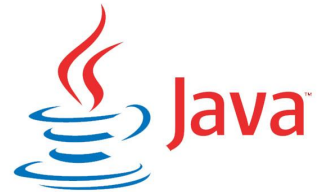


The background is a dark chalkboard with various white chalk sketches. In the top left, there's a large 'V' and a globe. Below the globe is a microscope. In the bottom left, there's a stack of books. In the bottom right, there are mathematical symbols like a percentage sign, an exclamation mark, and a less-than sign. In the center, there's a large white rectangle containing the title, and below it, a yellow rectangle containing the subtitle.

# Setting up development environment

Programming in Java

# Download and Install Java JDK

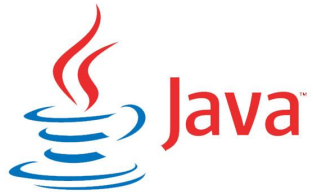


- Go to:  
<https://www.oracle.com/java/technologies/downloads/>
- Click on one of the download links shown in the image based on your operating system.

Linux	macOS	Windows
		←
Product/file description	File size	Download
x64 Compressed Archive	170.64 MB	<a href="https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.zip">https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.zip</a> (sha256 <a href="#">↗</a> )
x64 Installer	151.99 MB	→ <a href="https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.exe">https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.exe</a> (sha256 <a href="#">↗</a> )
x64 MSI Installer	150.88 MB	<a href="https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.msi">https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.msi</a> (sha256 <a href="#">↗</a> )

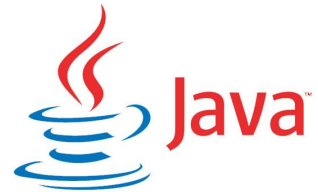
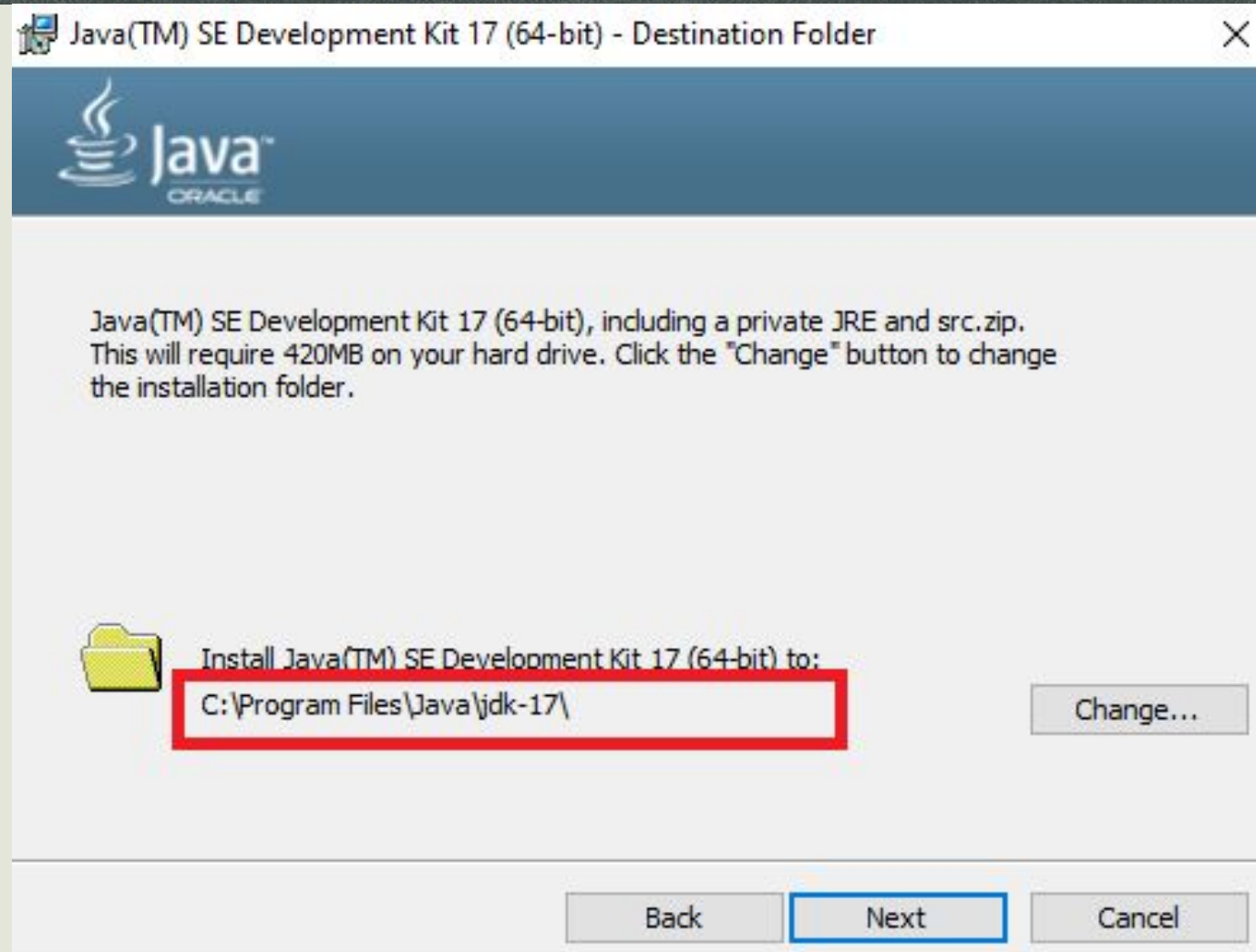
# Download and Install Java JDK

- Be **careful not to confuse** the JRE with JDK: you need the **JDK**.
- Install JDK by executing the downloaded file and leave the destination folder as default (if not possible, **be sure to take note character by character of the destination folder**).



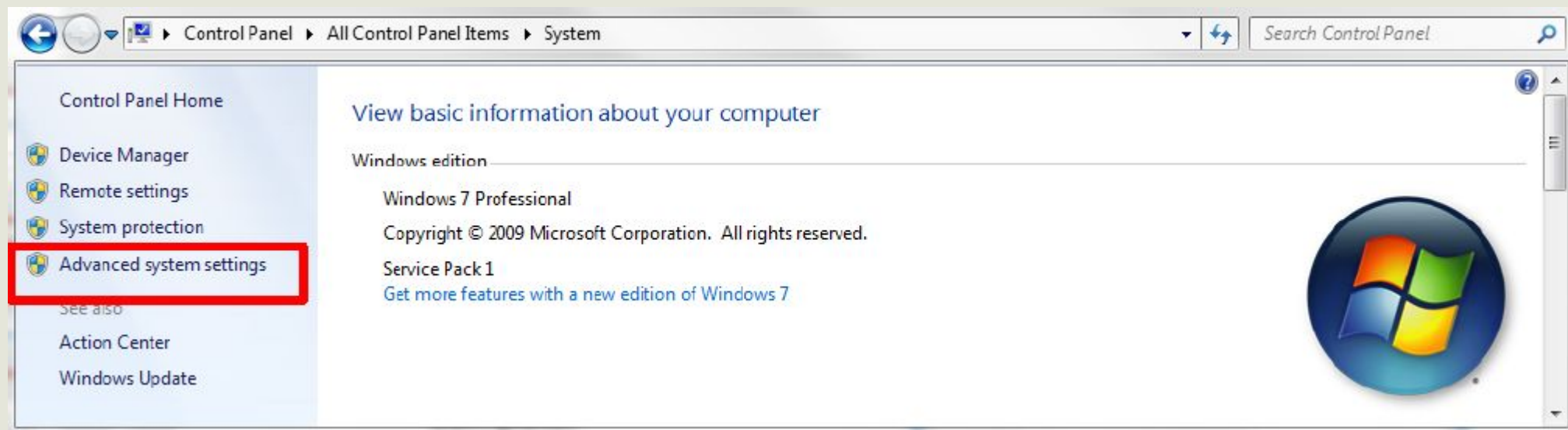


# Download and Install Java JDK



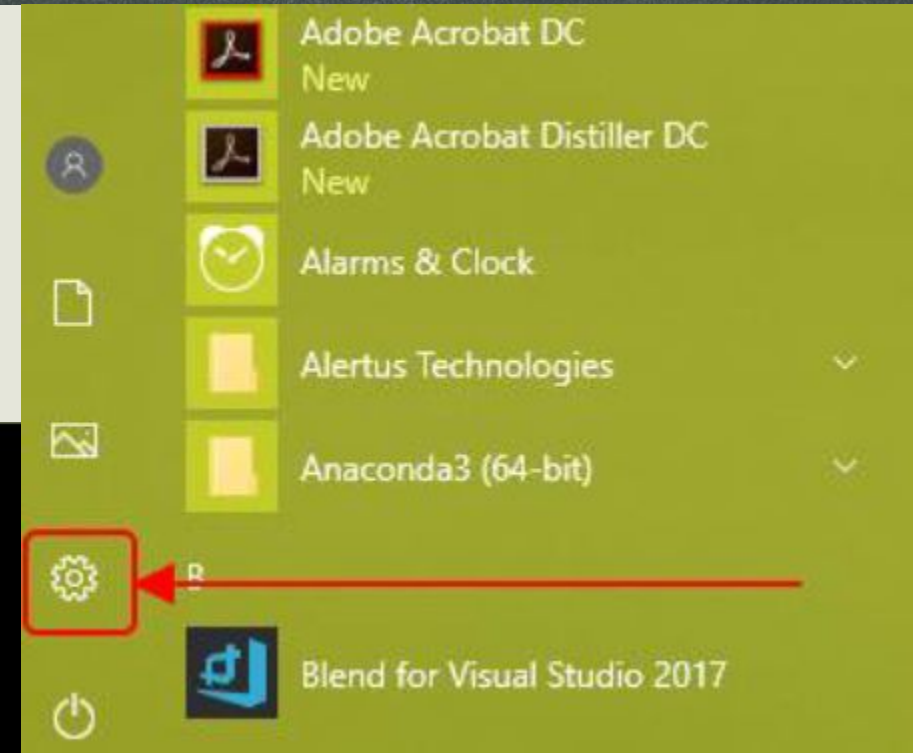
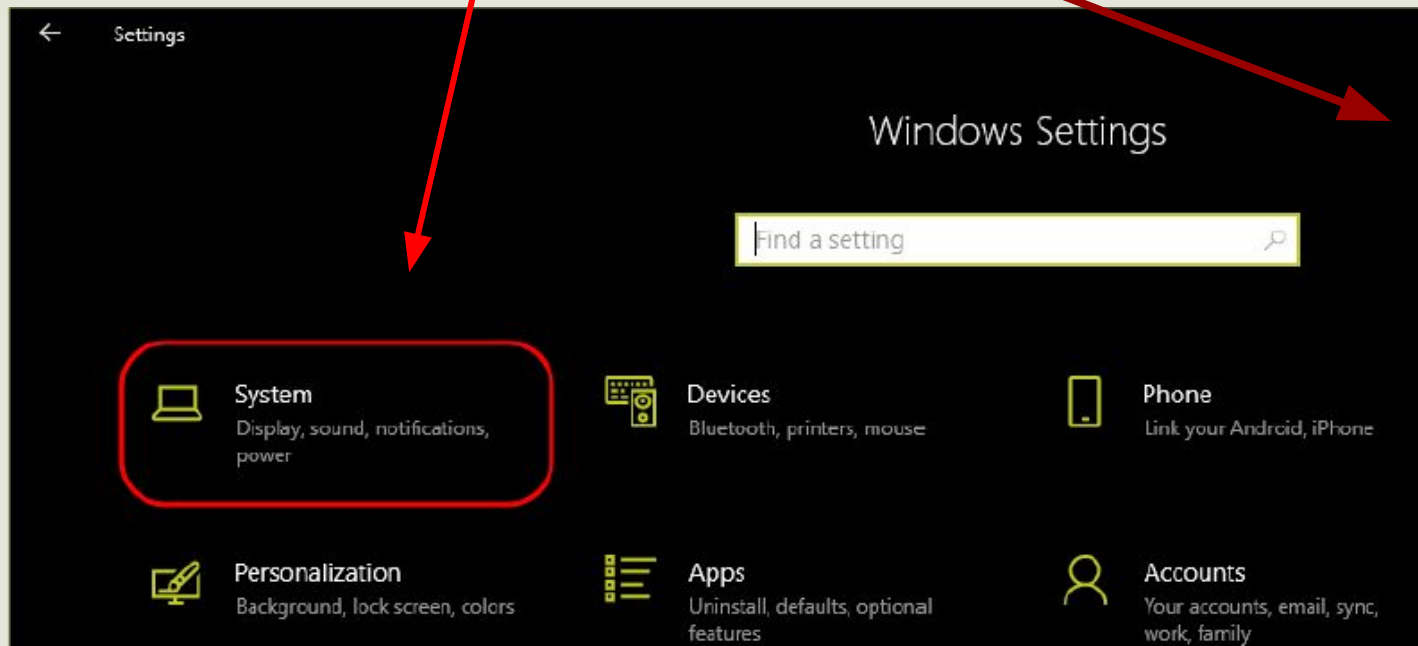
# Java Path Configuration (for Windows 7 / 8)

- Go to your **Control Panel**.
- Click on **System**.
- Click on **Advanced System Settings**.
- Go to Slide **#9**.



