://signin.oracle.com/signin ☆ 📌 📄 🔴 ⋮

Sign in to Oracle

Username or email

Next

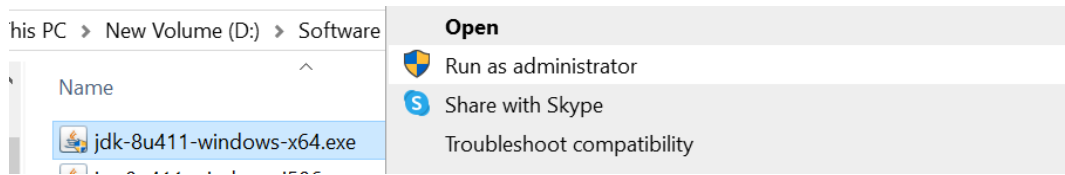
[Forgot username?](#)

Don't have an Oracle Account?

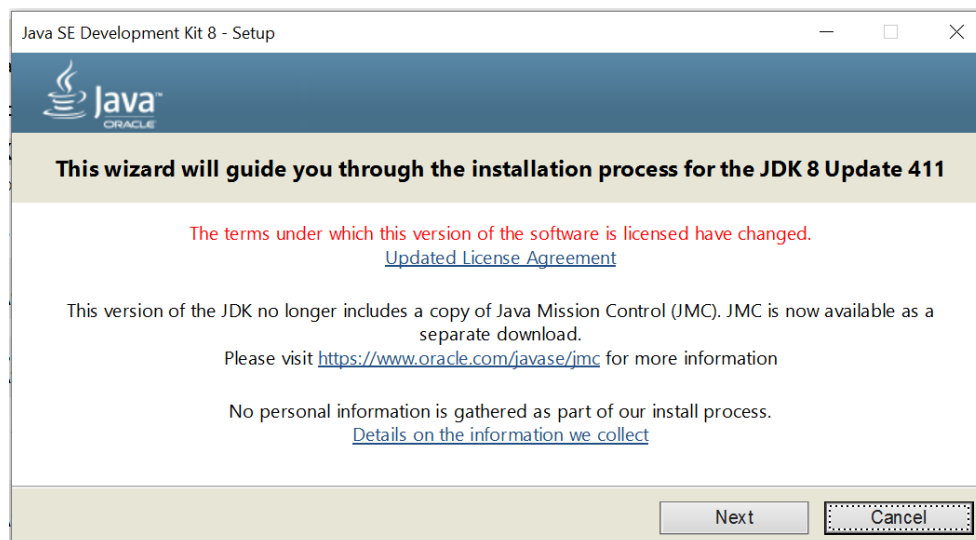
Create Account

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After you enter Oracle account credentials, `jdk*-windows*.exe` file will be downloaded to your Downloads folder. You can copy that file to any other location. Right click on the `.exe` file and select **Run as Administrator** option.

