

CSCI1530 Computer Principles and Java Programming

Tutorial 1

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Outline

- How to
 - Install JDK and NetBeans
 - Start the first program to print “Hello world!”
 - Be familiar to method for output
 - Appendix: Configure JDK Environment variables



Install JDK and NetBeans

Install JDK and NetBeans

- Step 1: Download

- <http://www.oracle.com/technetwork/java/javase/downloads/index.html>



Install JDK and NetBeans






- Step 1: Download
 - Accept license Agreement and Download what you want

JDK 8u25 with NetBeans 8.0.2

This distribution of the JDK includes the Java SE bundle of [NetBeans IDE](#), which is a powerful integrated development environment for developing applications on the Java platform. [Learn more](#)

You must accept the [JDK 8u25 and NetBeans 8.0.2 Cobundle License Agreement](#) to download this software.

☒ Accept License Agreement ☐ Decline License Agreement

Java SE and NetBeans Cobundle (JDK 8u25 and NB 8.0.2)		
Product / File Description	File Size	Download
Mac OS X x64	313.68 MB	 jdk-8u25-nb-8_0_2-macosx-x64.dmg
Linux x86	247.24 MB	 jdk-8u25-nb-8_0_2-linux-i586.sh
Linux x64	243.72 MB	 jdk-8u25-nb-8_0_2-linux-x64.sh
Windows x86	261.68 MB	 jdk-8u25-nb-8_0_2-windows-i586.exe
Windows x64	274.89 MB	 jdk-8u25-nb-8_0_2-windows-x64.exe

- [License](#)
- [Java SE 8 Readme](#)
- [NB 8.0.2 3rd Party Readme](#)
- [Installation Instructions](#)

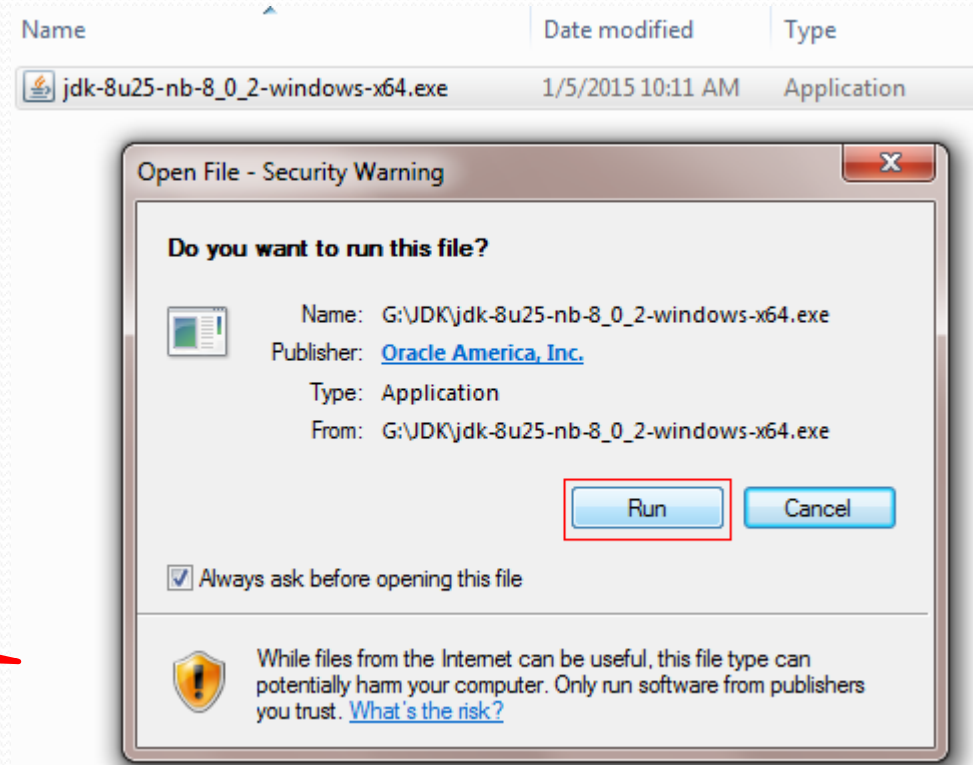
For Mac and Linux, please see **installation instructions**

Download it according to your OS!

Install JDK and NetBeans

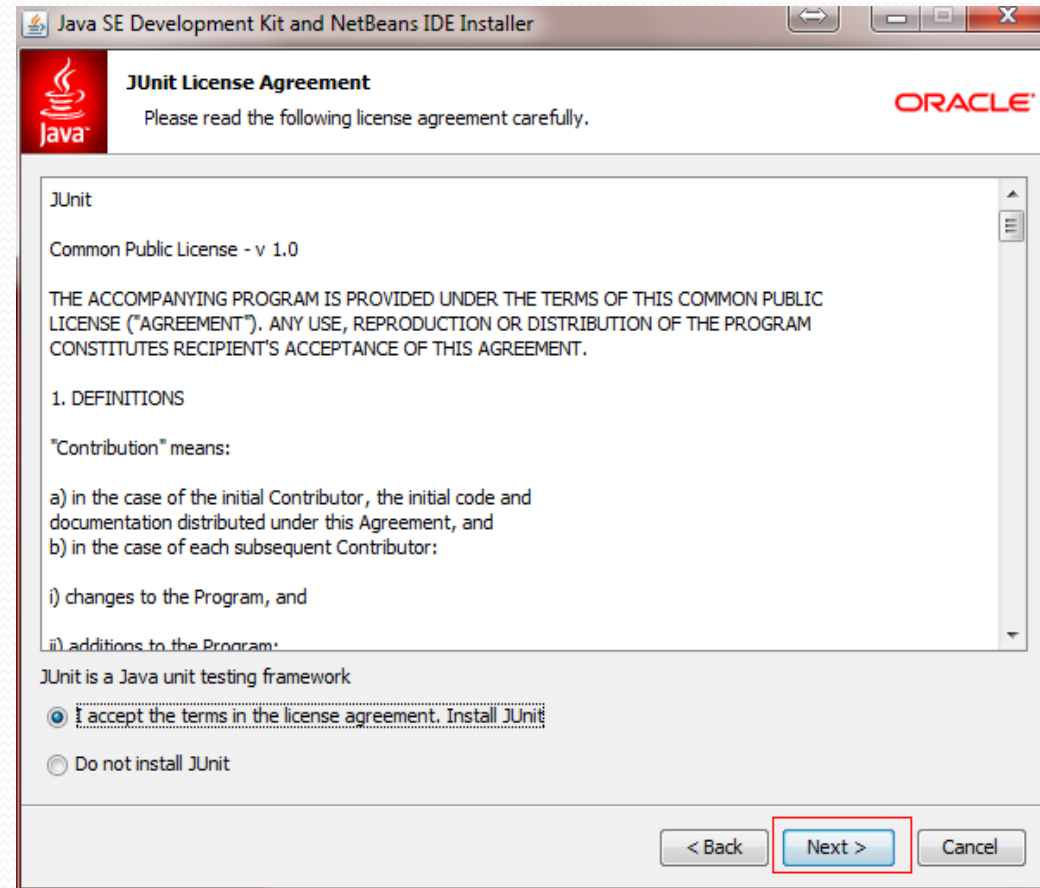
- Step 2: Installation
 - Double Click
“jdk-8u25-nb-8_o_2-windows-x64.exe”
 - Run the file

