



Java SE 8 Programming Language

Lab Guides


Document Code	25e-BM/HR/HDCV/FSOFT
Version	1.1
Effective Date	20/11/2012

RECORD OF CHANGES

No	Effective Date	Change Description	Reason	Reviewer	Approver
1	01/Jun/2018	Create new	Create a new Lab	DieuNT1	VinhNV
2	01/Jun/2019	Update	Apply fsoft template	DieuNT1	VinhNV

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	CODE:	JPL.S.L101
	TYPE:	SHORT
	LOC:	N/A
	DURATION:	30 MINUTES

Unit 1: Java Introduction

Objective: JPL-1

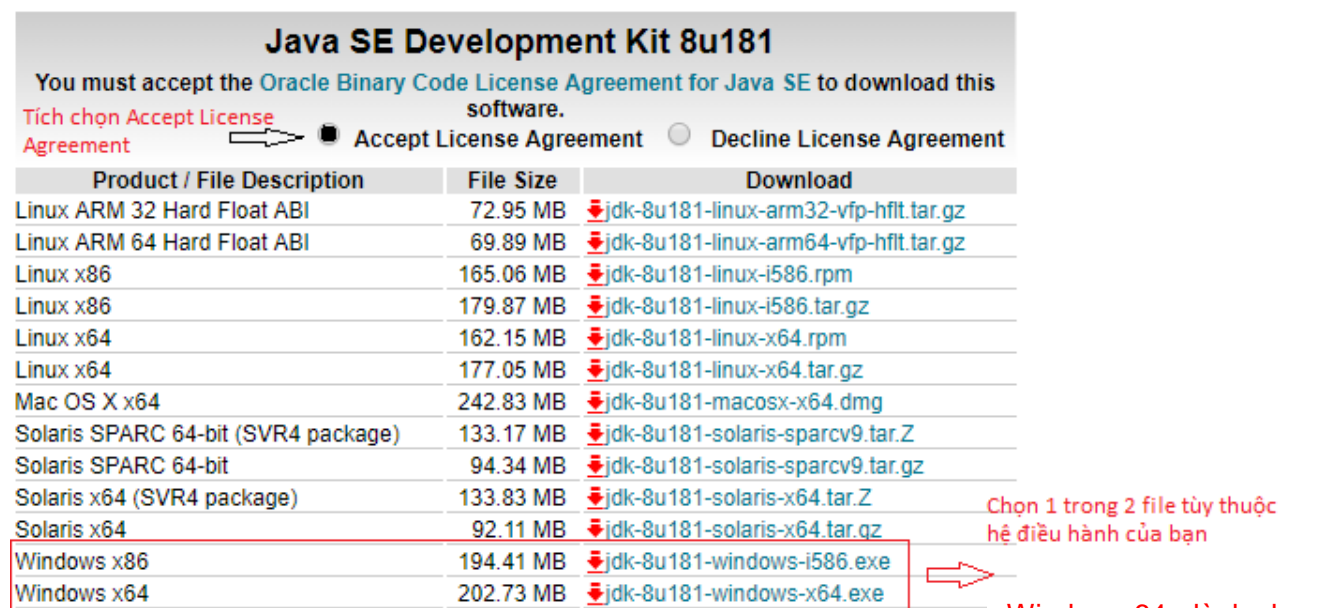
- Able to install the compilation, execution environment and write the first java program.
- Run an application based on Java technology from the command line

Lab Guide 1: Install Java and Eclipse IDE in Windows

Download Java SE Development Kit 8 or later.