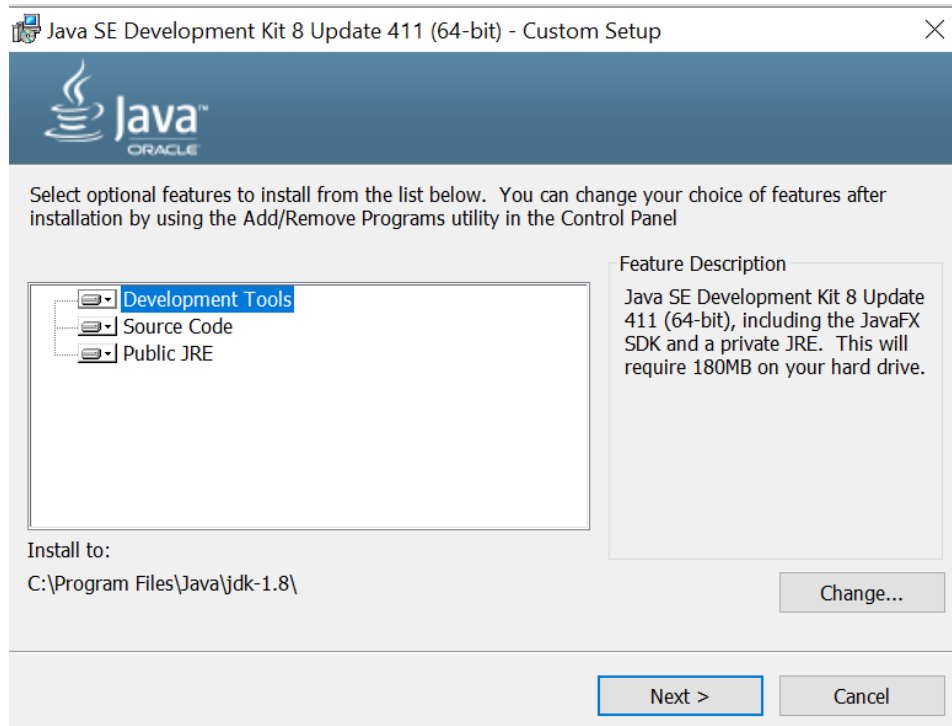


In few seconds, it opens up a **Java SE Development Kit Setup** wizard for installation. Press Next to proceed with the installation.

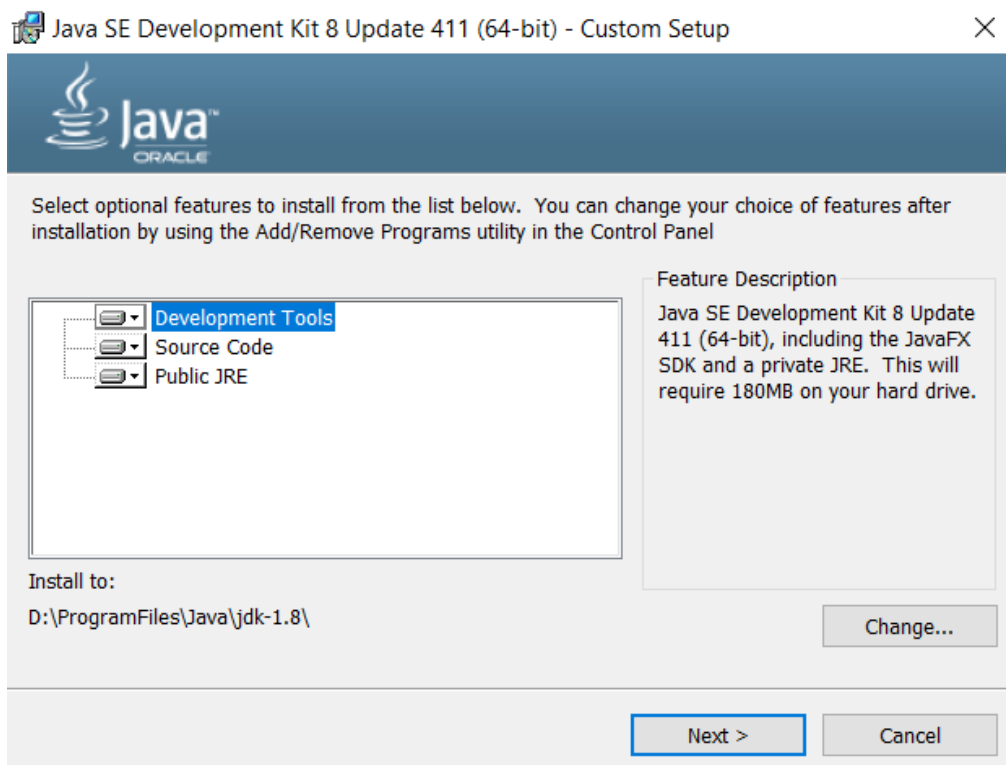


It then opens a **Custom Setup** dialog where we can choose the path for installation.