The demo
is in
windows 7



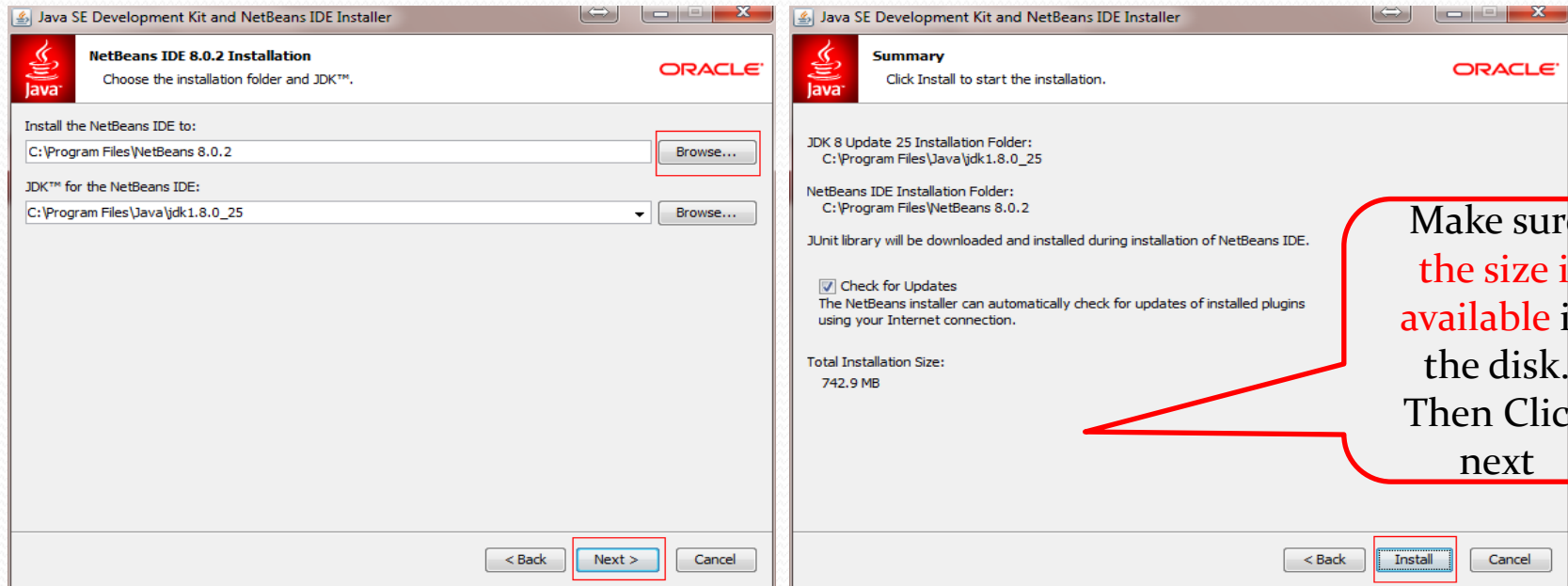
Install JDK and NetBeans

- Step 2: Installation
 - Accept JUnit License Agreement
 - Press “Next”



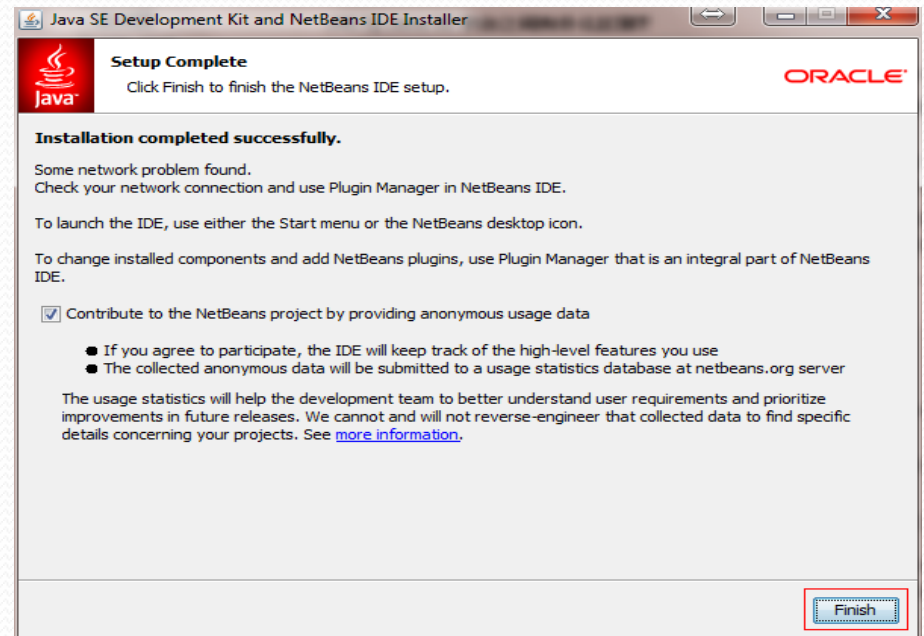
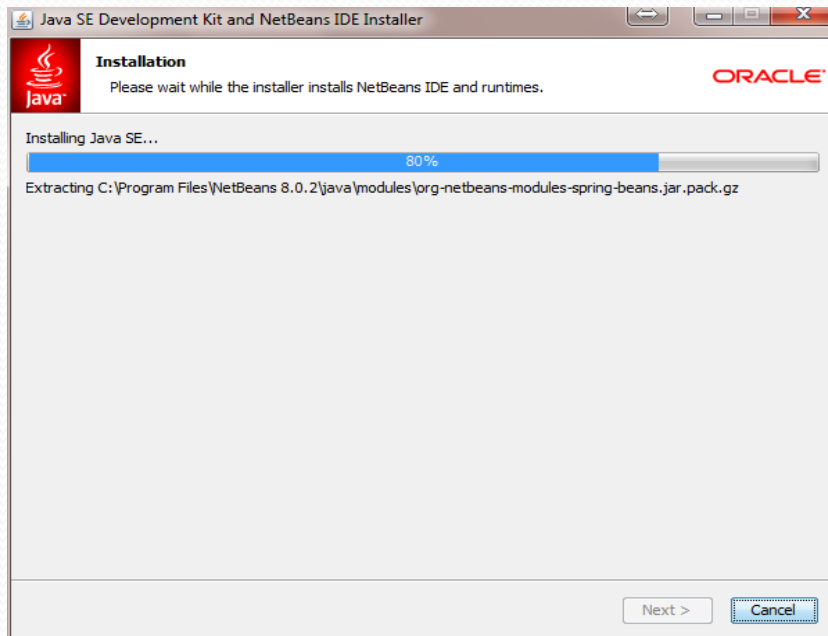
Install JDK and NetBeans

