

# Java and the NetBeans IDE



## Object-Oriented Software Development

# Java and the NetBeans IDE

The NetBeans IDE is a free, open-source Integrated Development Environment for software developers.

# Java and the NetBeans IDE



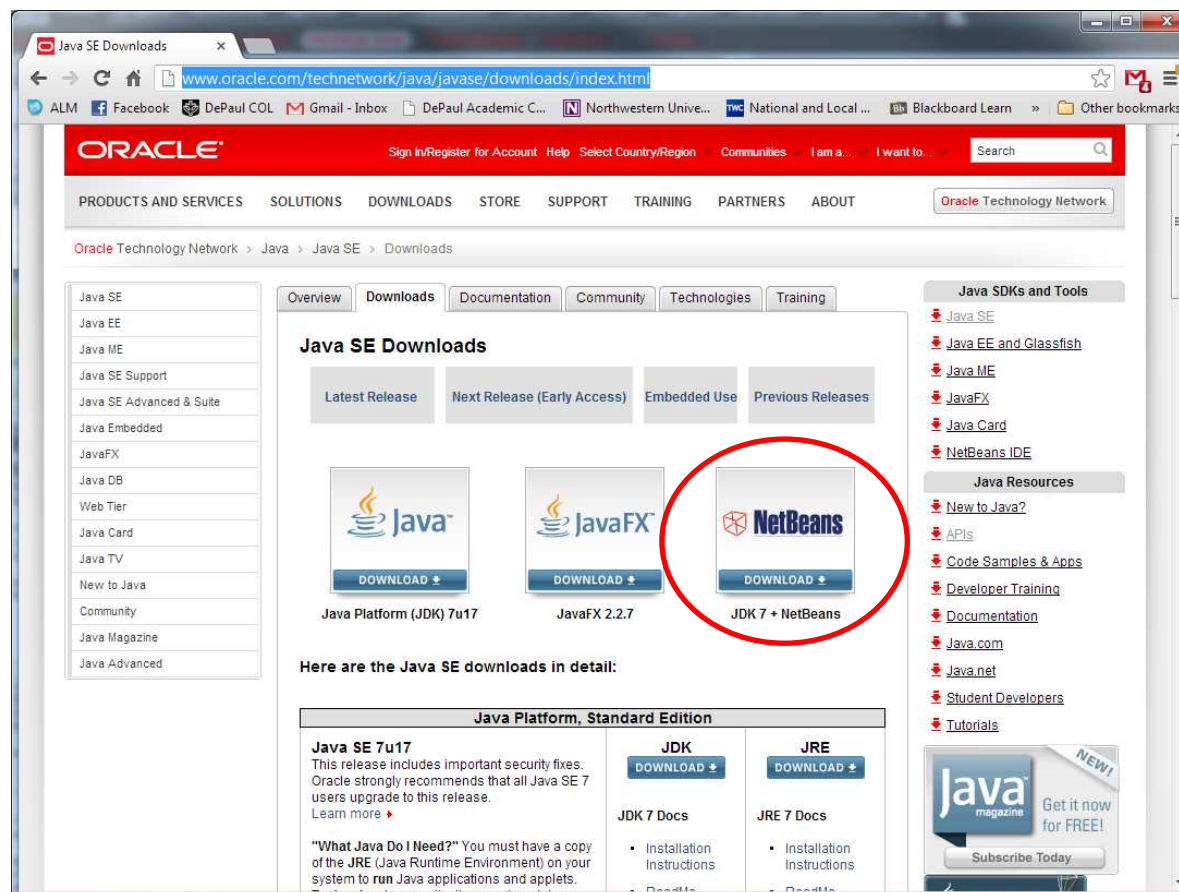
## Java and the NetBeans IDE (Download)

### How to Download the Latest Java and NetBeans IDE

Go to the main NetBeans web site: <http://www.oracle.com/technetwork/java/javase/downloads/index.html>

Click on “JDK 7 + NetBeans”

(NOTE: The version numbers will change over time – that’s ok, use the latest version!)