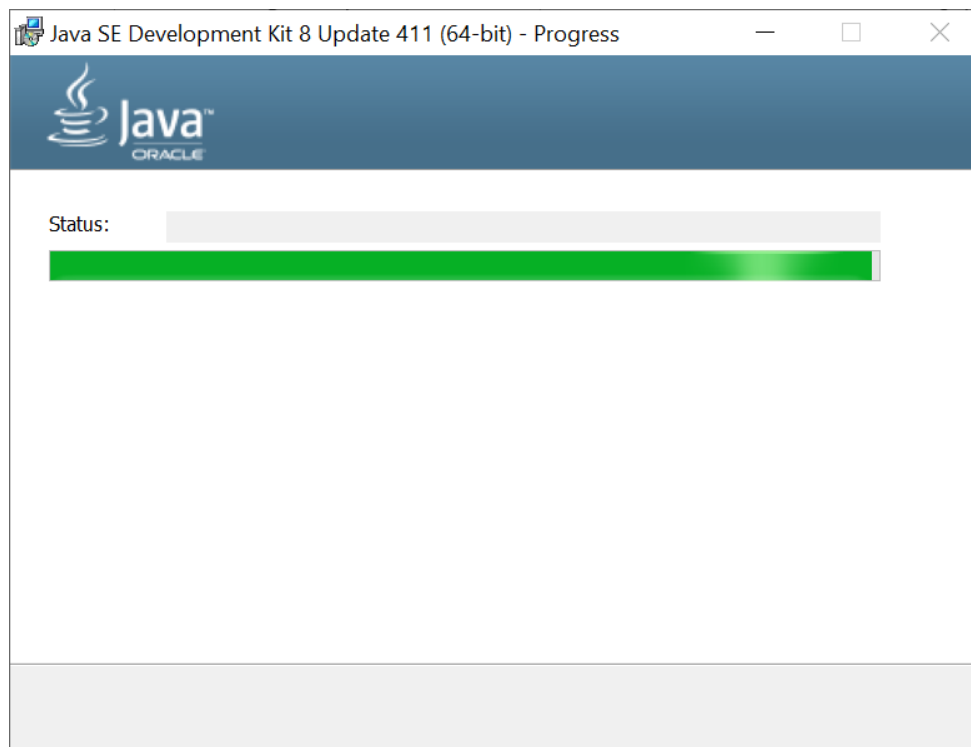
By default, it tries to install to `C:\Program Files\Java\jdk-1.8` directory. Click on **Change** button if you wish to change the default installation directory.



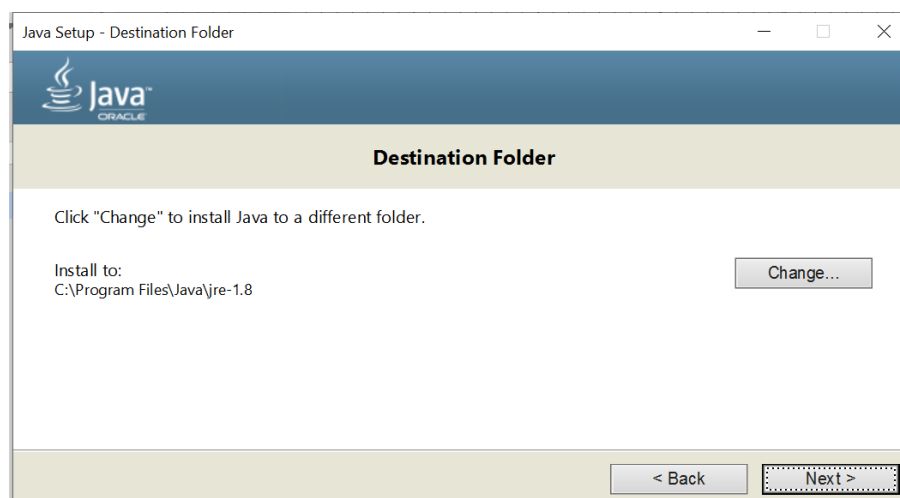
I changed the install path to D:\ProgramFiles\Java\jdk-1.8\