- Step 2: Installation
 - Select installation path or keep default
 - Press “install”



Install JDK and NetBeans

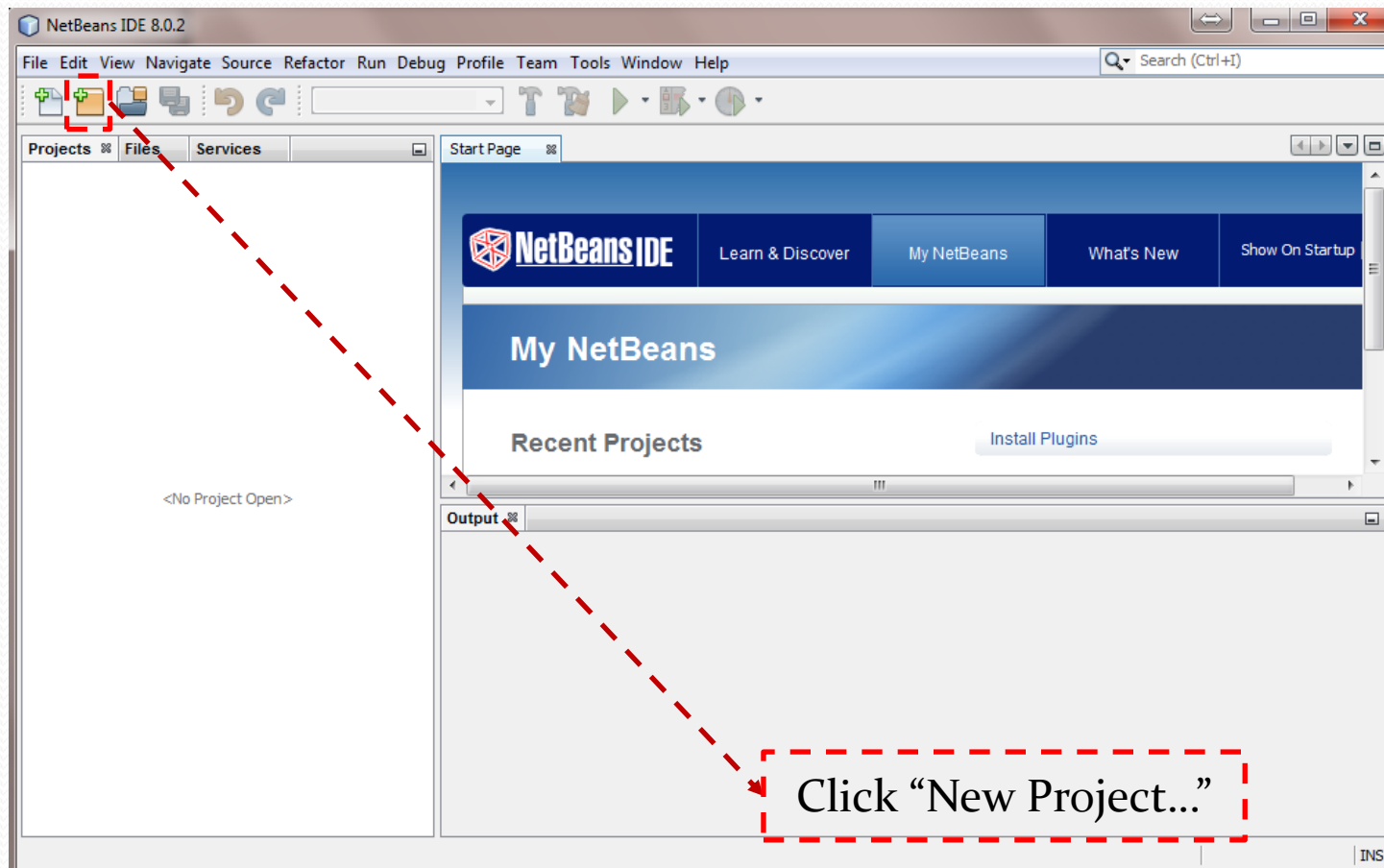
- Step 2: Installation
 - Just wait
 - Press finish