Open following link on your browser:

<https://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>



Java SE Development Kit 8u181

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

Tích chọn Accept License Agreement ☒ Accept License Agreement ☐ Decline License Agreement

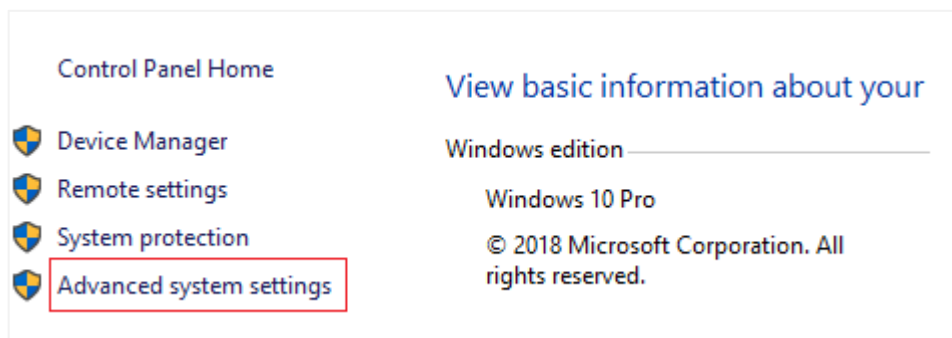
Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	72.95 MB	jdk-8u181-linux-arm32-vfp-hflt.tar.gz
Linux ARM 64 Hard Float ABI	69.89 MB	jdk-8u181-linux-arm64-vfp-hflt.tar.gz
Linux x86	165.06 MB	jdk-8u181-linux-i586.rpm
Linux x86	179.87 MB	jdk-8u181-linux-i586.tar.gz
Linux x64	162.15 MB	jdk-8u181-linux-x64.rpm
Linux x64	177.05 MB	jdk-8u181-linux-x64.tar.gz
Mac OS X x64	242.83 MB	jdk-8u181-macosx-x64.dmg
Solaris SPARC 64-bit (SVR4 package)	133.17 MB	jdk-8u181-solaris-sparcv9.tar.Z
Solaris SPARC 64-bit	94.34 MB	jdk-8u181-solaris-sparcv9.tar.gz
Solaris x64 (SVR4 package)	133.83 MB	jdk-8u181-solaris-x64.tar.Z
Solaris x64	92.11 MB	jdk-8u181-solaris-x64.tar.gz
Windows x86	194.41 MB	jdk-8u181-windows-i586.exe
Windows x64	202.73 MB	jdk-8u181-windows-x64.exe

Chọn 1 trong 2 file tùy thuộc hệ điều hành của bạn

Window x64: dành cho win64
Windows x86: dành cho

1. Install environment variable.

Right click on **This PC** | choose **Properties**.



Control Panel Home

View basic information about your

Windows edition _____

Windows 10 Pro

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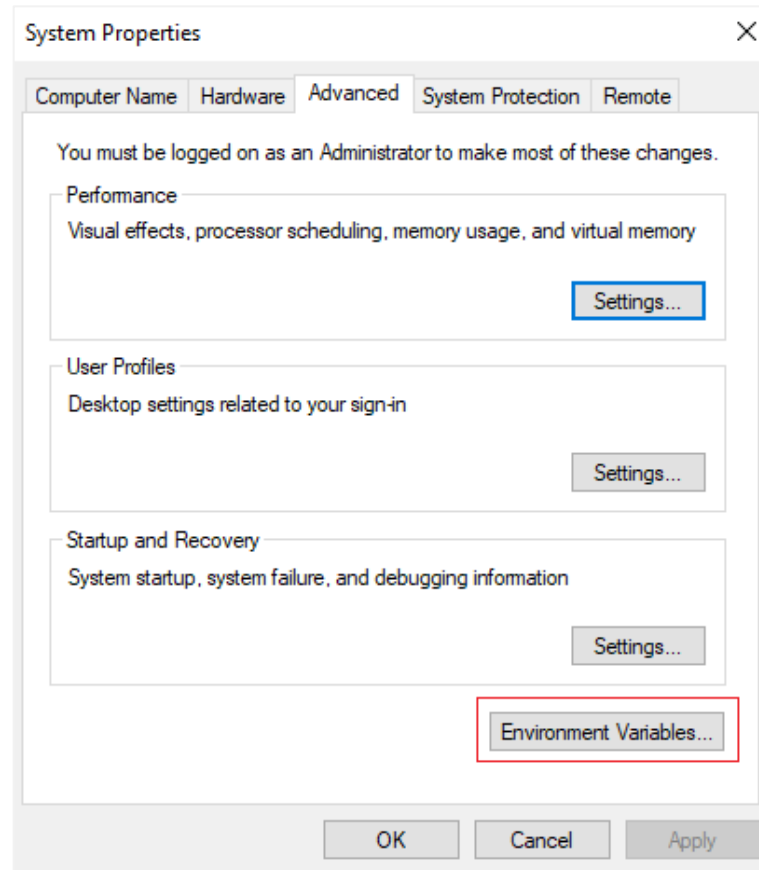
Device Manager