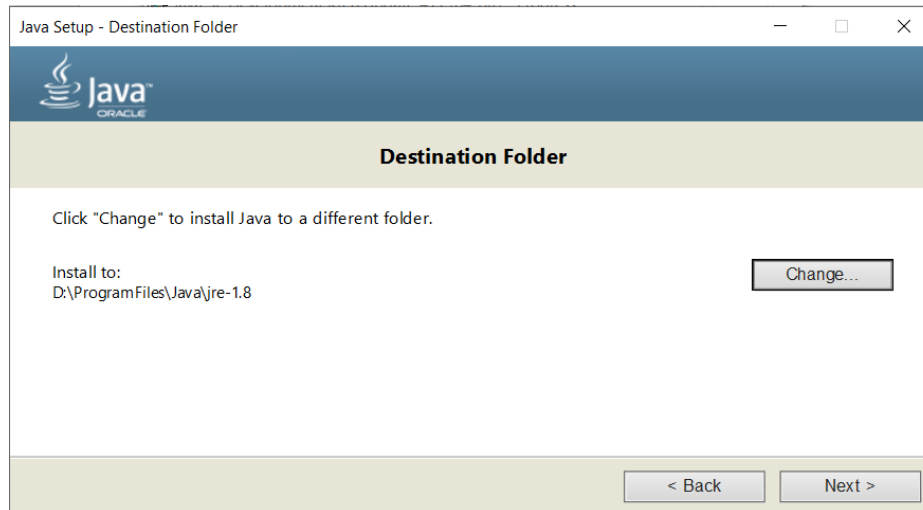
In the next window, you can see the Progress of installation.



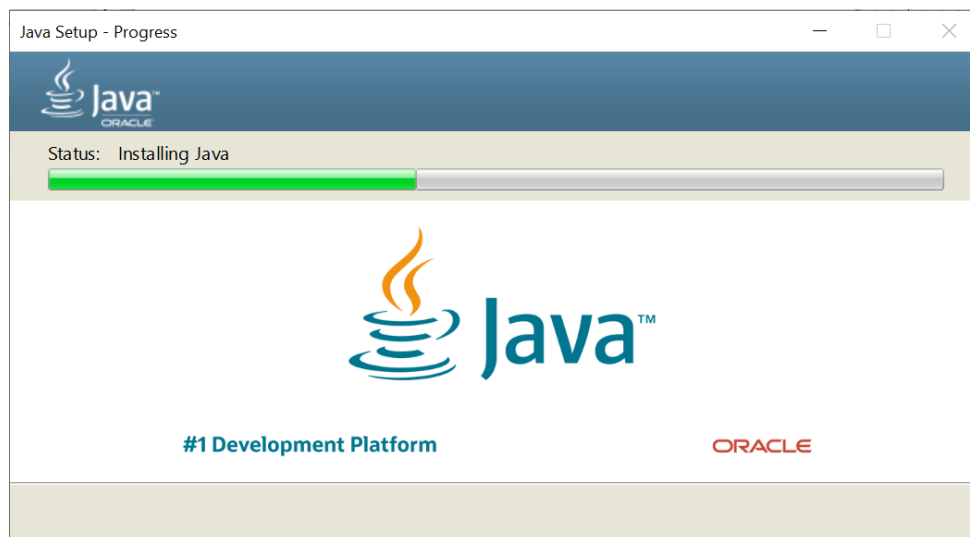
Next, it tries to install JRE on the default installation location
D:\ProgramFiles\Java\jre-1.8. Click on **Change** button if you wish to change the
installation folder.



I changed the install path to `D:\Programs\Java\jre-1.8`. Note that it looks for a non-empty folder for JRE installation, so the folder you choose must be empty when you change the install path.



Next, it shows the Java installation progress.



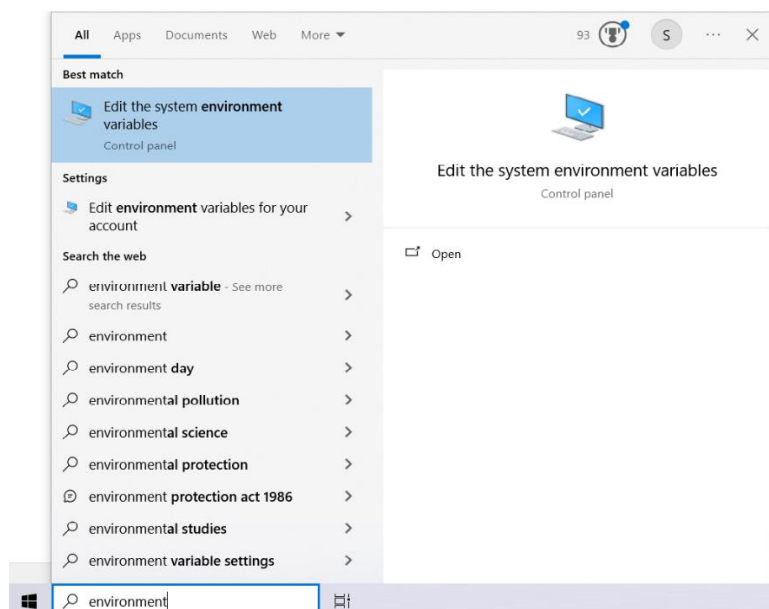
Installation has been completed successfully now and click on **Close** to close the window.