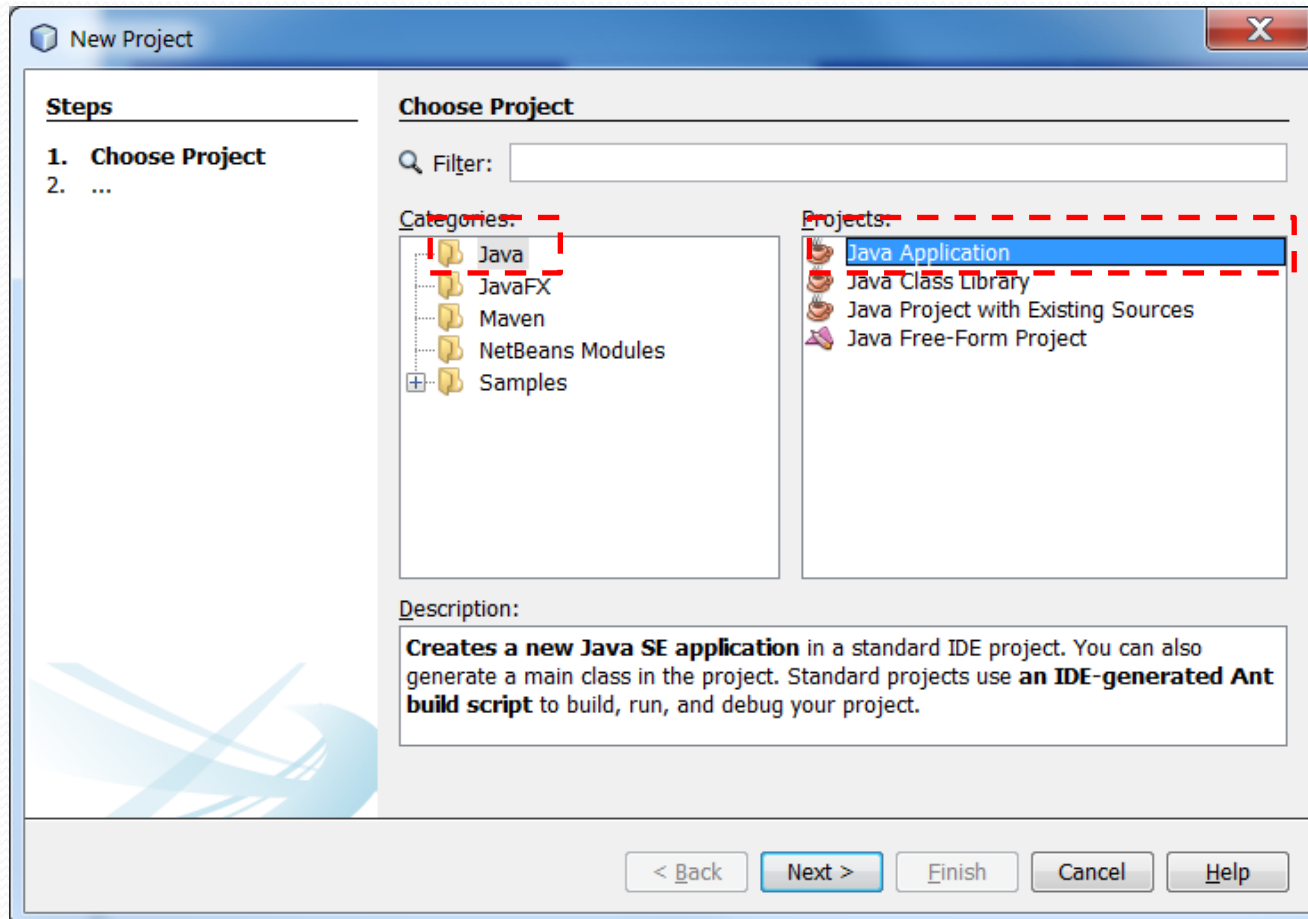


Start the first program to print “Hello world!”

Create a New Project



Java → Java Application



Give Project Name and Location

Steps

1. Choose Project
2. **Name and Location**

Name and Location

Project Name: Helloworld

Project Location: C:\Users\Administrator\Documents\NetBeansProjects Browse...

Project Folder: Administrator\Documents\NetBeansProjects\Helloworld

☐ Use Dedicated Folder for Storing Libraries

Libraries Folder: Browse...

Different users and projects can share the same compilation libraries (see Help for details).

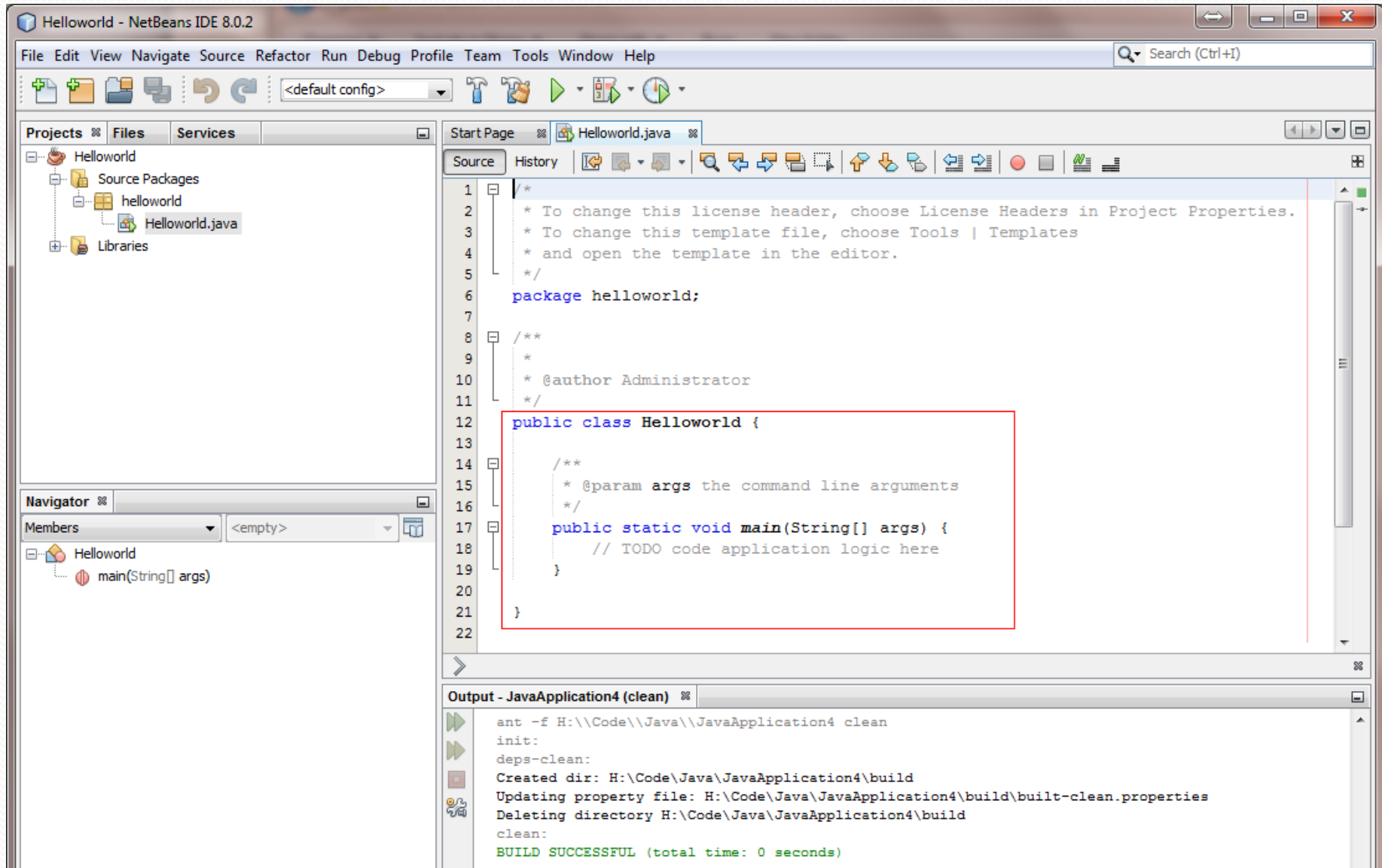
☒ Create Main Class helloworld.Helloworld

Store the project anywhere you like but please remember the location! The Default is also fine!