# Java and the NetBeans IDE



## The NetBeans IDE (Download)

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Oracle Technology Network > Java > Java SE > Downloads

### JDK 7u17 with NetBeans 7.3

This distribution of the JDK includes the NetBeans IDE, which is a powerful integrated development environment for developing applications on the Java platform. Learn more

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Java SE and NetBeans Cobundle (JDK 7u17 and NB 7.3)		
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# Java and the NetBeans IDE



## The NetBeans IDE (Download)

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The download itself will take a few minutes (longer or shorter depending upon your connection speed).

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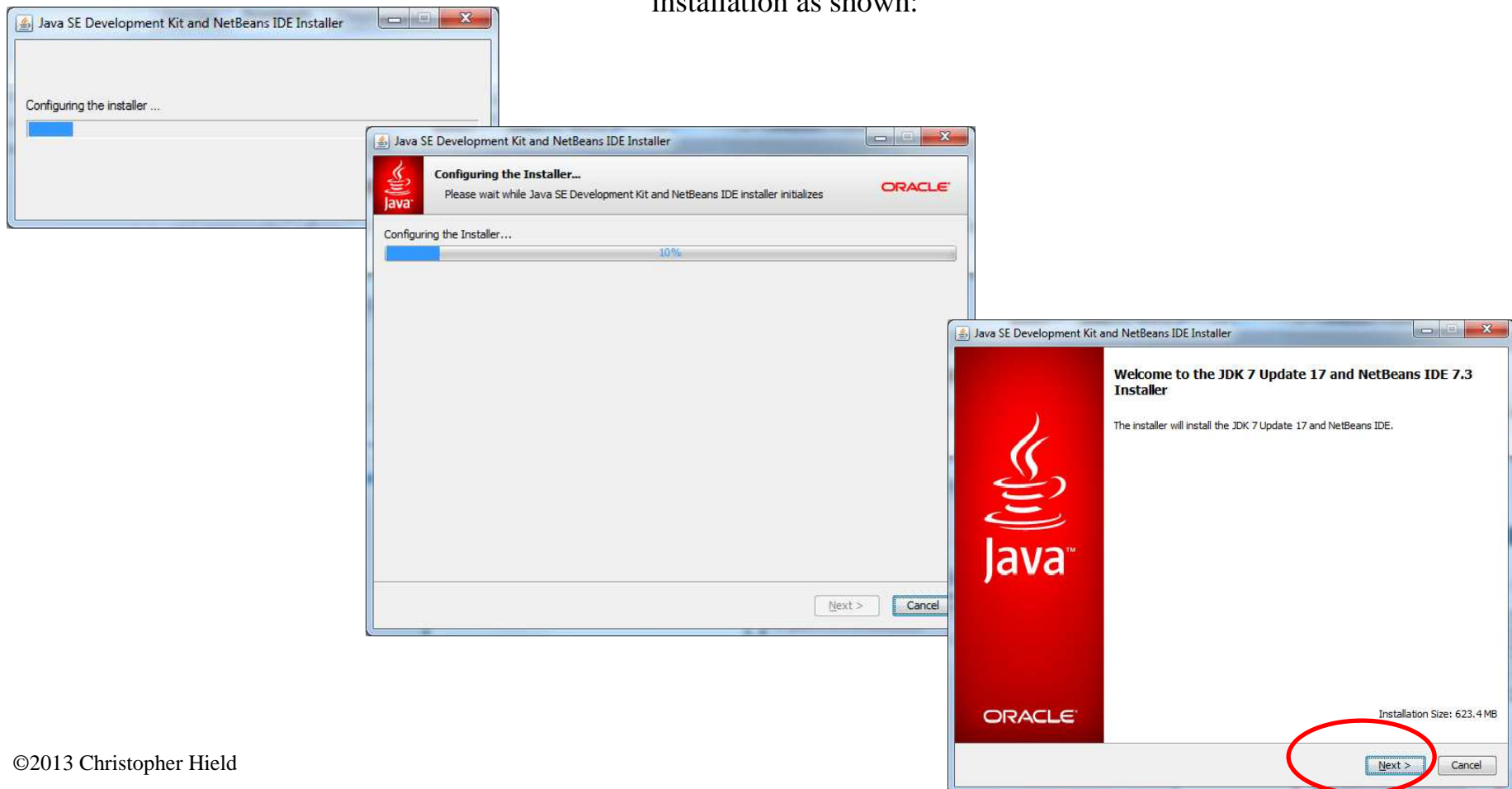
# Java and the NetBeans IDE