3. Configure JDK:

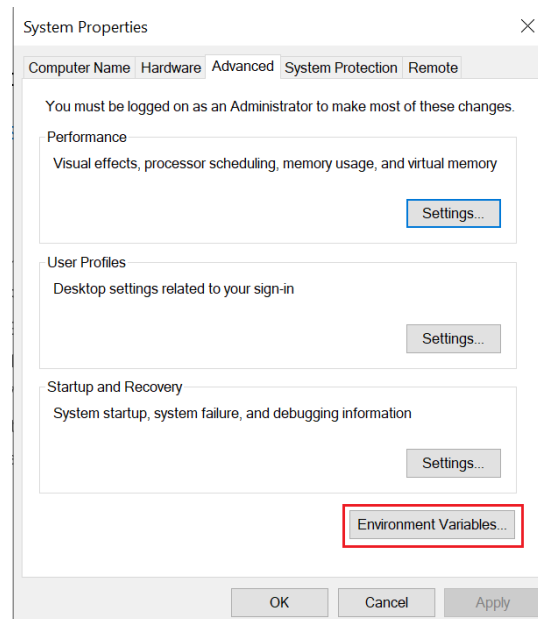
After JDK is installed, the next step is to configure it by creating JAVA_HOME environment variable and adding its binary location to PATH environment variable.

In the Windows search bar, start typing “environment variables” and select the first match which opens up **System Properties** dialog.

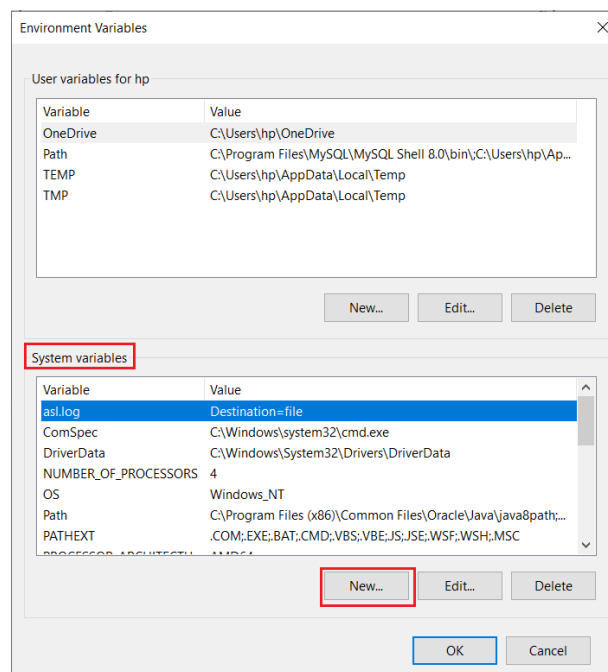


Alternatively (in Windows 8 or 9 versions), you can open **Control Panel** wizard and select **System and Security** setting. Then choose the **System** setting and click on it. In the **System Settings** window, click on **Advanced system settings** link to open up the **System Properties** window.

On the **System Properties** window, press **Environment Variables** button.

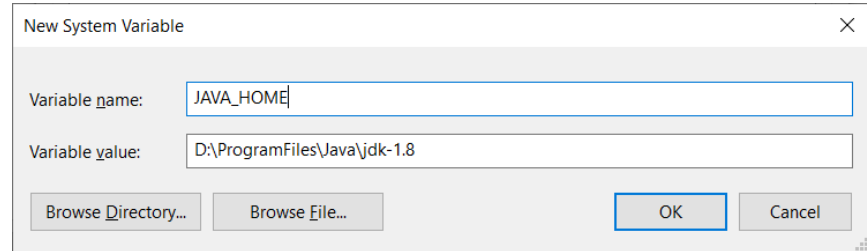


On the **Environment Variables** dialog, press **New** under **System variables** tab.