Remote settings

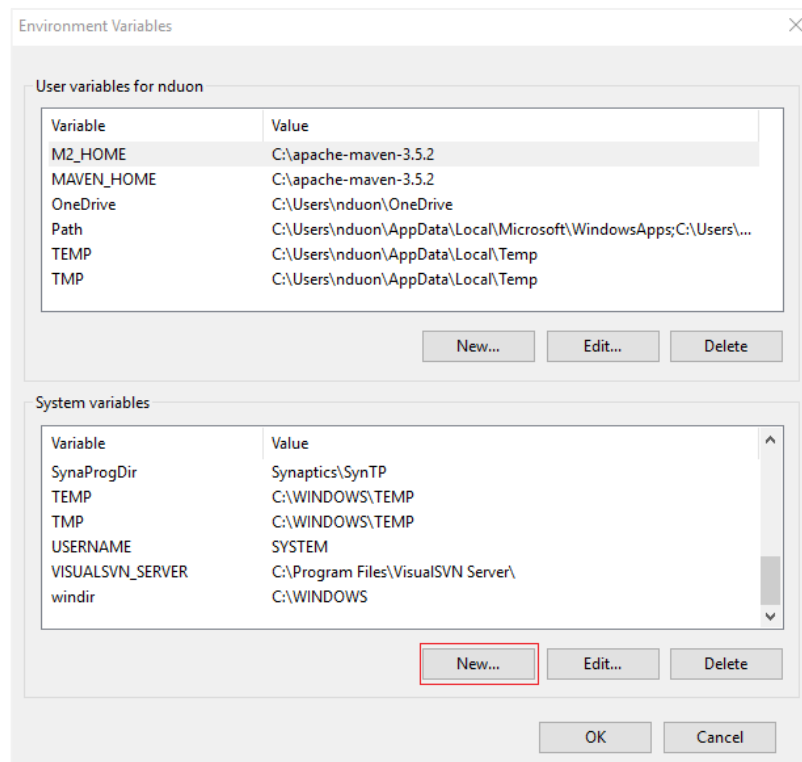
System protection

Advanced system settings

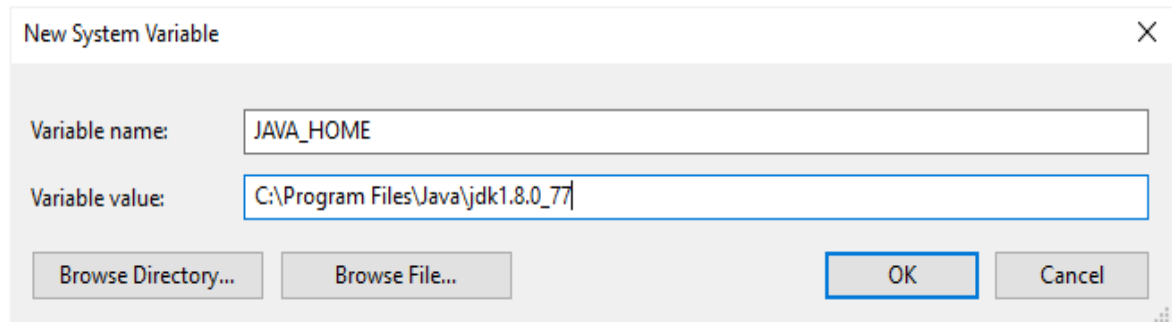
Choose “**Advanced system settings**”.