# Java Path Configuration (for Windows 10)

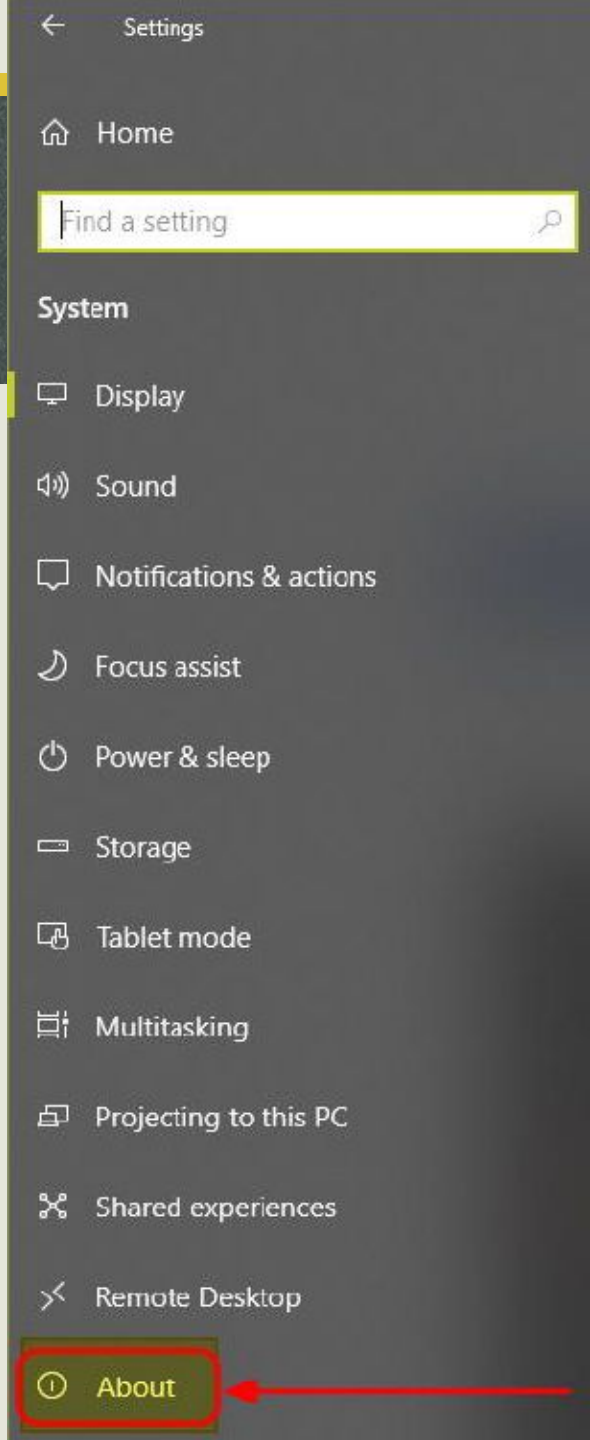
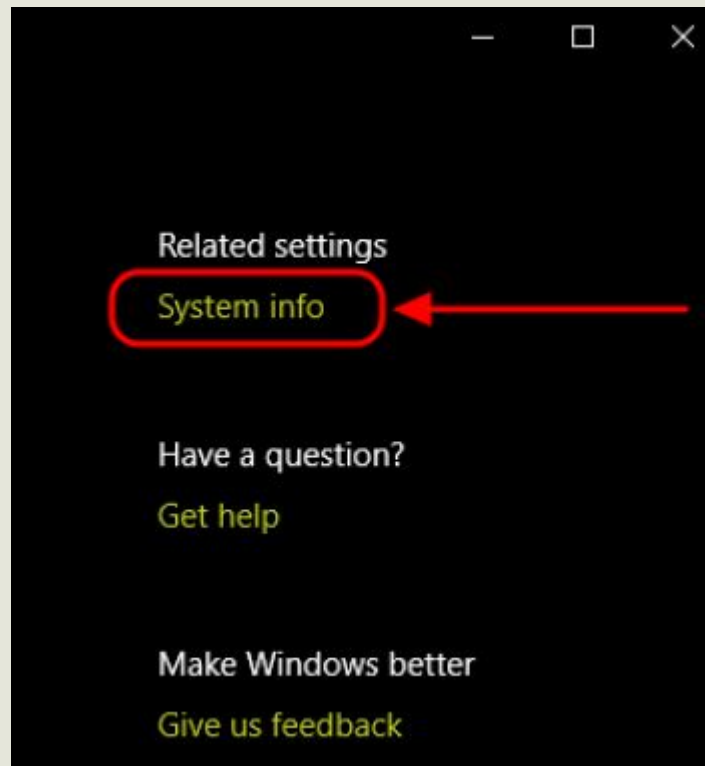
- Open the **Start Menu**.
- Open the **Settings**.
- Go to **System**.





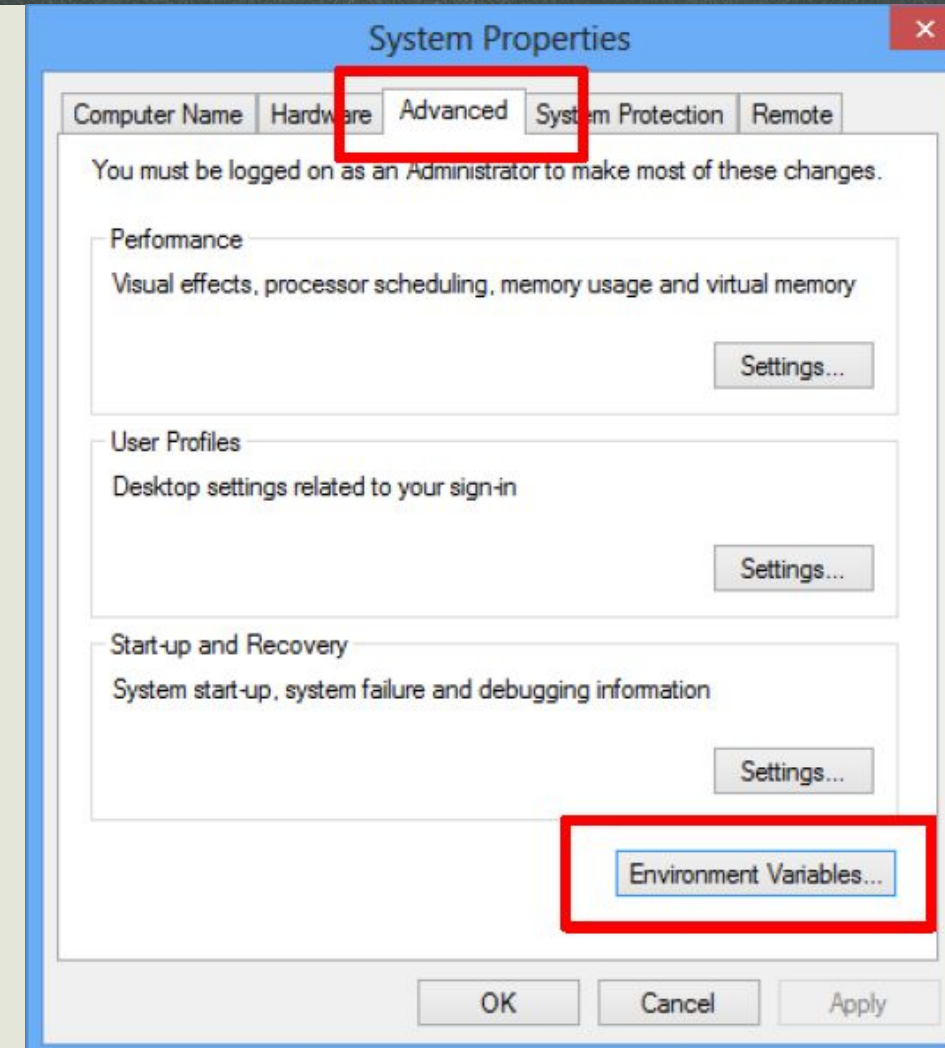
# Java Path Configuration (for Windows 10)

- Click on **About** on the left hand side menu.
- Click on **System Info** under **Related Settings**.



# Java Path Configuration (for all Windows)

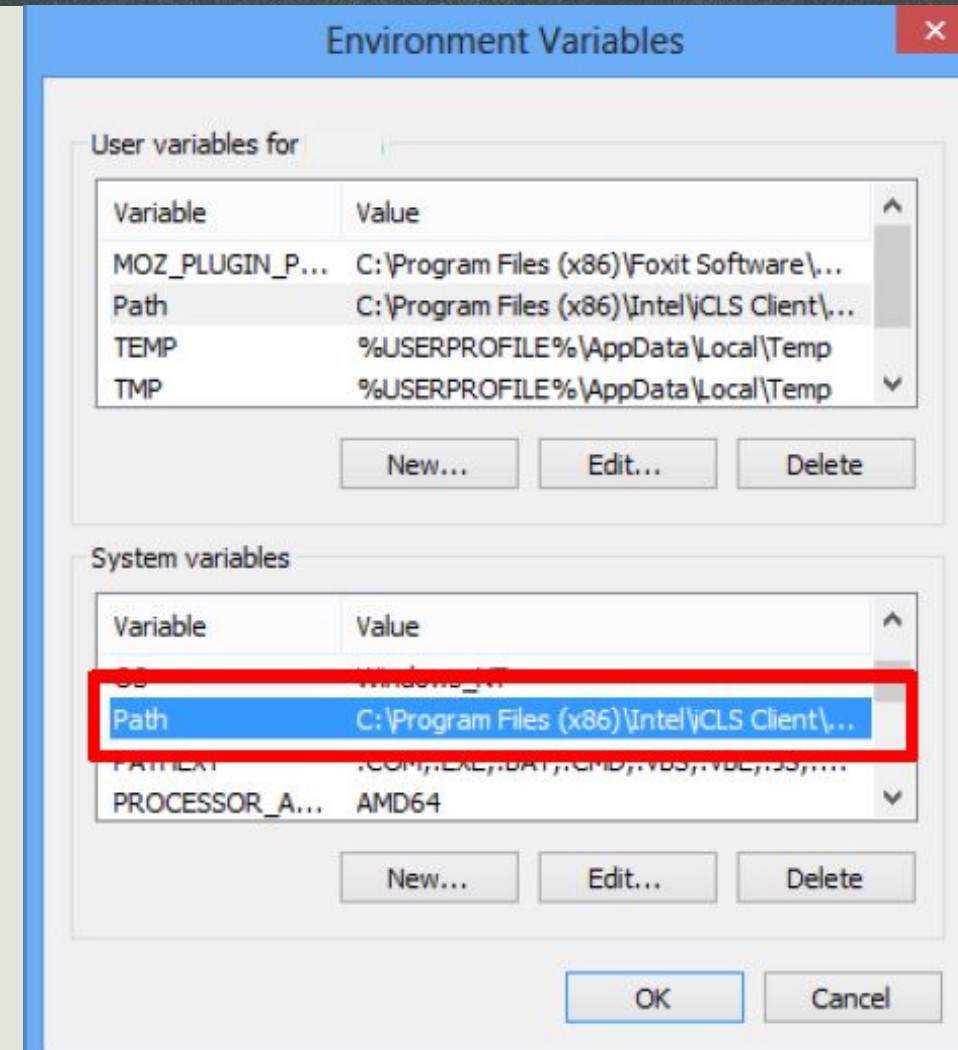
- Select the **Advanced** tab.
- Click on **Environment Variables**.