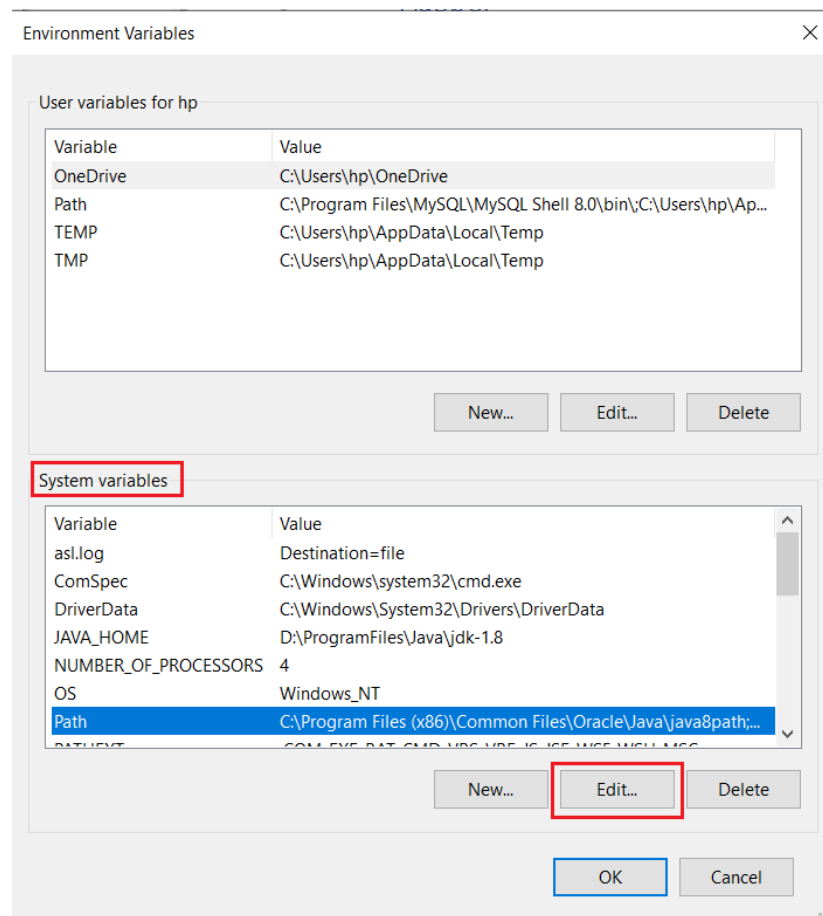


Note: If you would like to set Java for the current user using the machine, then create the environment variable under **User variables** section. If you would like to set it for all users access the machine, then create environment variable under **System variables** section.

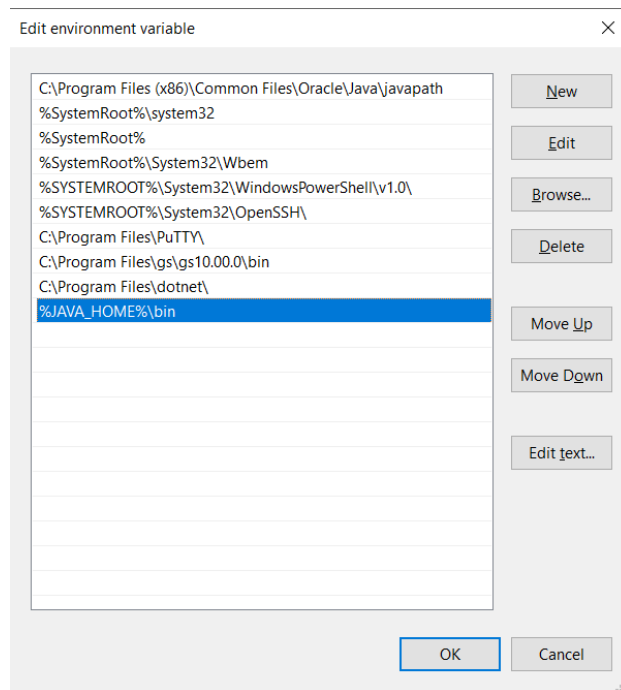
In the **New System Variable** pane, enter the **Variable name** as `JAVA_HOME` and **Variable value** as `D:\ProgramFiles\Java\jdk-1.8` where JDK was installed and then press OK.