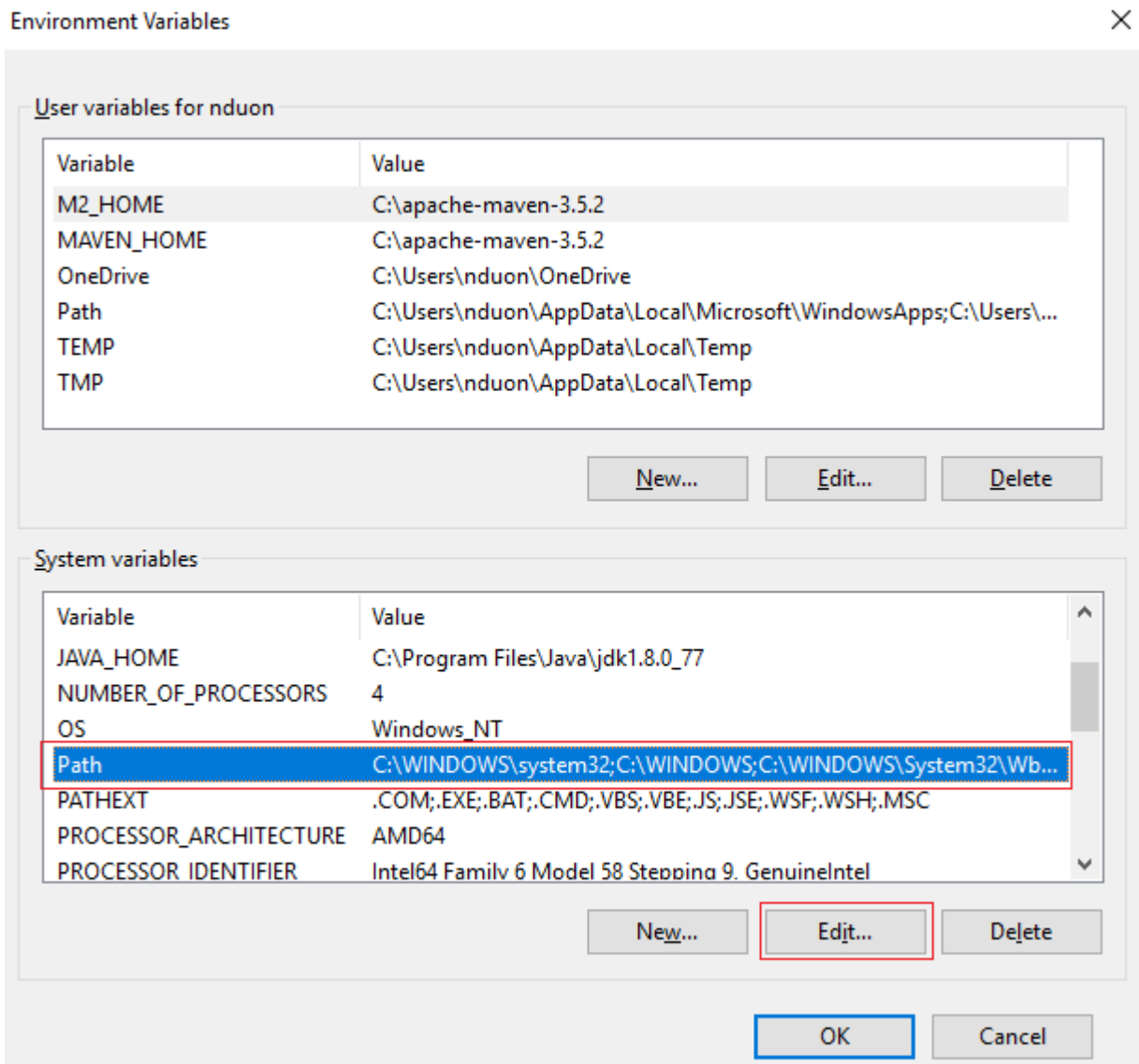
Choose “**Environment Variables**”.