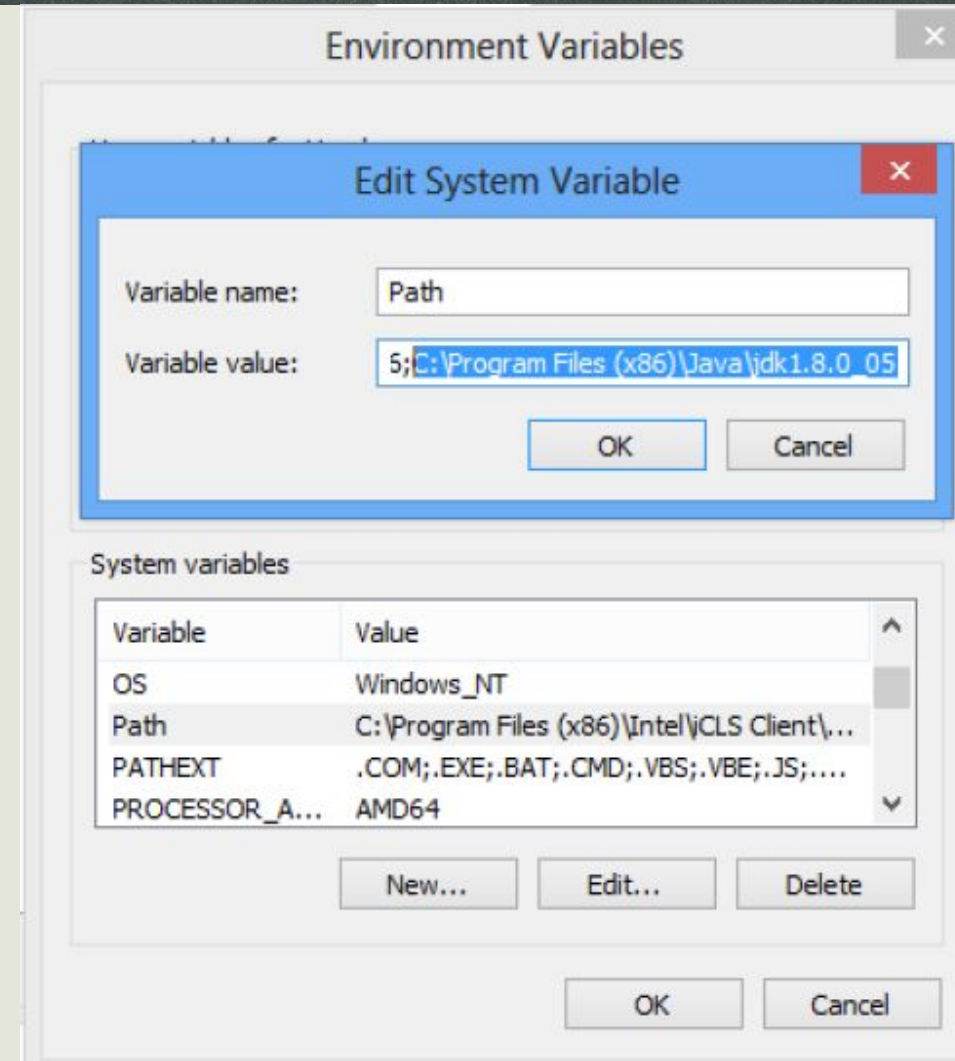
# Java Path Configuration (for all Windows)

- On System Variables, find **PATH** and double-click on it.
- If you do not have the item PATH, you may select to add a NEW variable and insert PATH as its name.



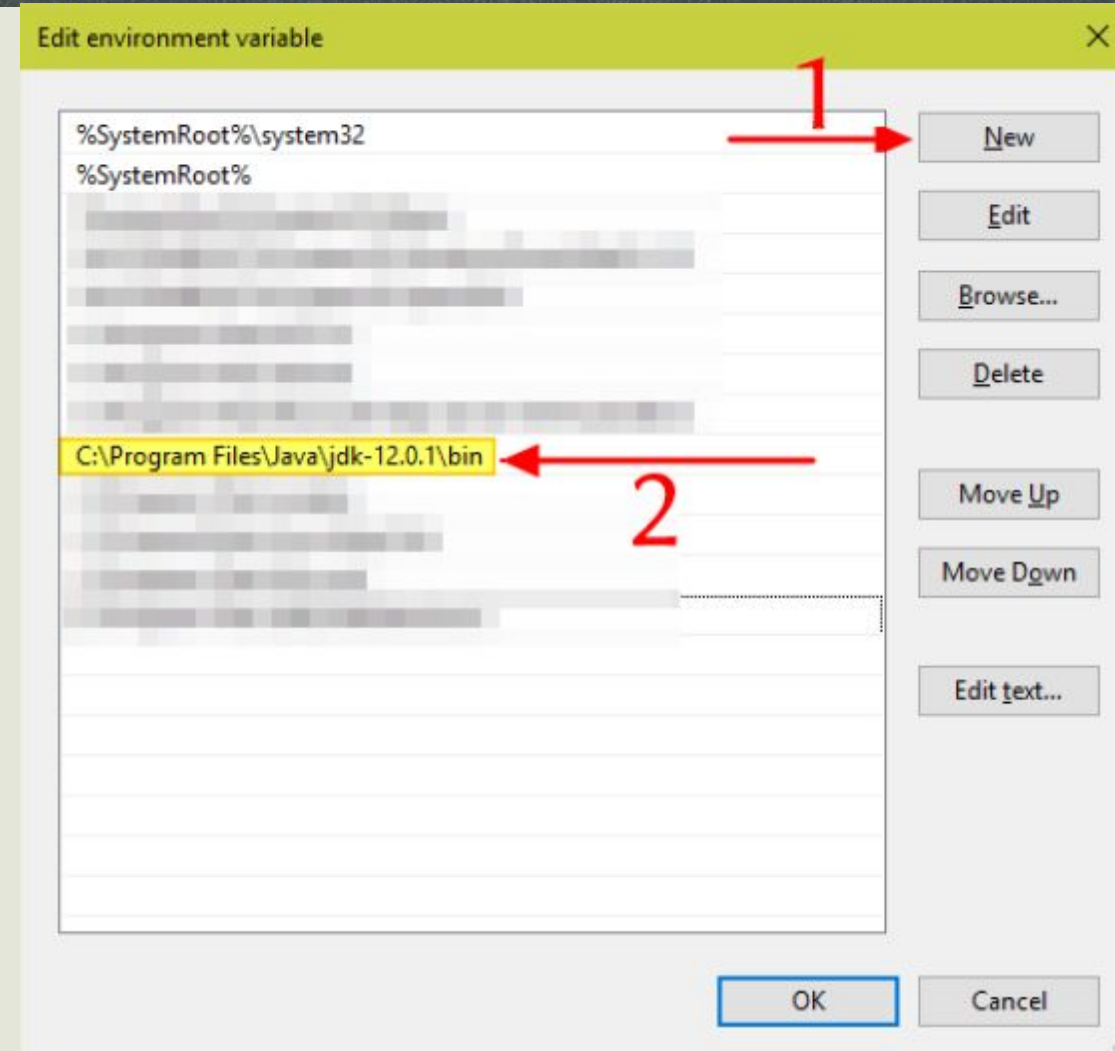
# Java Path Configuration (for 7/8 Windows)

- Add the Java location at the end of the PATH followed by **\bin** (as defined during installation).
- Also, add this same location for the PATH on User Variables (just above System Variables)



# Java Path Configuration (for all Windows)

- Add the Java location at followed by **\bin** (as defined during installation) by clicking on **New** then entering the information.



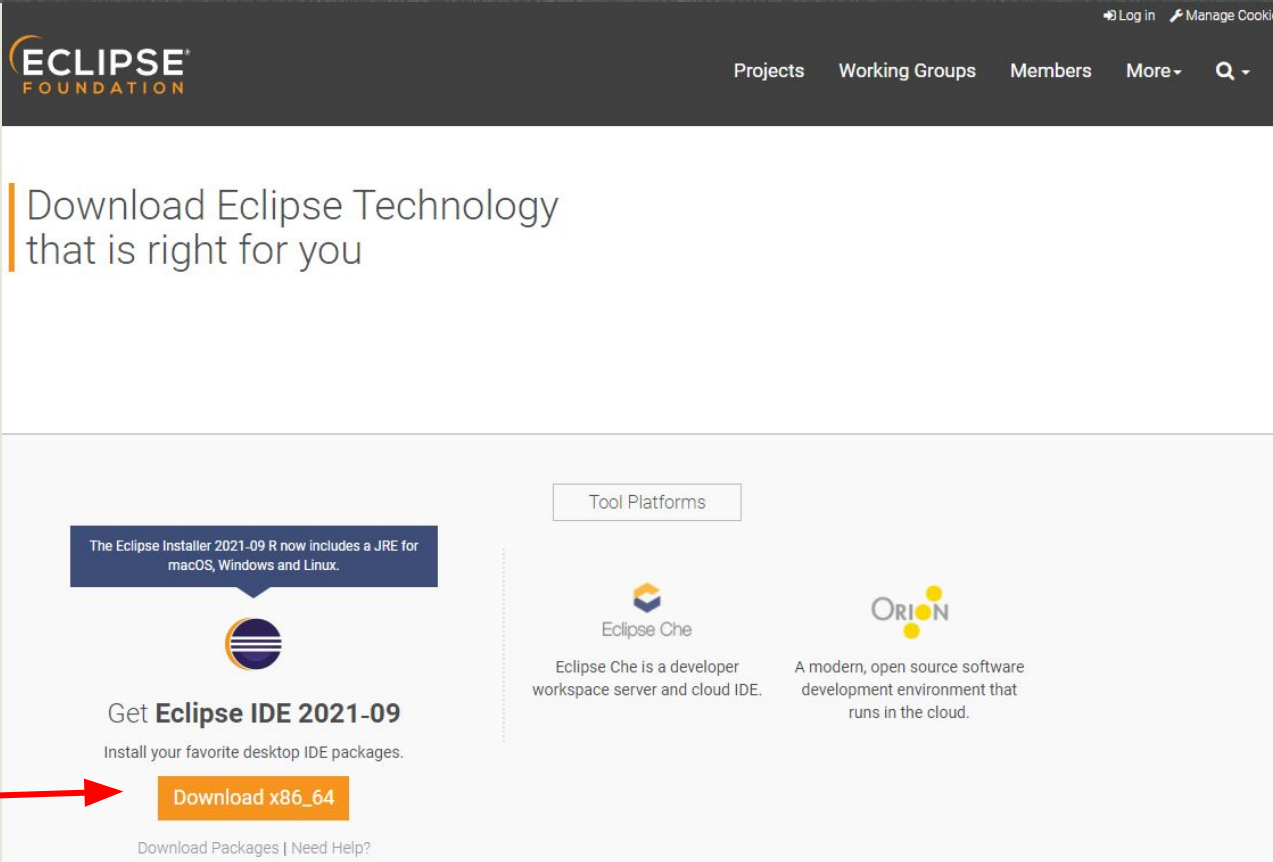


# Download and Setup Eclipse

- Available at <https://www.eclipse.org/downloads/>
- There are several versions of Eclipse; select the Standard version.



# Download and Setup Eclipse



The screenshot shows the Eclipse Foundation website. At the top, there's a dark navigation bar with the Eclipse Foundation logo on the left and links for 'Log in', 'Manage Cookies', 'Projects', 'Working Groups', 'Members', and 'More' on the right. Below the navigation bar, the main heading reads 'Download Eclipse Technology that is right for you'. The main content area features a large section for 'Eclipse IDE 2021-09' with a blue callout box stating 'The Eclipse Installer 2021-09 R now includes a JRE for macOS, Windows and Linux.' Below this, there's a button labeled 'Download x86\_64' which is highlighted by a red arrow. To the right of the IDE section, there's a 'Tool Platforms' section featuring 'Eclipse Che' and 'ORION' with their respective logos and descriptions.

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Download Eclipse Technology  
that is right for you

The Eclipse Installer 2021-09 R now includes a JRE for macOS, Windows and Linux.

Get **Eclipse IDE 2021-09**  
Install your favorite desktop IDE packages.

[Download x86\\_64](#)

Download Packages | Need Help?

Tool Platforms

Eclipse Che  
Eclipse Che is a developer workspace server and cloud IDE.

ORION  
A modern, open source software development environment that runs in the cloud.



- Download the latest version. It might not be the one in the image above.

# Install Eclipse

- Eclipse does not have an installation procedure.
- Simply extract the zip file in a directory where your programs are stored, e.g. **C:\Program Files**.
- This creates a directory named **eclipse**.
- The executable “eclipse.exe” file is in this directory.
- It may be helpful to create a shortcut to this executable on your desktop.



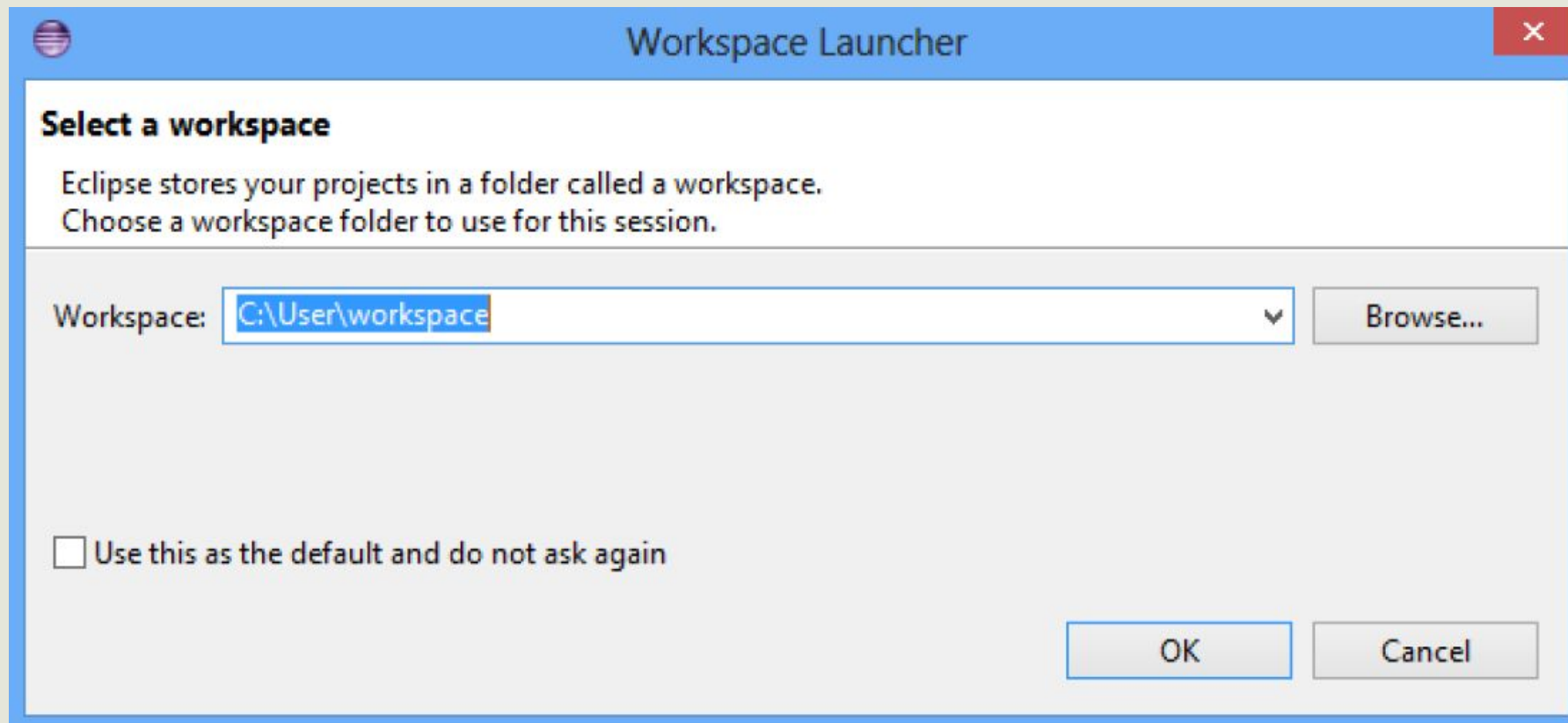


# Initializing Eclipse

- Eclipse stores all its files in a directory called “workspace”.
- When running for the first time, Eclipse asks for a workspace location.
- You can use the default location (Recommended)
- If not possible, change the location of your workspace. **Make sure you remember it.**