Click "Finish"

< Back Next > **Finish** Cancel Help

Make a new class



Output the “Hello World!”

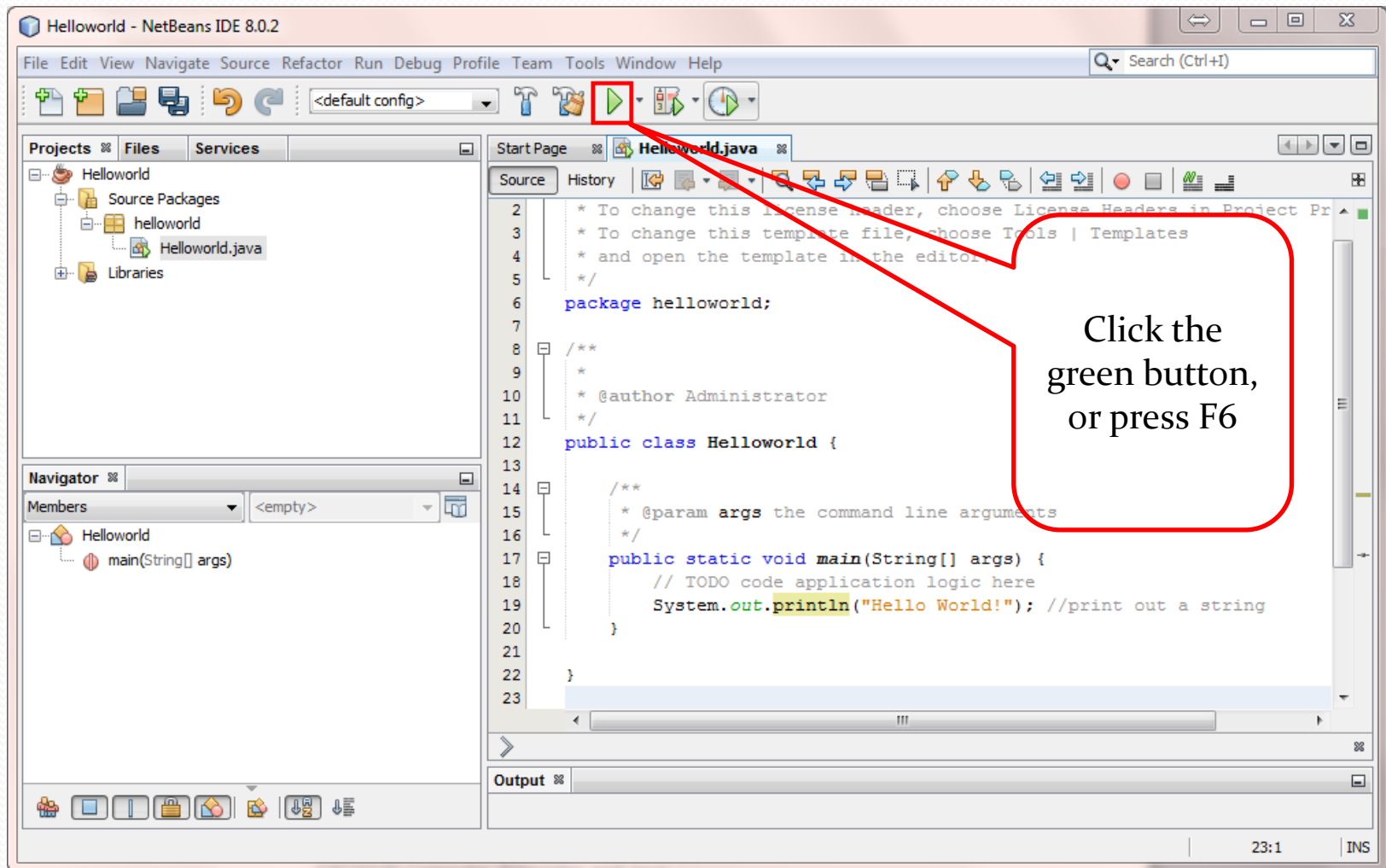
```
1  /*
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6  package helloworld;
7
8  /**
9   *
10   * @author Administrator
11   */
12  public class Helloworld {
13
14      /**
15       * @param args the command line arguments
16       */
17      public static void main(String[] args) {
18          // TODO code application logic here
19          System.out.println("Hello World!"); //print out a string
20      }
21
22  }
```

Comment

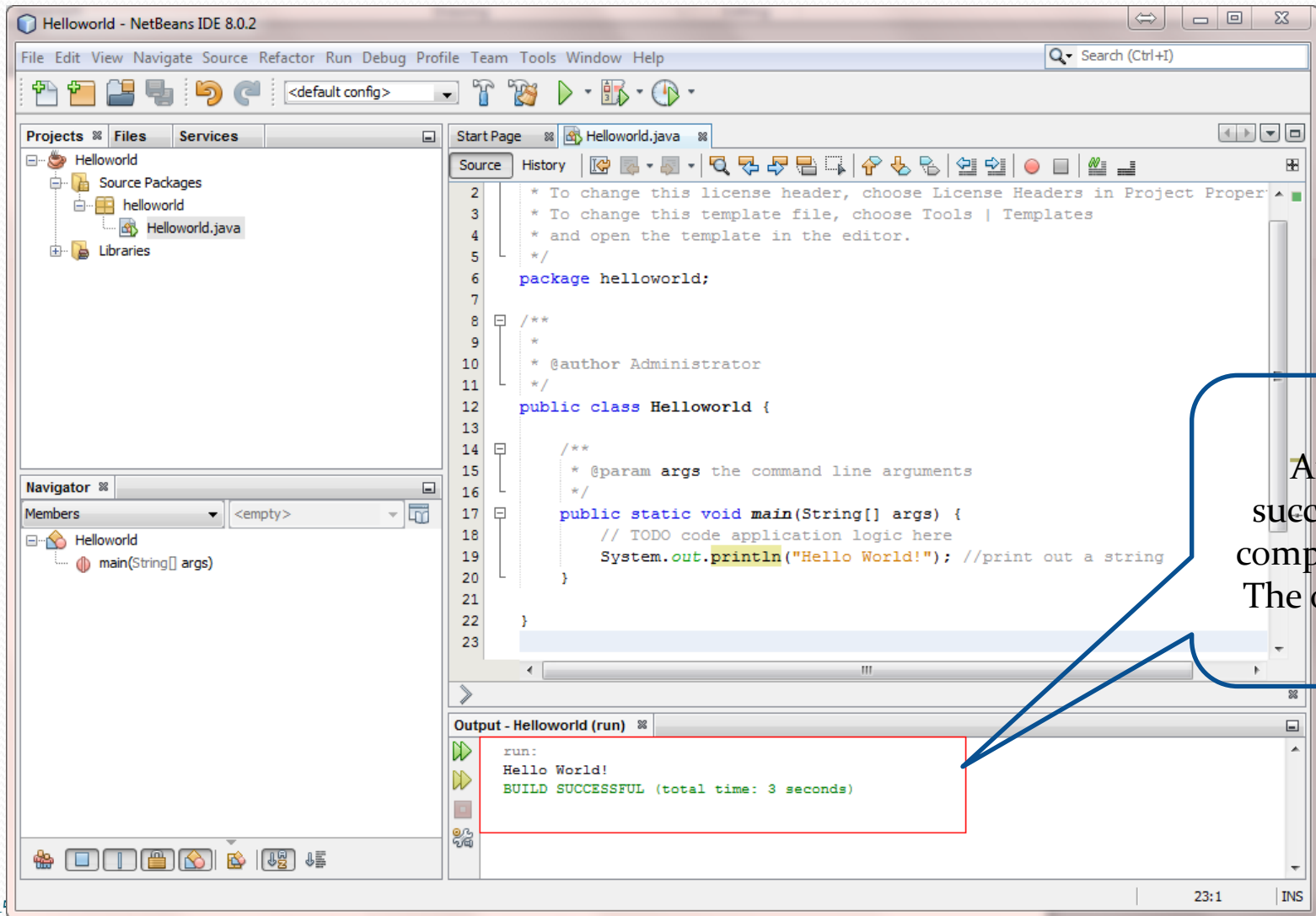
We are going
to output
“hello world”.
Type this
statement