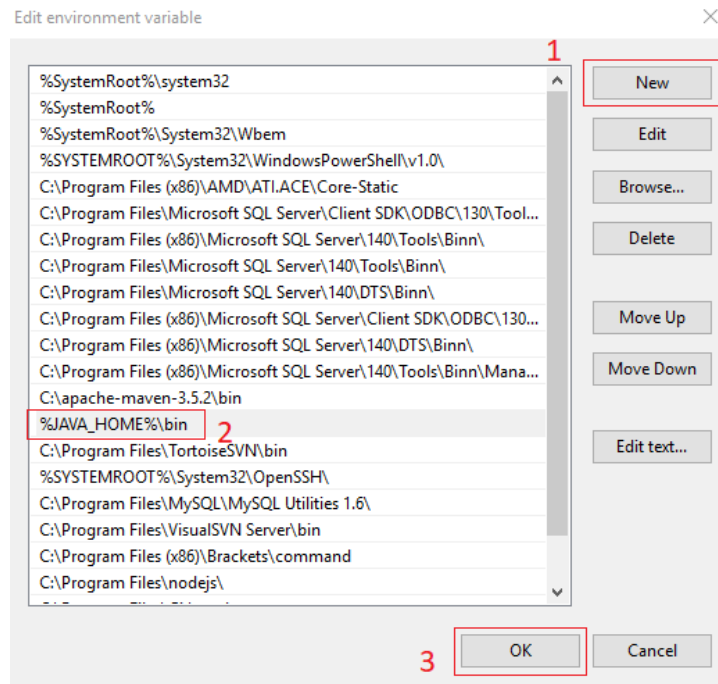


- In System variables form, choose **New**.
- Variable name: enter **JAVA_HOME**.
- Variable value: browse jdk folder that has been installed.



- Find Path variable, click it then choose “**Edit**” button.





To check if you do that exactly, open command line and type command: **java -version**

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.17134.285]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\nduon>java -version
java version "1.8.0_77"
Java(TM) SE Runtime Environment (build 1.8.0_77-b03)
Java HotSpot(TM) 64-Bit Server VM (build 25.77-b03, mixed mode)

C:\Users\nduon>
```

2. Install Eclipse IDE

Open following link on your browser:

<https://www.eclipse.org/downloads/packages/release/2018-09/r/eclipse-ide-java-ee-developers>



Eclipse IDE for Java EE Developers

Package Description

Tools for Java developers creating Java EE and Web applications, including a Java IDE, tools for Java EE, JPA, JSF, Mylyn, EGit and others.

This package includes:

- Data Tools Platform
- Git Integration for Eclipse
- Eclipse Java Development Tools
- Eclipse Java EE Developer Tools
- JavaScript Development Tools
- Maven Integration for Eclipse
- Mylyn Task List
- Eclipse Plug-in Development Environment
- Code Recommenders Tools for Java Developers
- Eclipse XML Editors and Tools

Download Links

- Windows 32-bit
- Windows 64-bit
- Mac OS X (Cocoa) 64-bit
- Linux 32-bit
- Linux 64-bit

Downloaded 70,140 Times

► Checksums...

Bugzilla

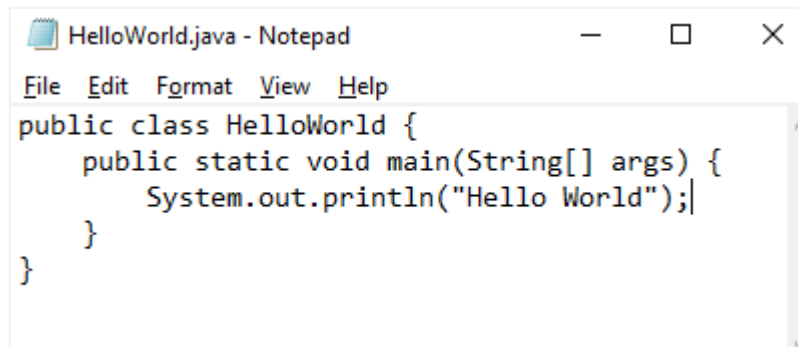
► Open Bugs: 74

Choose version to download.

Lab Guide 2: Write first program: Hello World

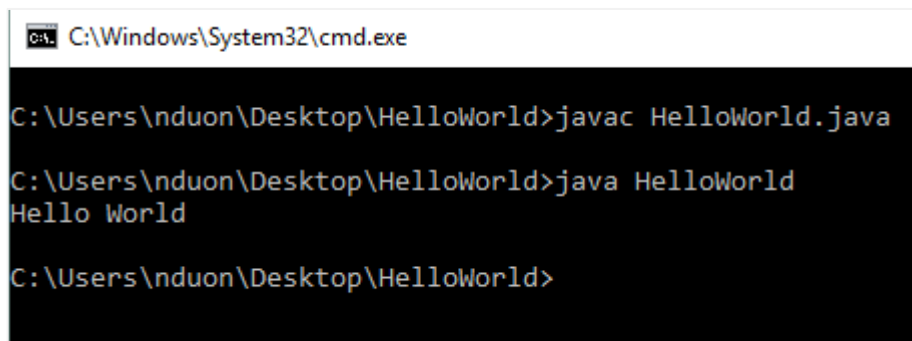
On your desktop, you create a new folder named **HelloWorld**. In this folder, you need to create a new file named **HelloWorld.java**. You can open this file with any editor such as Notepad.

HelloWorld.java