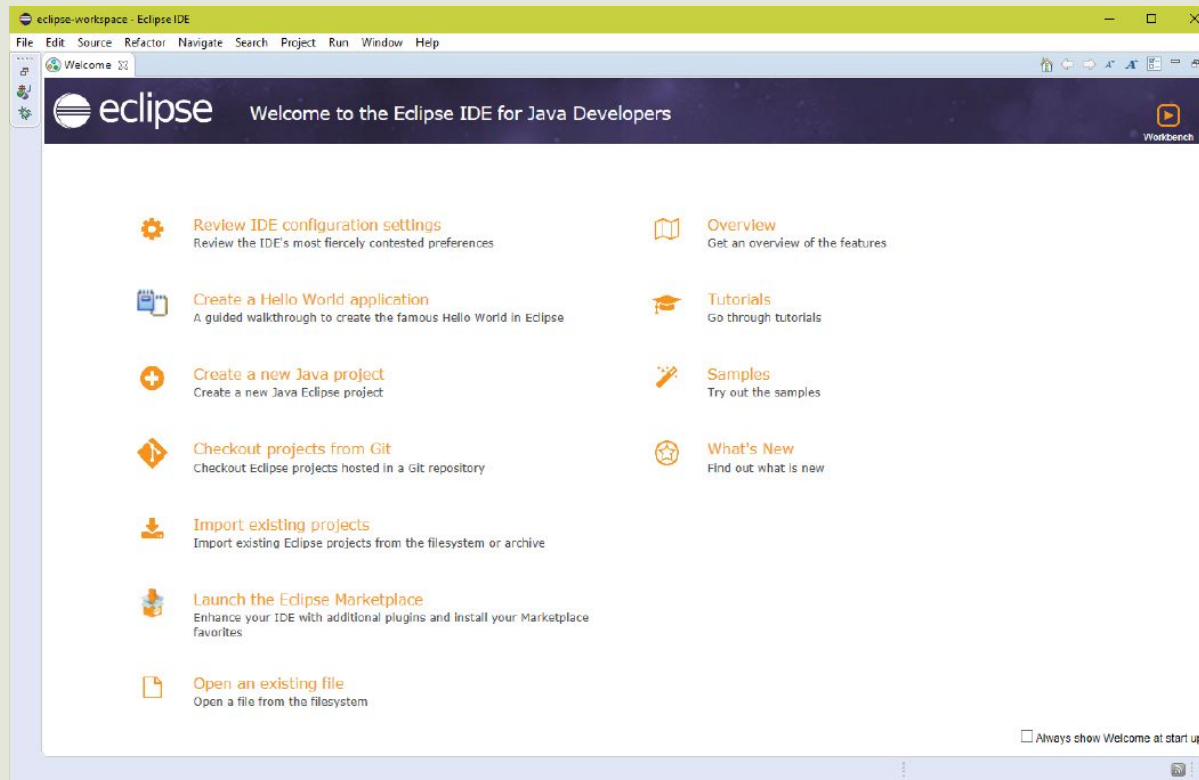


# Initializing Eclipse



# Using Eclipse for the first time

- After defining the workspace location, you should see the Eclipse Welcome page (Note your welcome screen may be different).



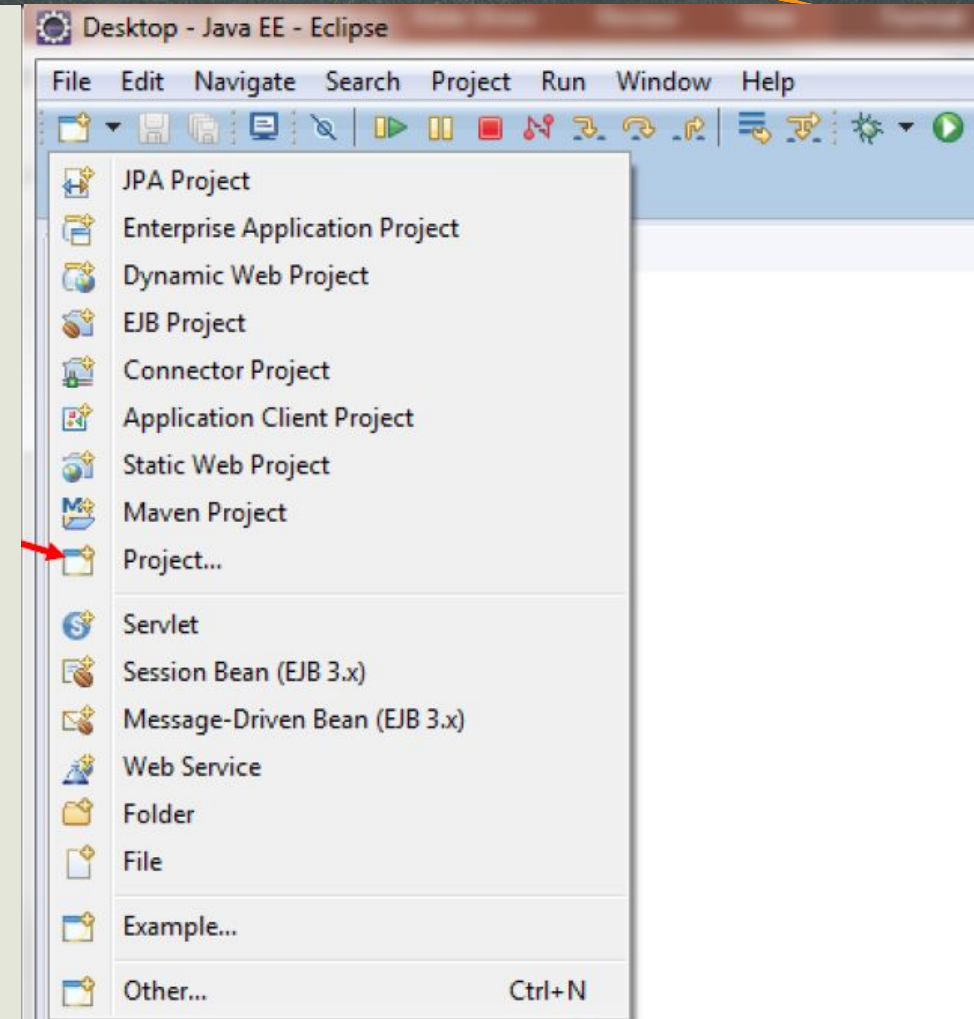


# Create a project



- Click on the  icon.

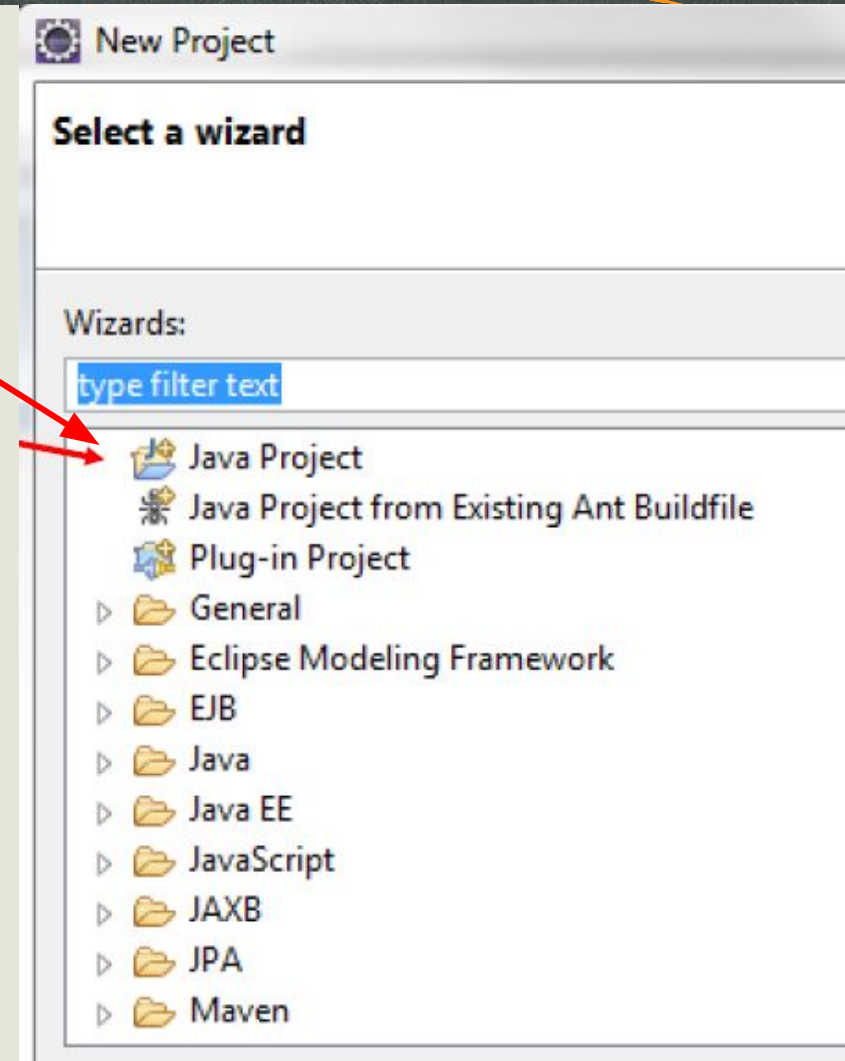
- Click on the project icon



# Create a project



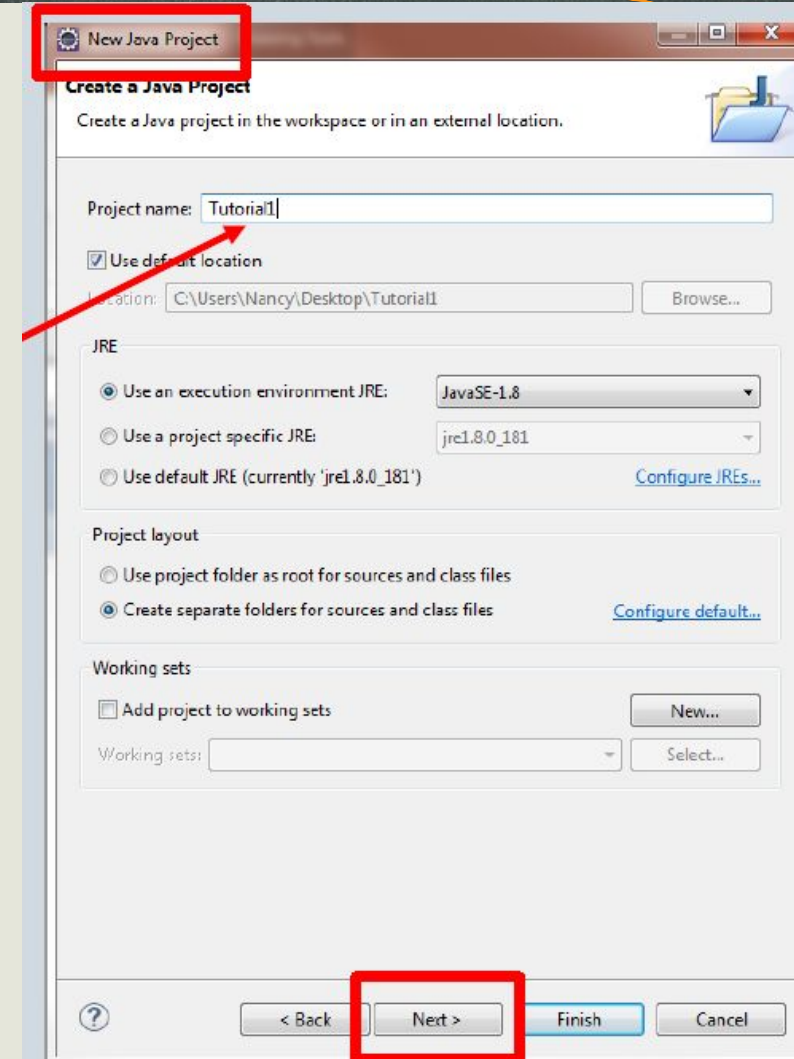
- The **New Project** window will appear.
- Select **Java Project**.
- Click on **Next** at the bottom of the window.