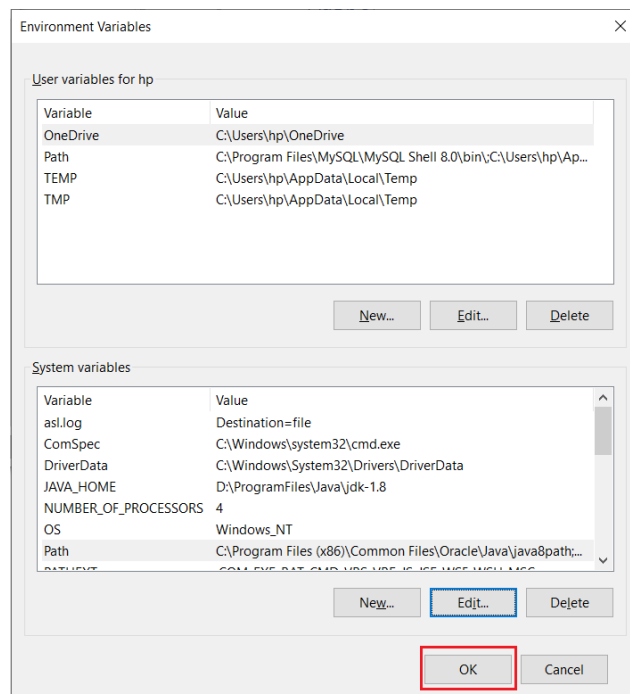
Now choose **Path** variable under **System variables** and press **Edit** button.



Press **New** and enter value as %JAVA_HOME%\bin and press OK.



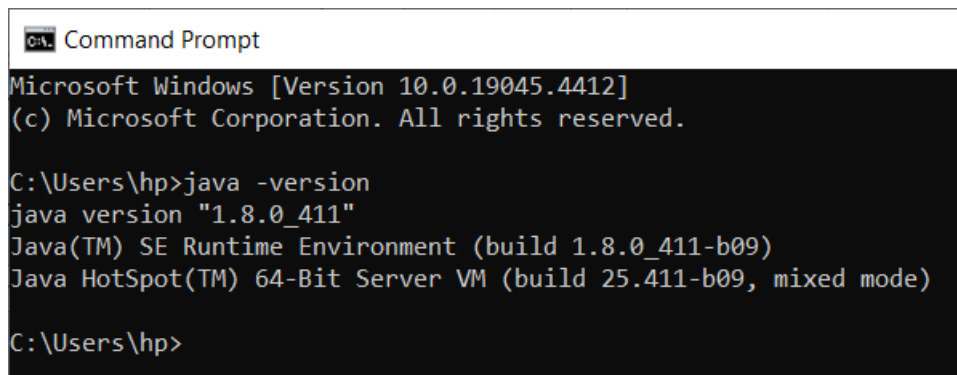
After **Path** variable is updated, press OK on “Environment Variables” window to apply changes and close the window.



4. Verify JDK Release:

Open new **Windows Command prompt** or **Windows PowerShell** and type the following command to verify the installed Java release.

```
java -version
```

A screenshot of a Windows Command Prompt window. The title bar reads 'C:\> Command Prompt'. The window content shows the following text: 'Microsoft Windows [Version 10.0.19045.4412] (c) Microsoft Corporation. All rights reserved. C:\Users\hp>java -version java version "1.8.0_411" Java(TM) SE Runtime Environment (build 1.8.0_411-b09) Java HotSpot(TM) 64-Bit Server VM (build 25.411-b09, mixed mode) C:\Users\hp>'.

```
C:\> Command Prompt
Microsoft Windows [Version 10.0.19045.4412]
(c) Microsoft Corporation. All rights reserved.

C:\Users\hp>java -version
java version "1.8.0_411"
Java(TM) SE Runtime Environment (build 1.8.0_411-b09)
Java HotSpot(TM) 64-Bit Server VM (build 25.411-b09, mixed mode)

C:\Users\hp>
```

It shows me the `java version 1.8.0_411` was installed.

Now, we are ready to run any Java programs using JRE or build applications using JDK.