```
File Edit Format View Help
public class HelloWorld {
    public static void main(String[] args) {
        System.out.println("Hello World");
    }
}
```

To run this file, open command line in **HelloWorld** folder, type commands:



```
C:\Windows\System32\cmd.exe

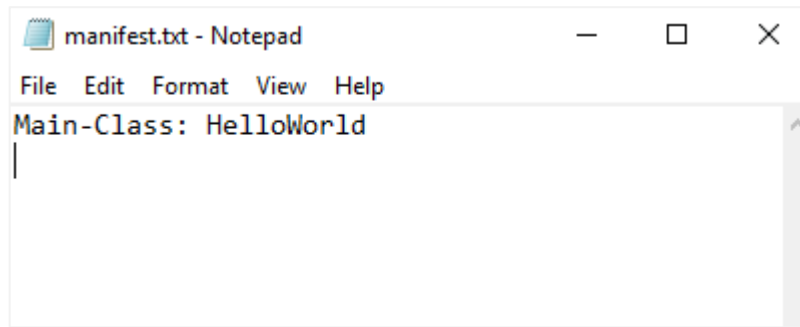
C:\Users\nduon\Desktop\HelloWorld>javac HelloWorld.java

C:\Users\nduon\Desktop\HelloWorld>java HelloWorld
Hello World

C:\Users\nduon\Desktop\HelloWorld>
```

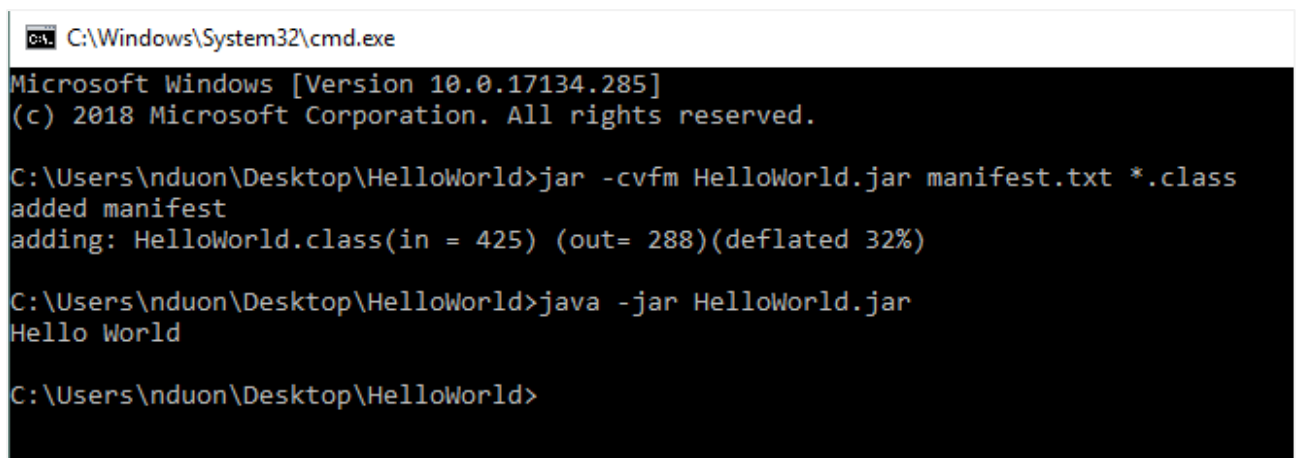

Lab Guide 3: Create jar file using command line

Create a new file named manifest.txt in **HelloWorld** folder.



Open command line in **HelloWorld** folder, type commands:

```
jar -cvfm HelloWorld.jar manifest.txt *.class
```



```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.17134.285]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\nduon\Desktop\HelloWorld>jar -cvfm HelloWorld.jar manifest.txt *.class
added manifest
adding: HelloWorld.class(in = 425) (out= 288)(deflated 32%)

C:\Users\nduon\Desktop\HelloWorld>java -jar HelloWorld.jar
Hello World

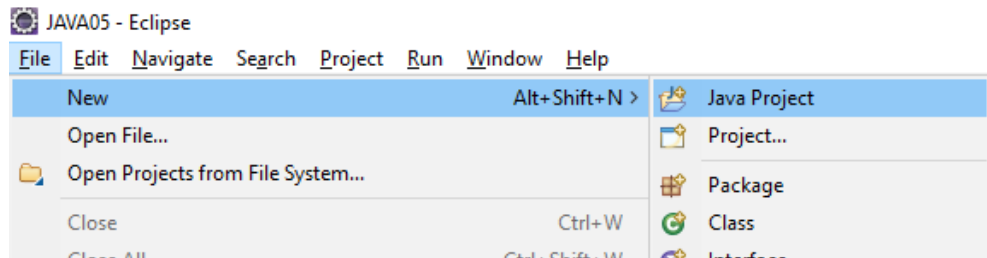
C:\Users\nduon\Desktop\HelloWorld>
```

Lab Guide 4: HelloWorld in Eclipse IDE

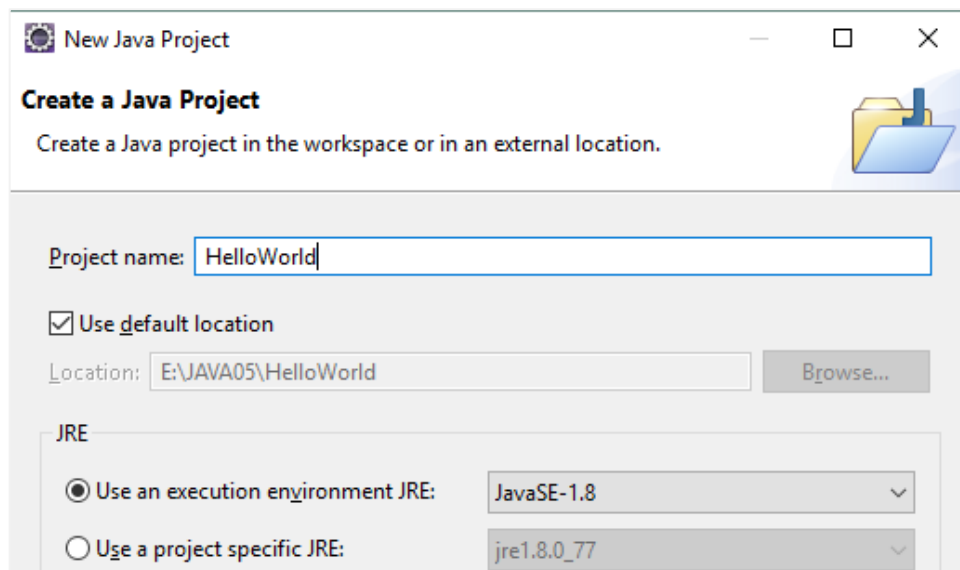
Open Eclipse IDE.

Create a Java Project:

Choose **File | New | Java Project** (if you don't see Java Project, you will choose Other and find Java Project)

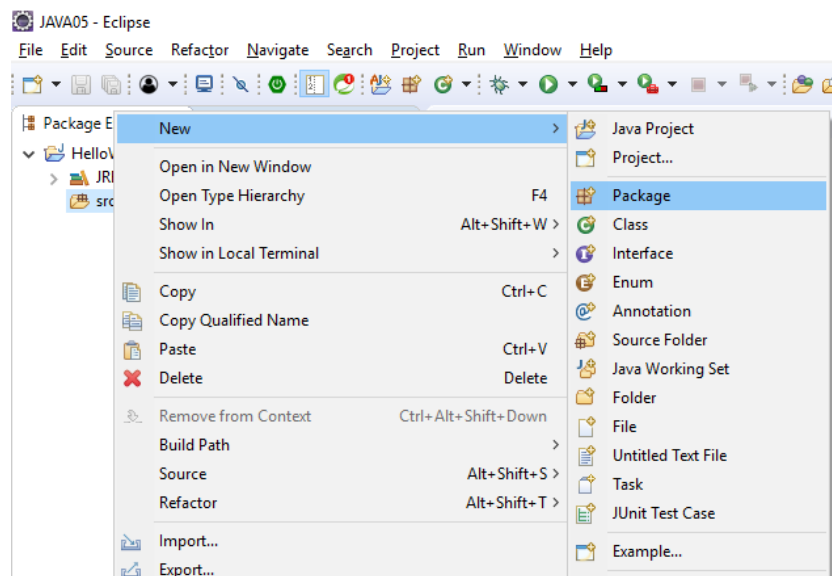


Enter project name: **HelloWorld**