# Create a project



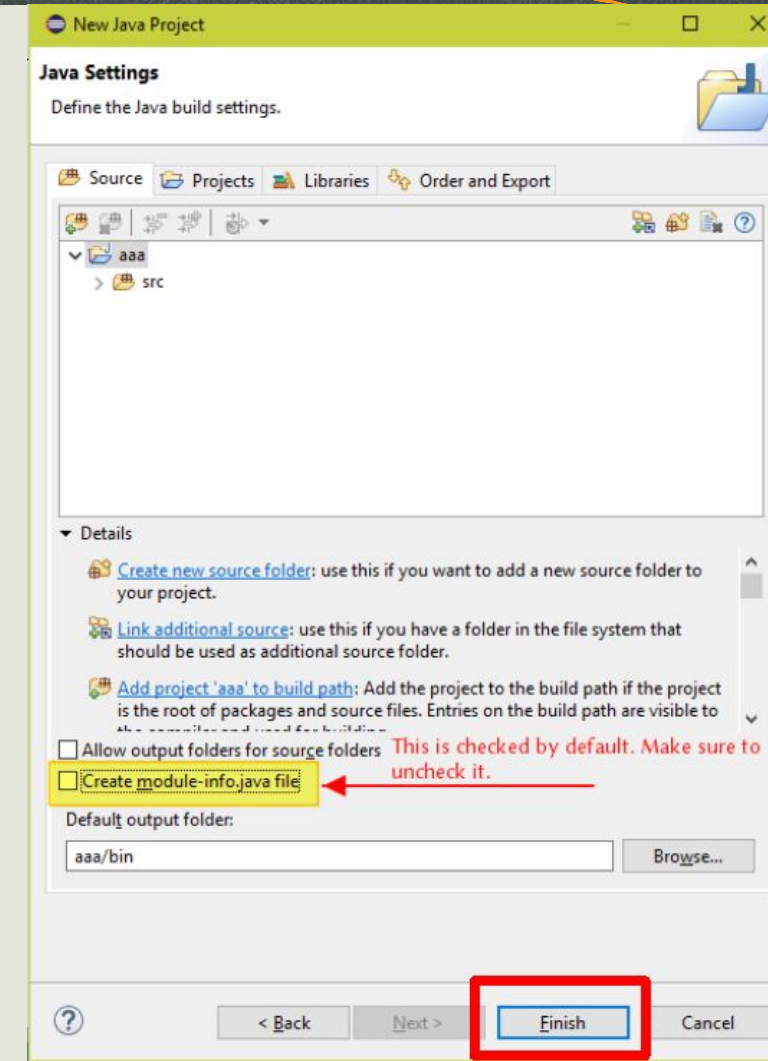
- The **New Java Project** window will appear.
- Enter a name for your project.
- Click on the **Next** button.





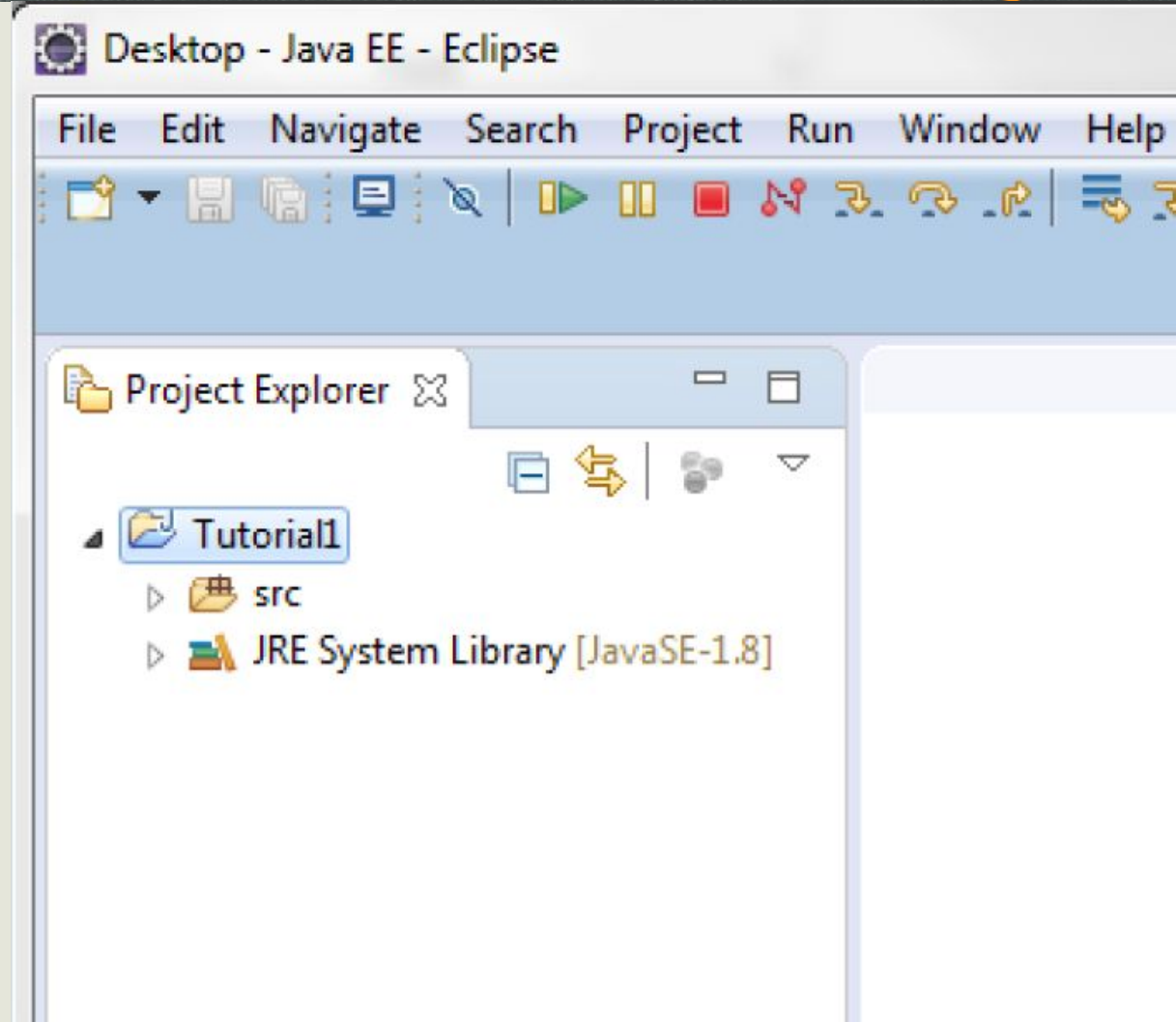
# Create a project

- Uncheck **Create module-info.java** file if it is checked by default.
- Click on **Finish**.



# Create a project

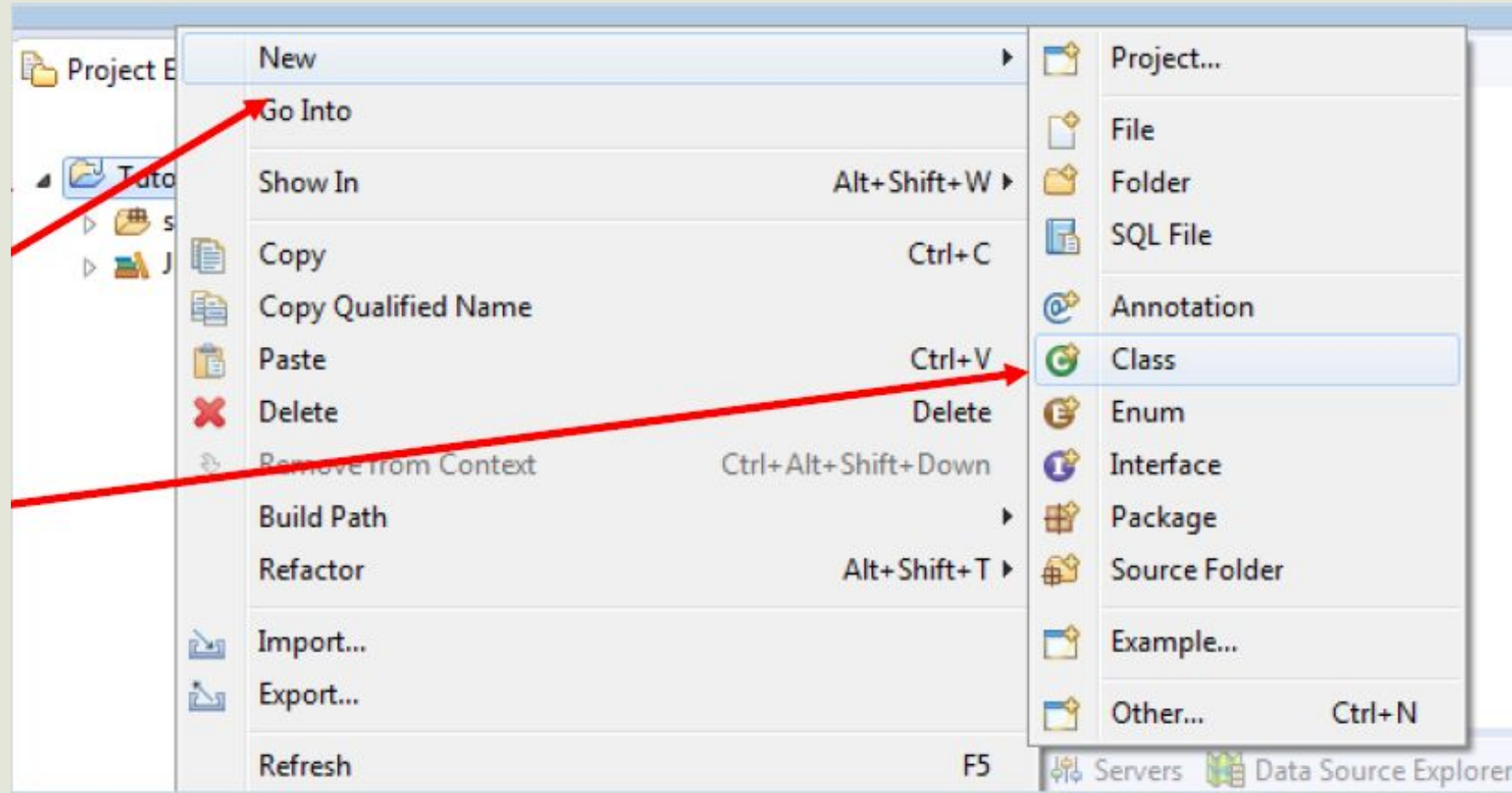
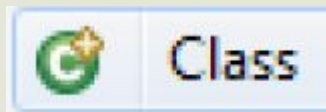
- You will see your project folder (in this example Tutorial 1) created with a folder to hold your .java files (src).