Comment, do
nothing but
make the
program
more
readable






Run your program



Run your program



What is in the project folder

Name	Date modified	Type	Size
 build	1/6/2015 4:19 PM	File folder	
 nbproject	1/6/2015 1:53 PM	File folder	
 src	1/6/2015 1:53 PM	File folder	
 build.xml	1/6/2015 1:53 PM	XML Document	4 KB
 manifest.mf	1/6/2015 1:53 PM	MF File	1 KB

➤ Important files

build	----	java bytecode file after program compilation
src	----	java source code



Be familiar to method for output

Output Methods

Java provides system methods to output information for use.
Very useful to debug your program.

System.out.println ("天氣"); ---- output things and new a line
System.out.print("it's csci " + 1530 + "!"); ---- output things

Use Parentheses () to include the parameter for this methods
Use a semicolon in the end of every statement (Grammar).

Use “” to define a String, a data type consisting of characters.

Use a “+” to connect what you want to output together






Output Methods

- Exercise:

- Use `System.out.print()` to write code to print your name and Student ID.
- `System.out.print("My name is : Xiao Ming\n");`
- `System.out.print("My student ID is : 10101010\n");`

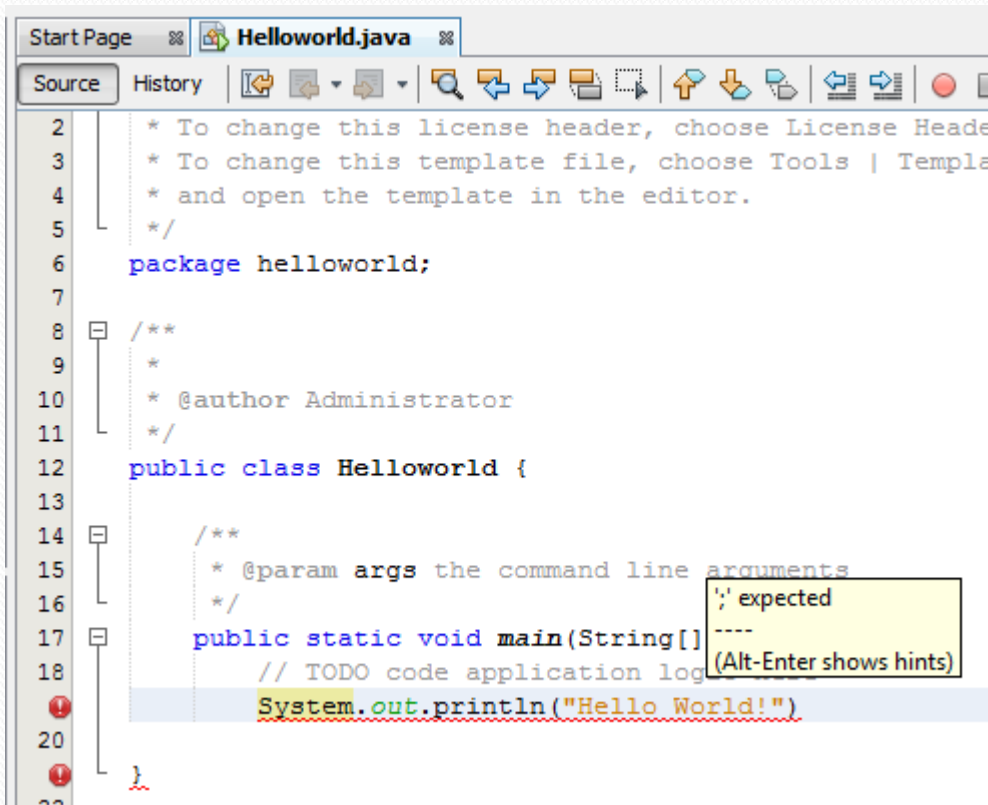
"System.out.println();" is equivalent to "System.out.print("\n");"

```
public class Helloworld {  
    /**  
     * @param args the command line arguments  
     */  
    public static void main(String[] args) {  
        // TODO code application logic here  
        System.out.println("Hello World!");  
        System.out.print("My name is Zheng Qingqing\n");  
        System.out.print("My SID is : 1155058553\n");  
    }  
}
```