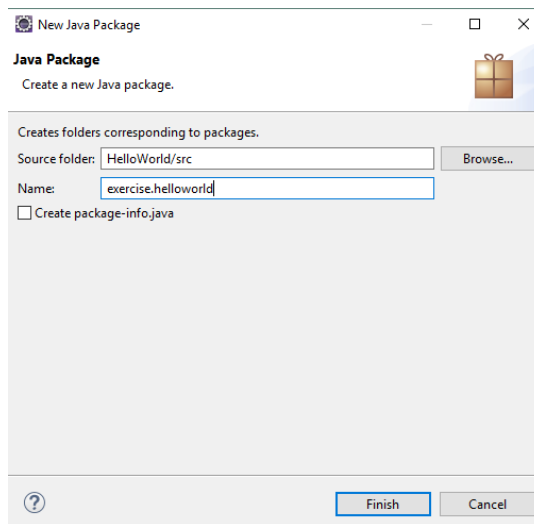


Create a new package:

Right click on **src** folder, choose **New | Package**.

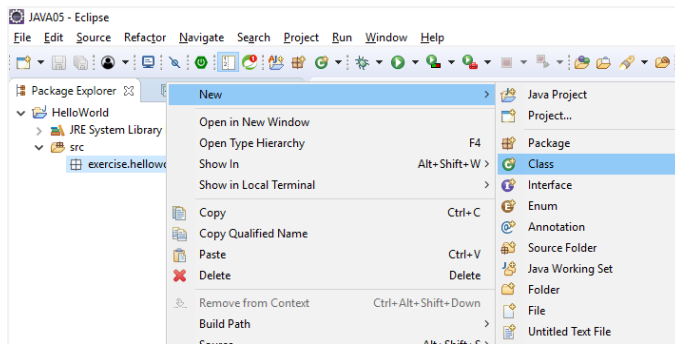


Enter package name:



Create **HelloWorld** class:

Right click on package, choose **New | Class**.



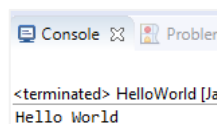
Enter **HelloWorld** on Name input.

- HelloWorld class

```
1 package exercise.helloworld;
2
3 // at a place you want javadoc, type /** + Enter
4
5 /**
6  * @author DieuNT1
7  *
8  */
9 public class HelloWorld {
10     /**
11      * The main method
12      * @param args
13      */
14     public static void main(String[] args) {
15         System.out.println("Hello World");
16     }
17 }
```

Right click on **HelloWorld.java**, choose **Run As | Java Application**

Result:



-----oOo-----

THE END