## The NetBeans IDE (Installation)

Once the download is complete, double click on the file you downloaded to start the Installation Wizard for NetBeans.

After a few moments of initialization & configuration, the Wizard will be displayed. Click “Next>” to proceed with the installation as shown:

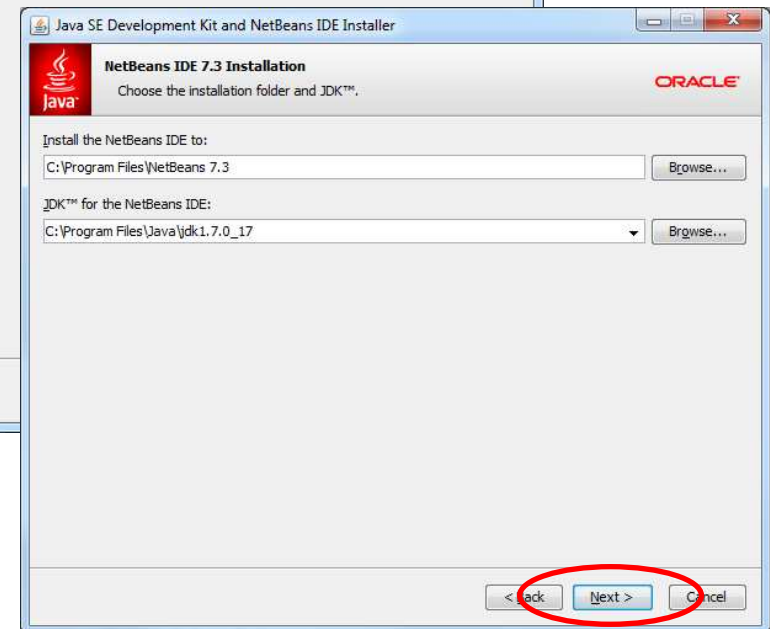
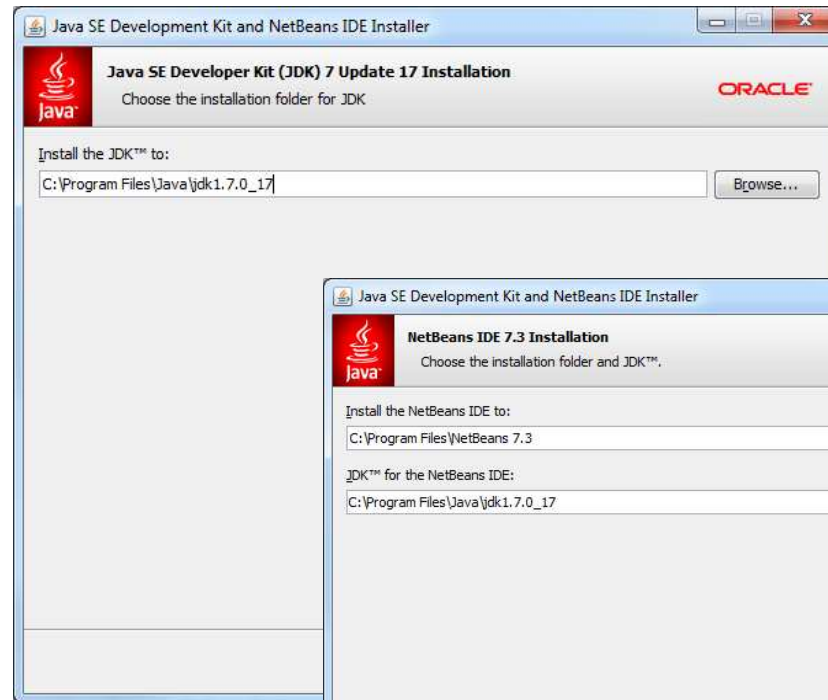
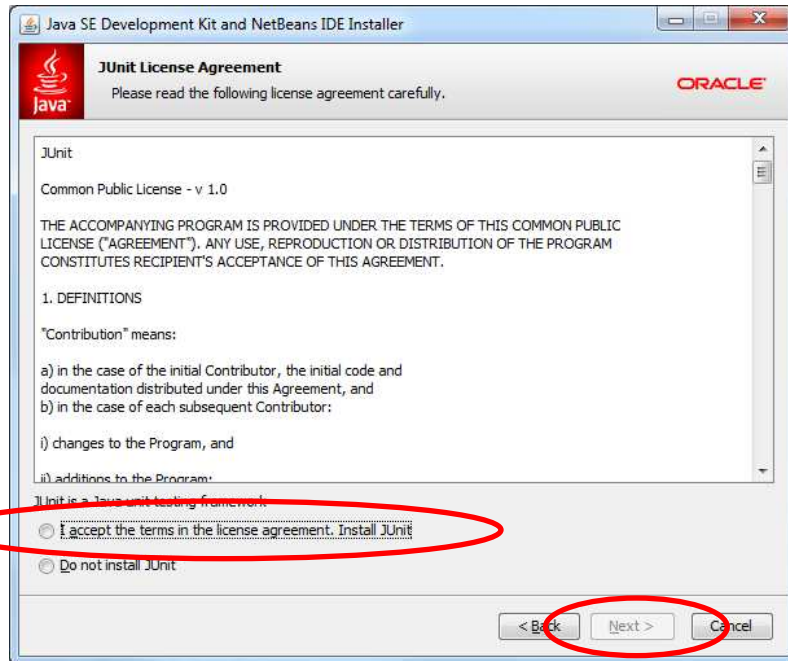