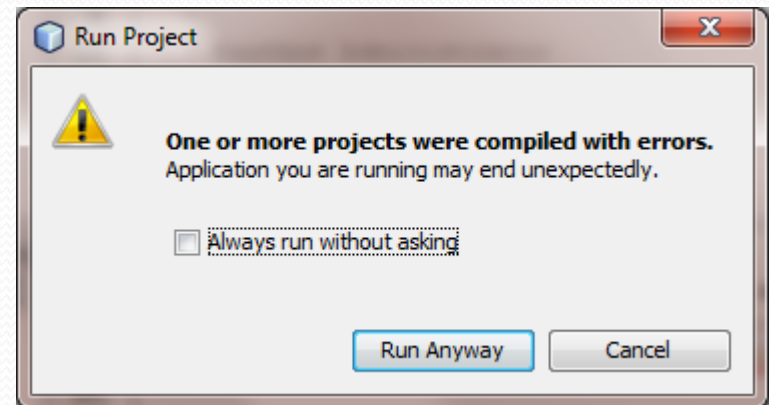
Java Call Hierarchy	Output - Helloworld (run) ⌵
	run:
	Hello World!
	My name is Zheng Qingqing
	My SID is : 1155058553
	BUILD SUCCESSFUL (total time: 0 seconds)

Error info

Java provides error information when there is grammar errors, which is very helpful. In the following example, there lack a semicolon. When having error, you cannot compile codes.



```
2  * To change this license header, choose License Headers from Project
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6  package helloworld;
7
8  /**
9   *
10   * @author Administrator
11   */
12  public class Helloworld {
13
14      /**
15       * @param args the command line arguments
16       */
17      public static void main(String[] args) {
18          // TODO code application logic here
19          System.out.println("Hello World!")
20      }
21  }
```



Appendix

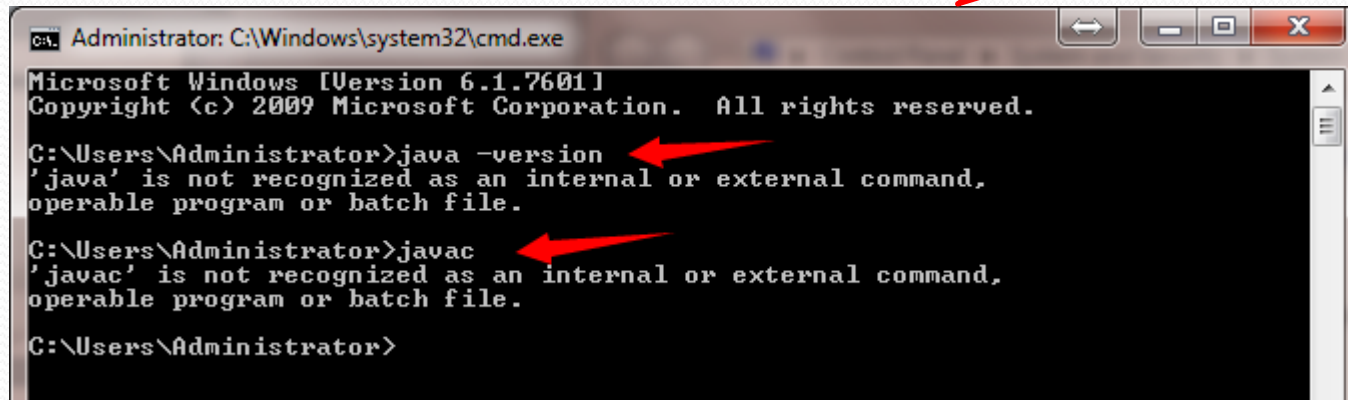
Configure JDK Environment variables

Note: It is a advanced stuff. This step is not necessary for using NetBeans; if you are interested in using command line, just read it for reference.

Configure JDK Environment variables

- Check whether you need to configure the JDK Environment variables or not.
 - Execute “cmd”
 - Type “java -version” and “javac”

JDK Environment variables haven't been configured.