# Create a .java file



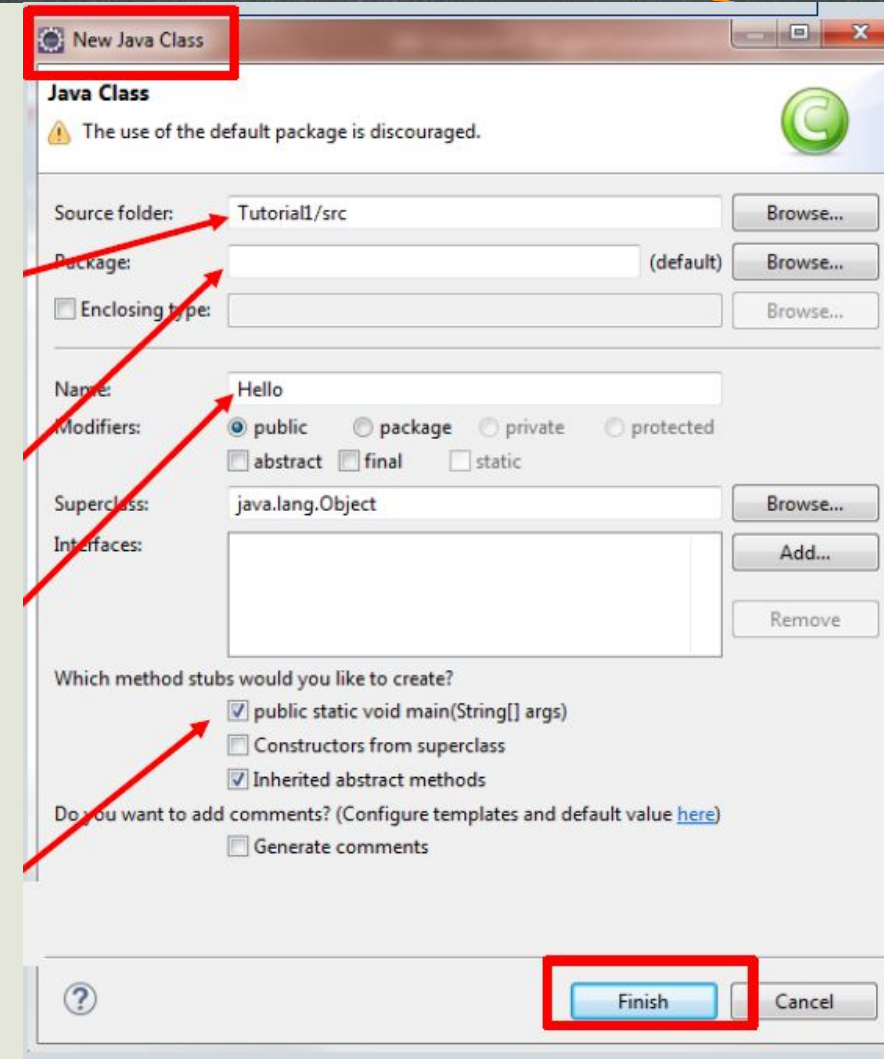
- Right click on the project name (in this case Tutorial 1)
- Click on New
- Click on Class



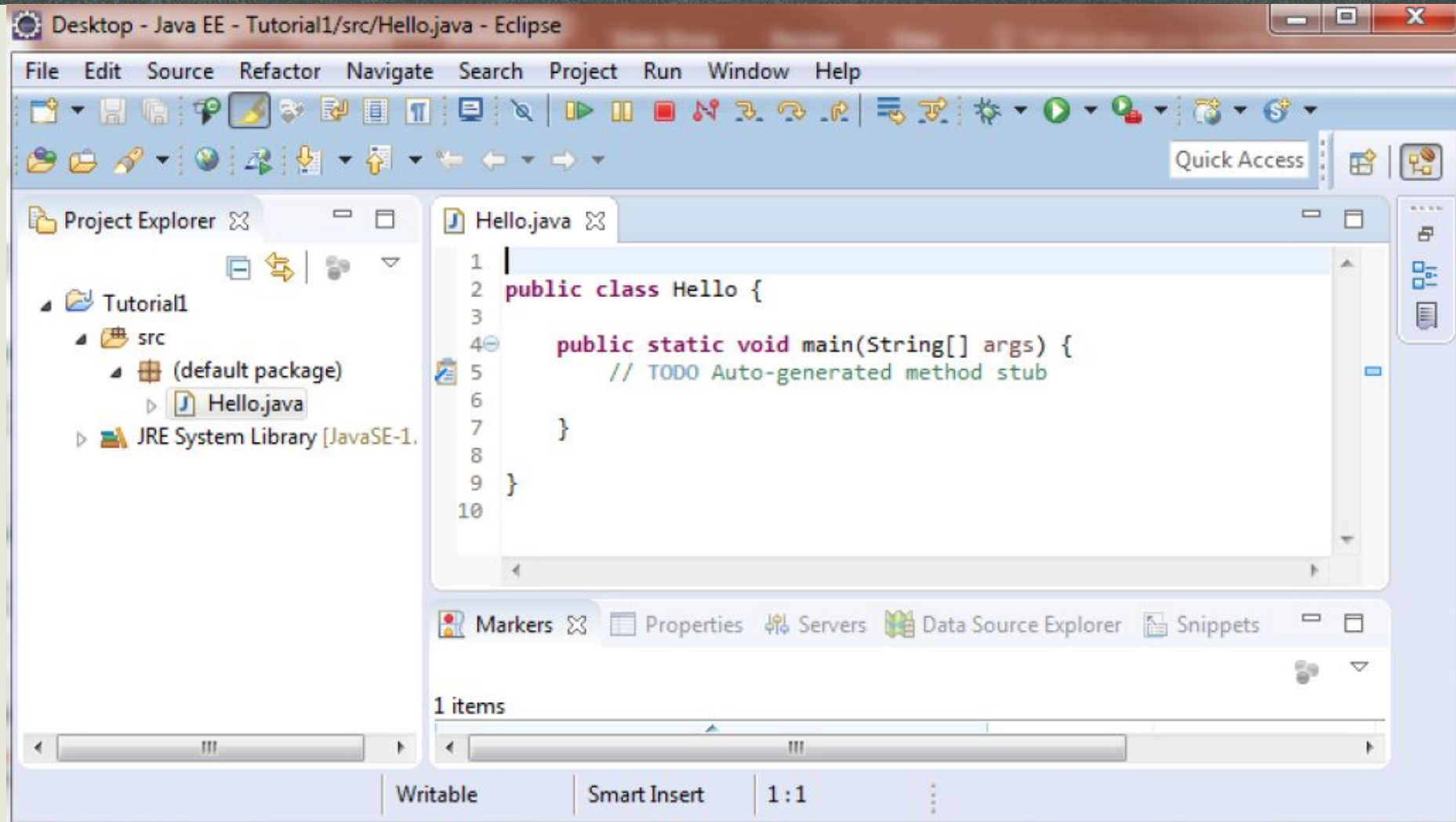


# Create a .java file

- The **New Java Class** window will appear.
- Notice that your .java file will be saved in the src folder of the project you created.
- Make sure that **Package** textbook is empty.
- Enter the name of the .java file - in this example Hello. (Note: no spaces allowed in a file name.)
- Select ☒ `public static void main(String[] args)`
- Click on **Finish**.



# Ready to enter Java statements



## Type a Java statement



- Type the statement in red.

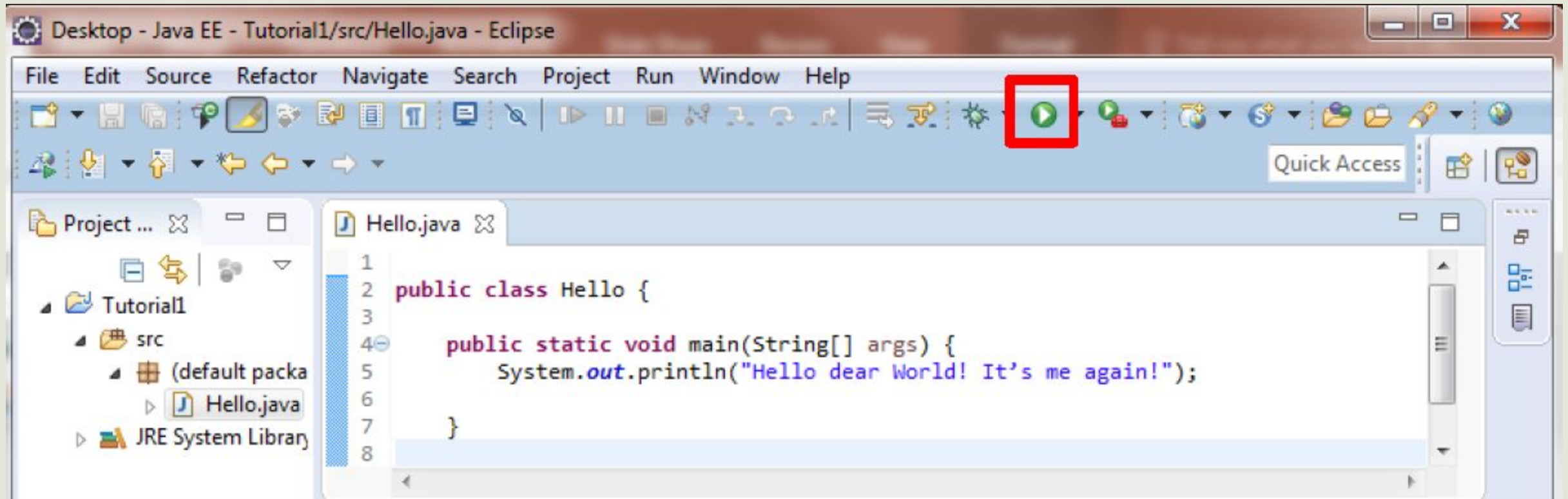
```
public class Hello
{
    public static void main(String[] args)
    {
        System.out.println("Hello dear World! It's me again!");
    }
}
```



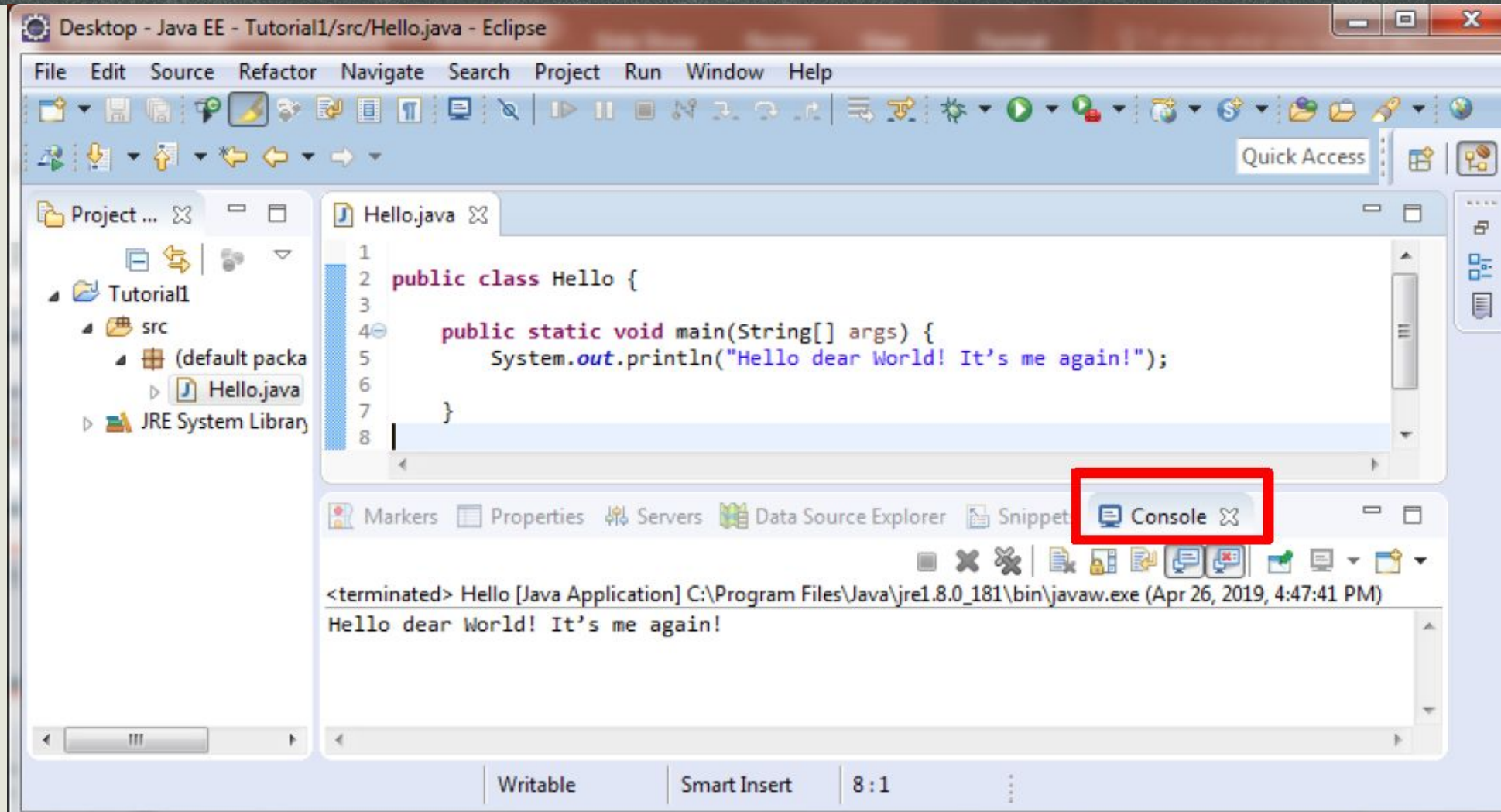
# Compile & Run a Java program



- Save your program & click on the **Run** Icon.



# Output in Console window





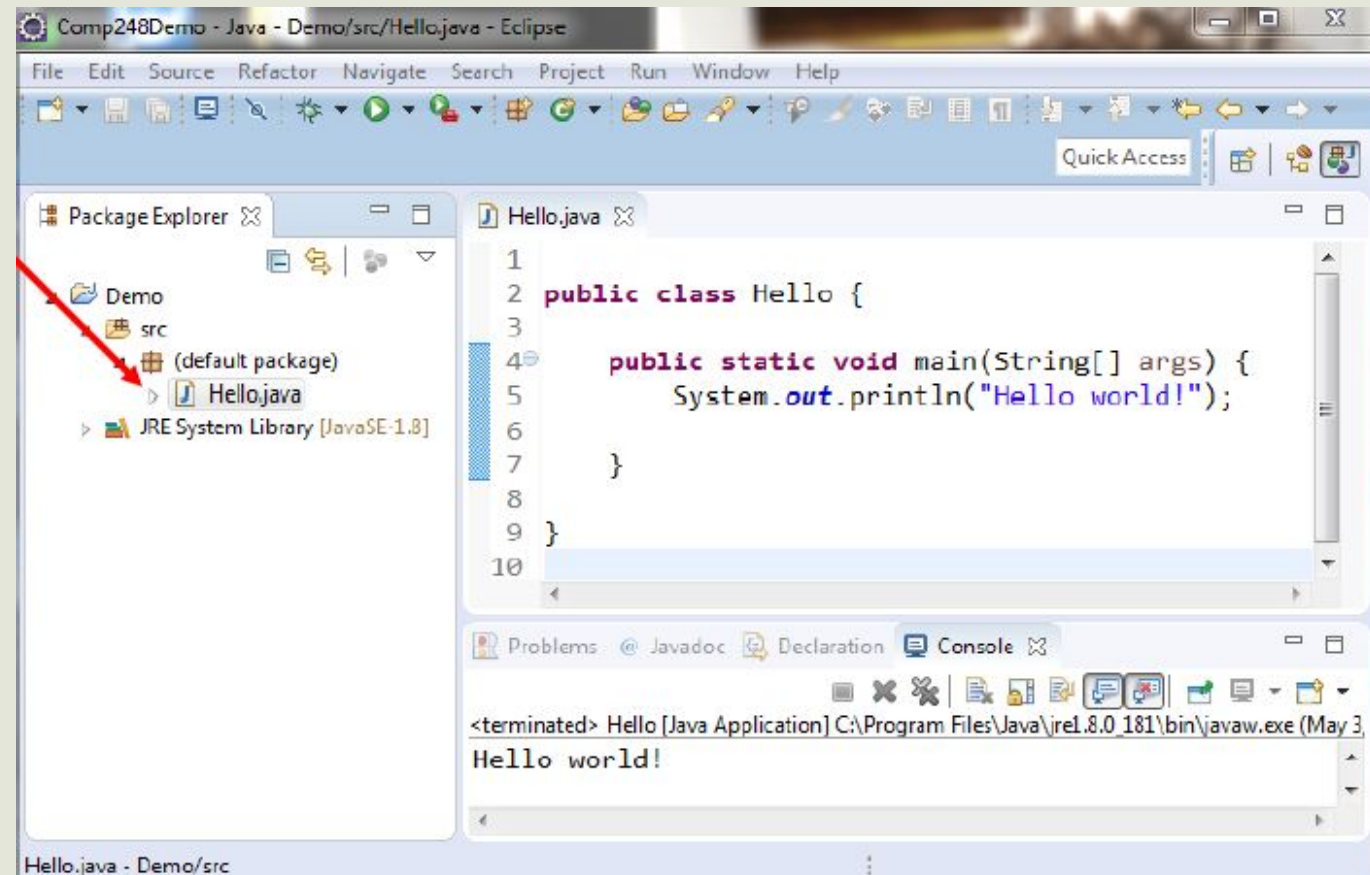
The background is a dark, textured surface resembling a chalkboard. It is covered with various light-colored chalk sketches. In the upper left, there is a large 'V' and a globe showing continents. Below the globe is a detailed drawing of a microscope. In the lower left, there is a stack of books. In the lower right, there are mathematical symbols including a plus sign, a percent sign, and a less-than sign. The text 'A few useful operations' is centered in a white rectangular area.

# **A few useful operations**



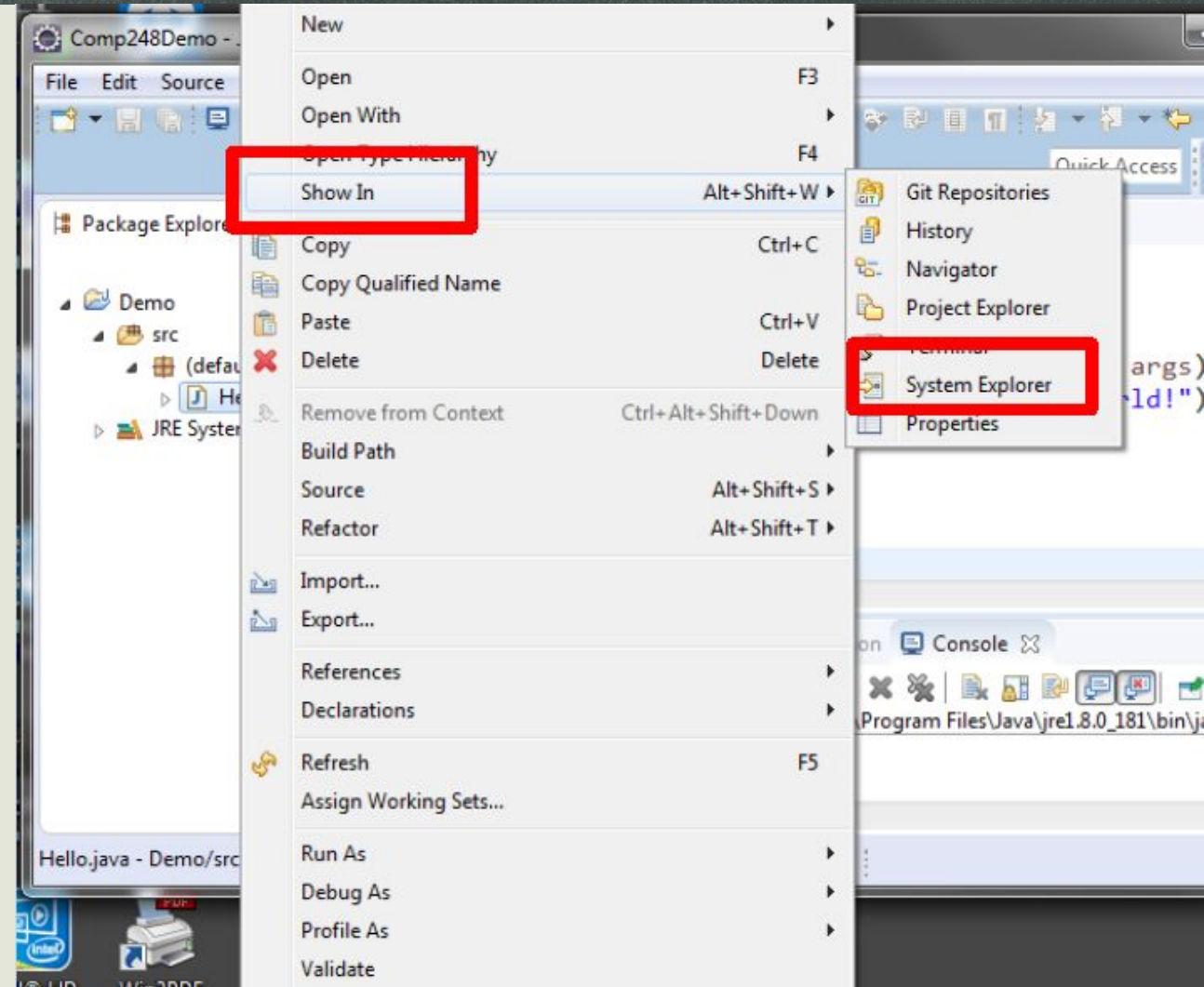
# Locating your source file (.java)

- It is time to submit your lab or assignment but you don't know where it is saved.
- Right click on the .java file you want to locate (in this example Hello.java file).



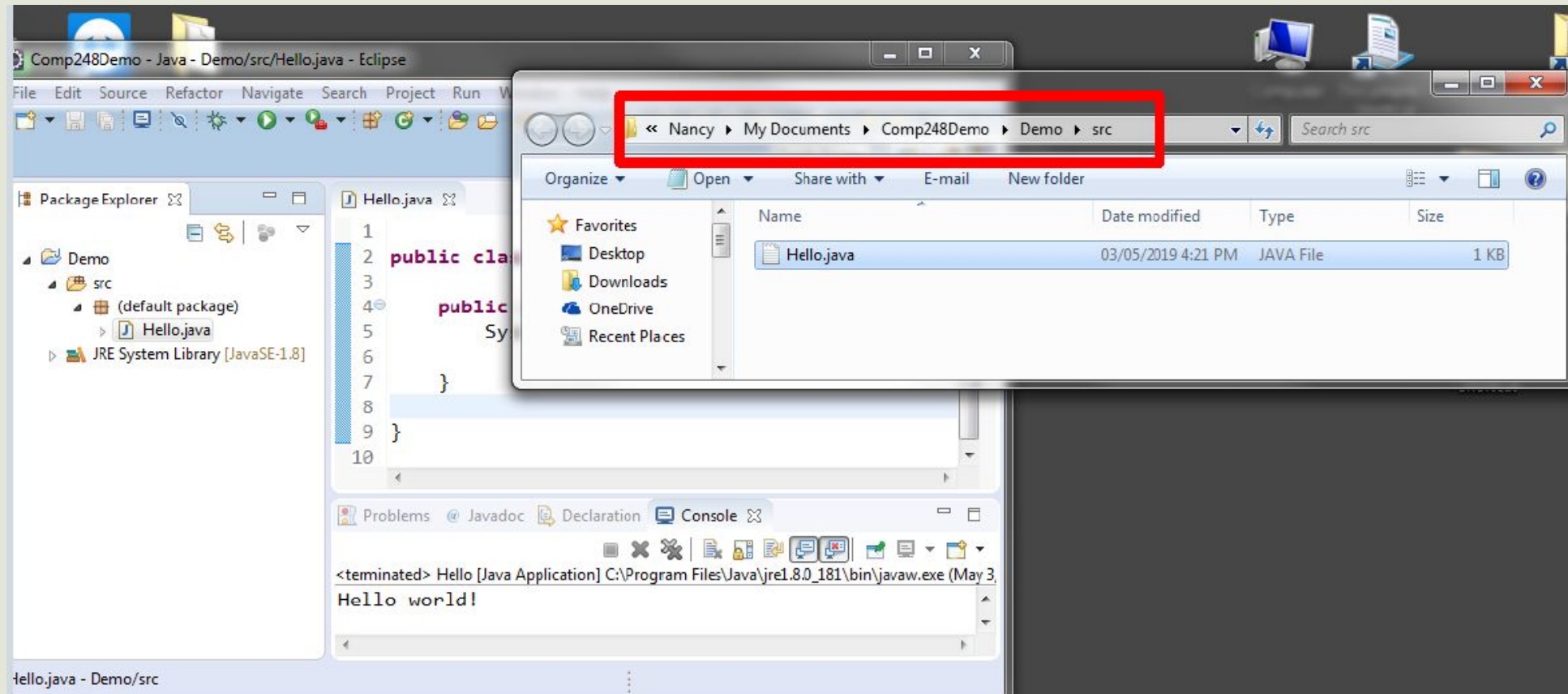
## Locating your source file (.java)

- Next, click on **Show In**.
- Select **System Explorer**.



# Locating your source file (.java)

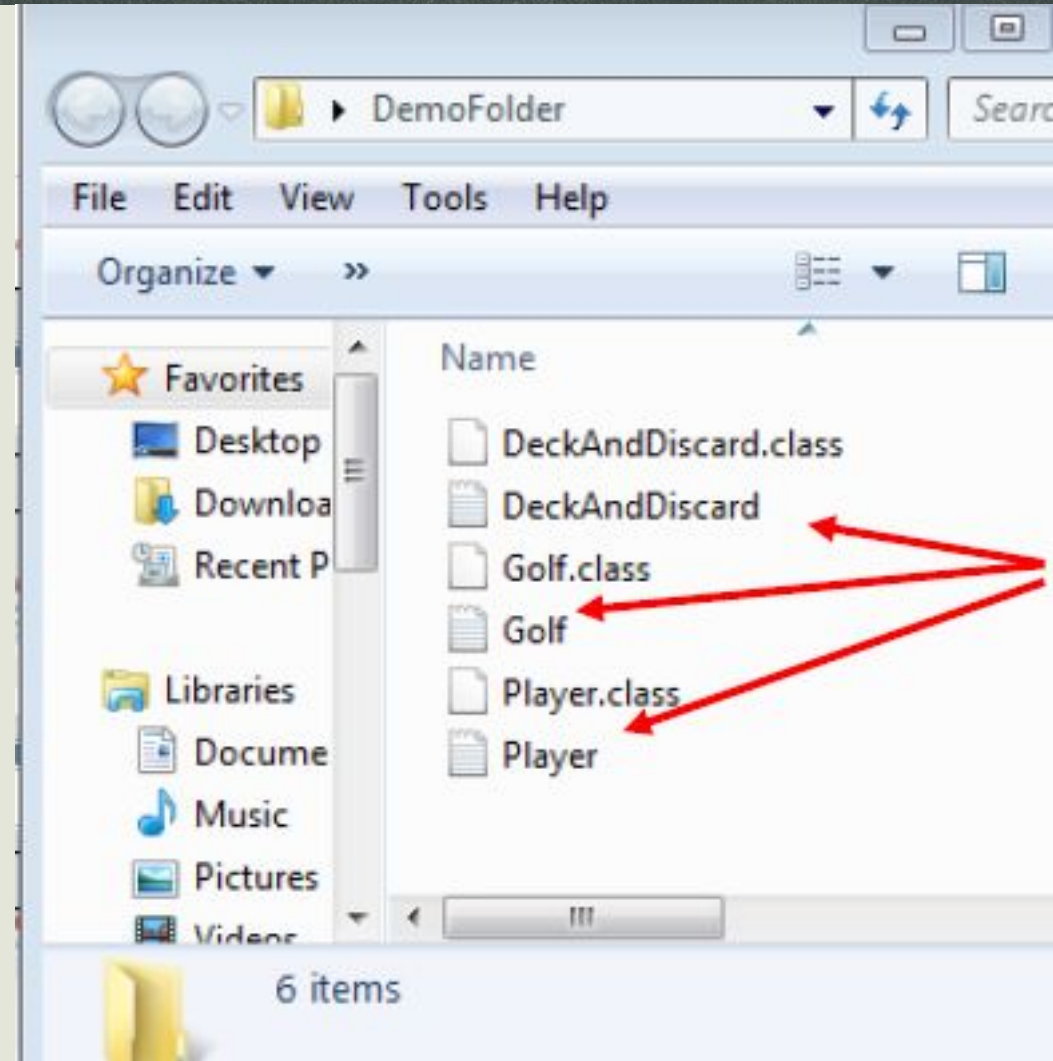
- You will see the full path to your file.