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

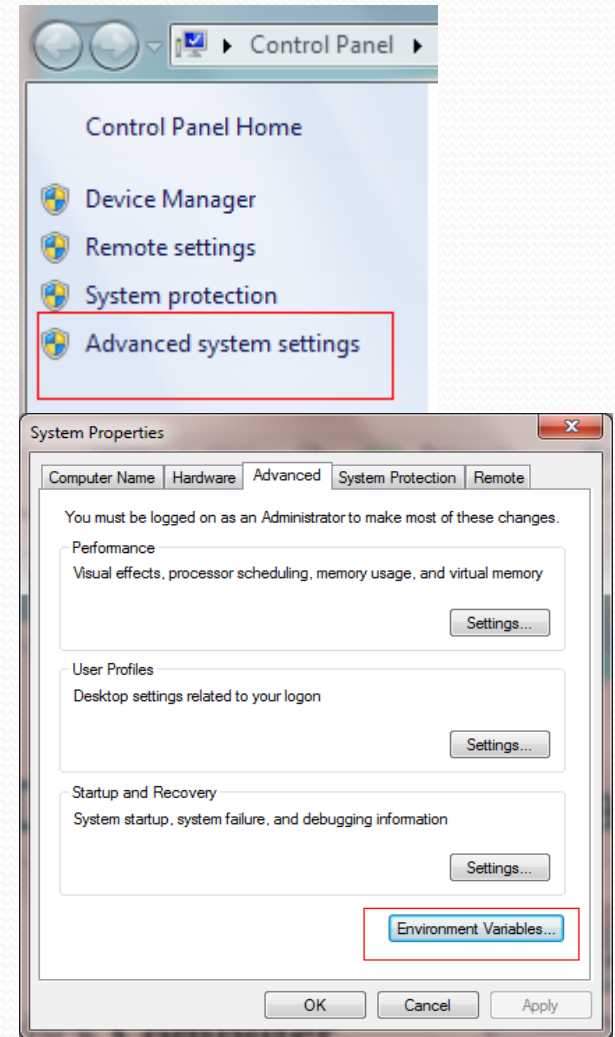
C:\Users\Administrator>java -version
'java' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\Administrator>javac
'javac' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\Administrator>
```


Configure JDK Environment Variables

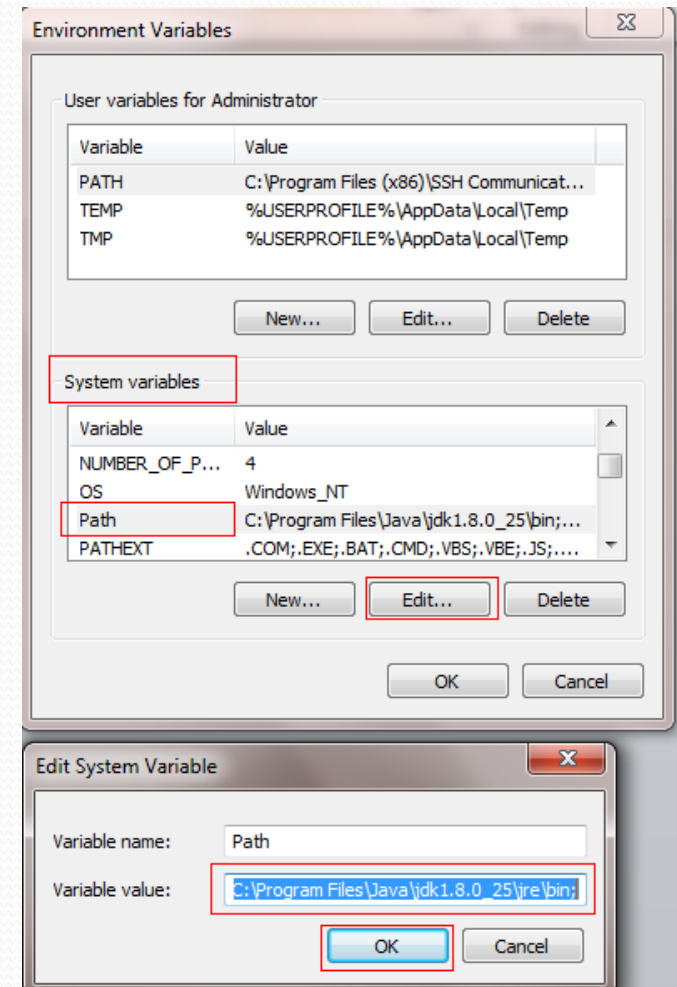
- Step 1:
 - Click **Start**,
 - Then Right click **Computer**,
 - Click **Properties**.
- Step 2:
 - Click **Advanced system settings**
 - Click **Environment Variables**



Configure JDK Environment Variables

- Step 3:
 - Add the location of the **bin** folder of the JDK installation for the **PATH** variable in **System Variables**.
- For example:
- C:\Program Files\Java\jdk1.8.0_25\bin;

NOTE: The **PATH** environment variable is a series of directories separated by semicolons (;)



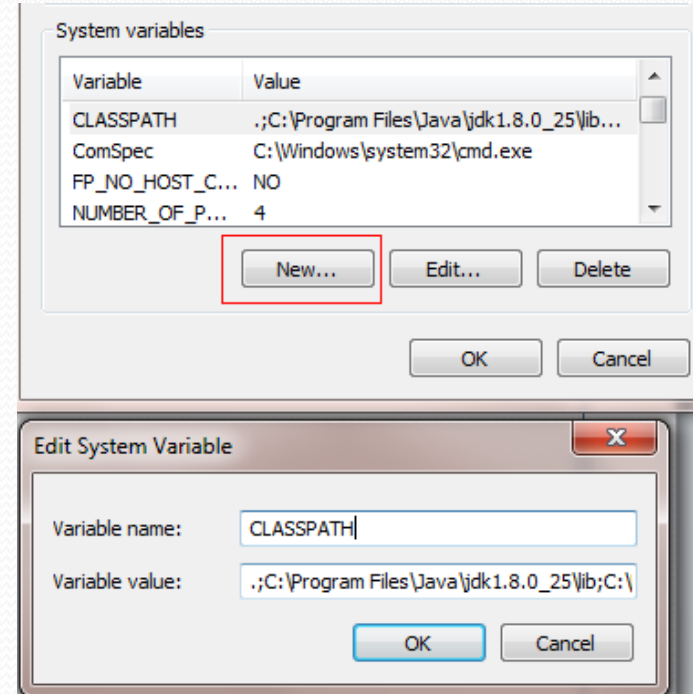
Configure JDK Environment Variables

- Step 4:
 - New a System Variables name: **CLASSPATH**,
 - Add the location of the **lib** folder of the JDK installation and **lib\tools.jar** for the **CLASSPATH** variable in **System Variables**.

For example:

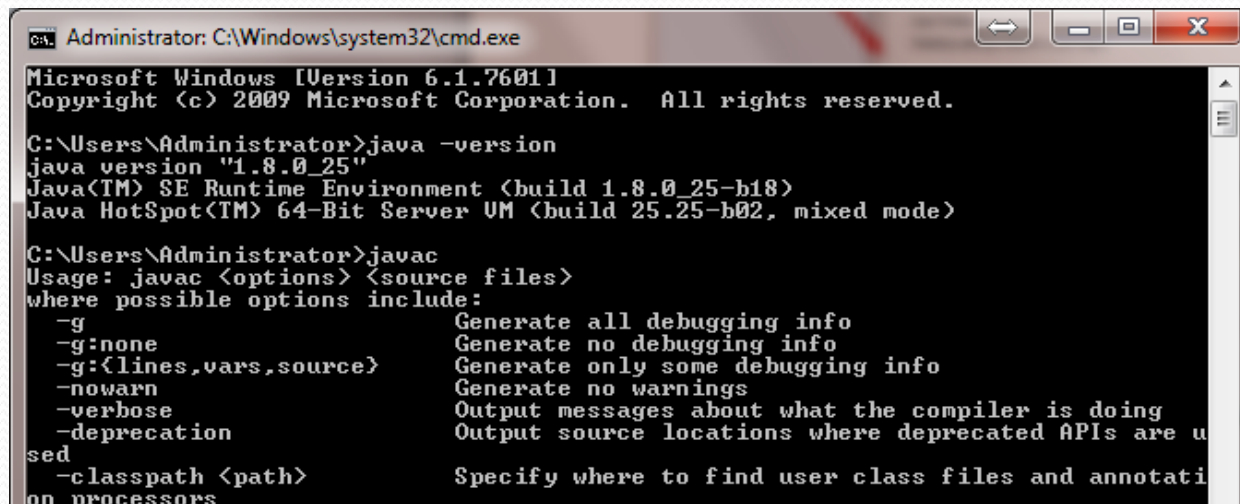
.;C:\Program Files\Java\jdk1.8.0_25\lib;C:\Program Files\Java\jdk1.8.0_25\lib\tools.jar

Note: don't forget the dot before first semicolon



Configure JDK Environment Variables

- Step 5: Check
 - Execute **cmd**
 - Check **java version**
 - Check **javac**



```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>java -version
java version "1.8.0_25"
Java(TM) SE Runtime Environment (build 1.8.0_25-b18)
Java HotSpot(TM) 64-Bit Server VM (build 25.25-b02, mixed mode)

C:\Users\Administrator>javac
Usage: javac <options> <source files>
where possible options include:
  -g               Generate all debugging info
  -g:none          Generate no debugging info
  -g:{lines,vars,source}  Generate only some debugging info
  -nowarn          Generate no warnings
  -verbose         Output messages about what the compiler is doing
  -deprecation     Output source locations where deprecated APIs are used
  -classpath <path> Specify where to find user class files and annotations
  -processor <name> Specify the processor to use
```



Thank you!