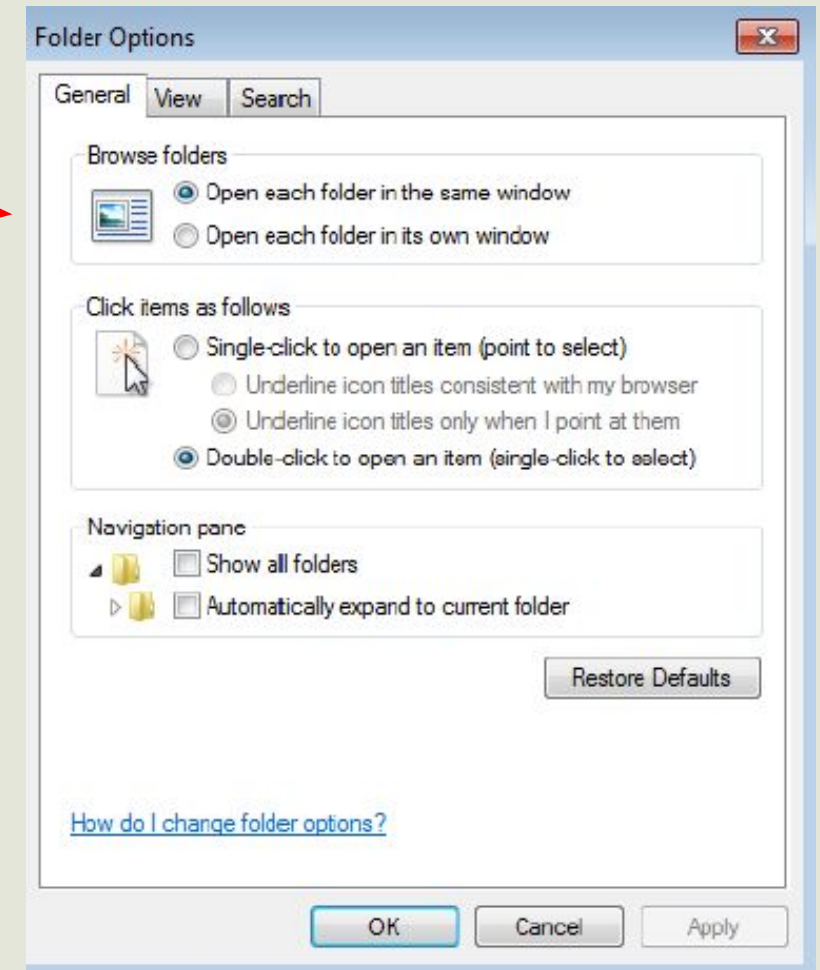
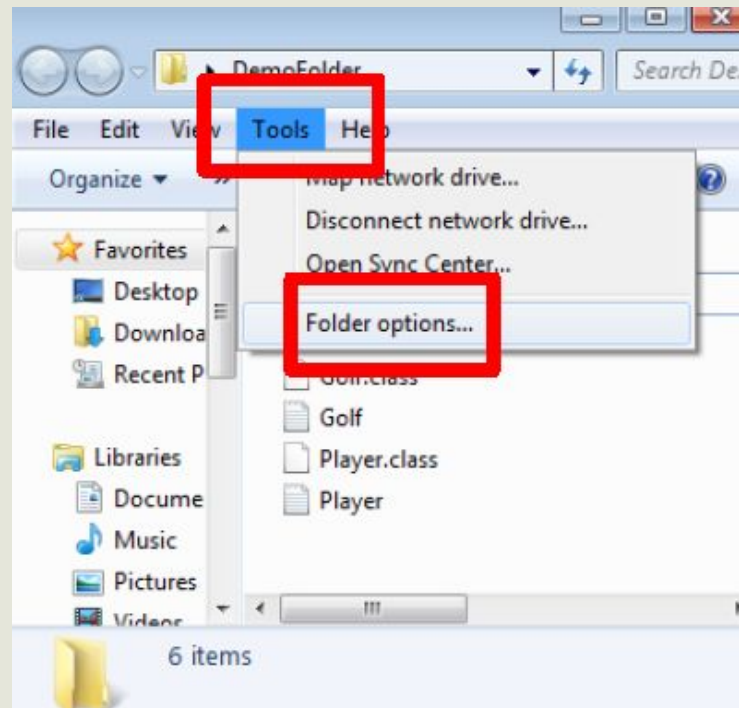
# Enable showing of file extensions in Windows

- When submitting files (labs or assignments), **be sure to select .java files** (and not the .class file).
- Sometimes the extensions is not visible on your computer.
- If that is the case, here is how to turn on the displaying of extensions.



# Enable showing of file extensions in Windows 7 / 8

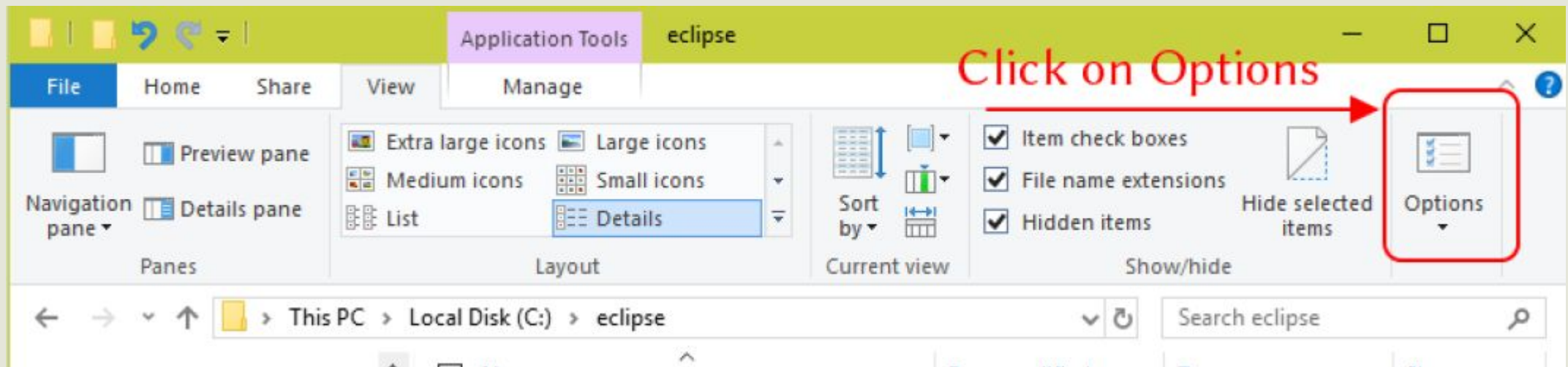
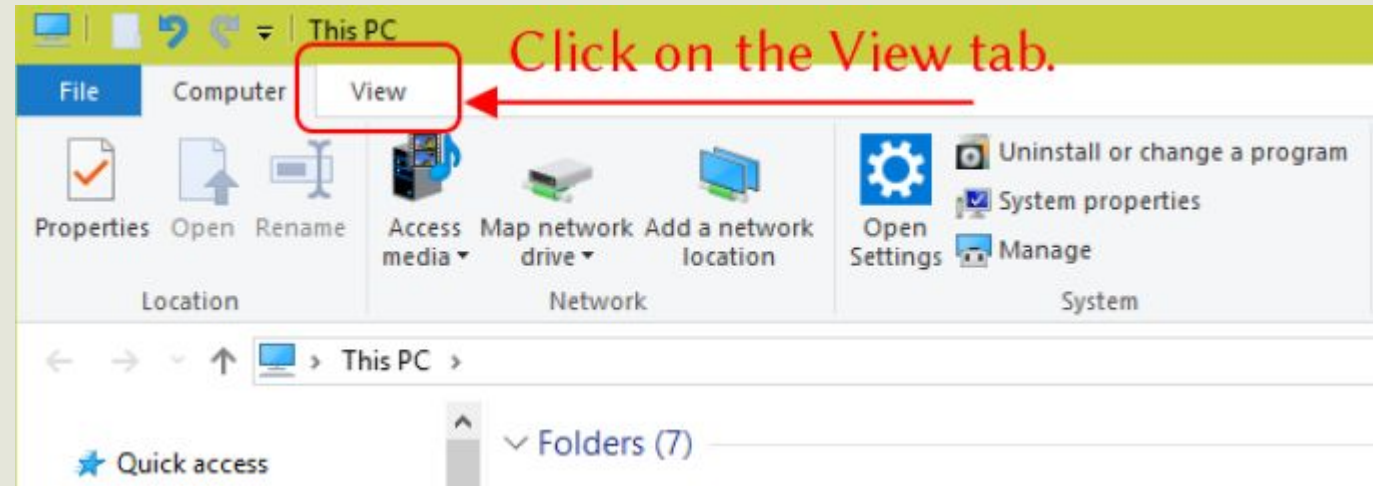
- Click on **Tools** and select **Folder Options**.
- The following window will appear.
- Go to slide **#37**





# Enable showing of file extensions in Windows 10

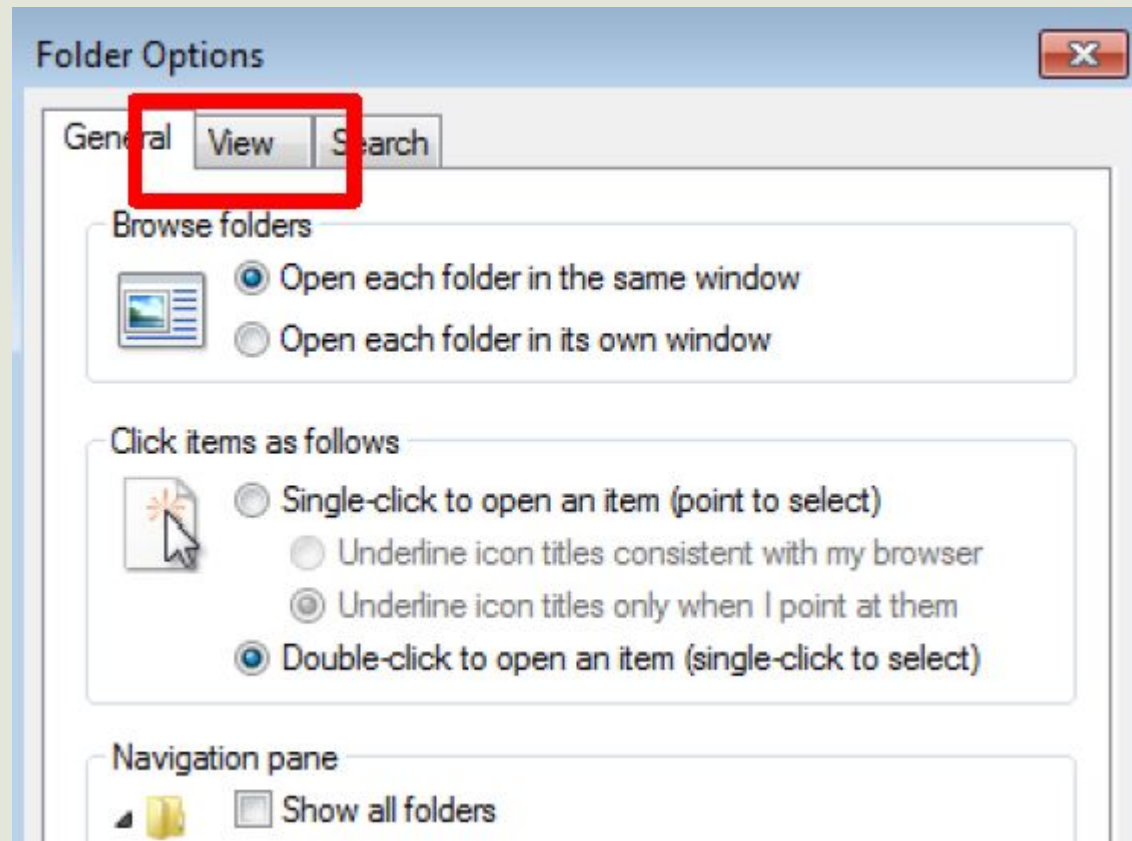
- Click on **Views**.
- Click on **Options**.





# Enable showing of file extensions in all Windows

- Click on **Views** tab.



# Enable showing of file extensions in all Windows

- The following window will appear.
- Make sure that the “*Hide extensions for known types*” is **unchecked** (in this screen capture it is checked).