# Java and the NetBeans IDE



## The NetBeans IDE (Installation)

You will be guided through the installation through the remainder of the NetBeans installation process, as shown below:

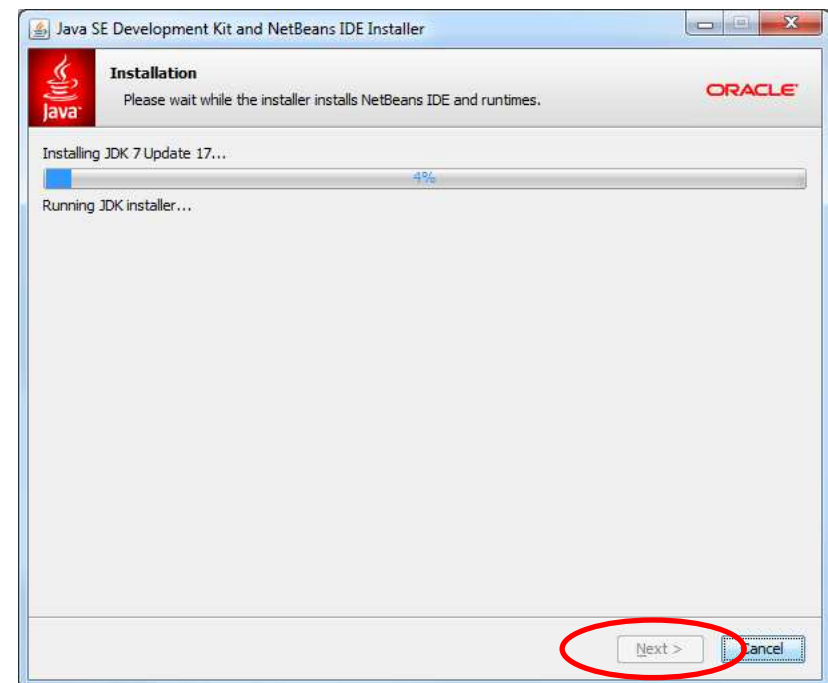
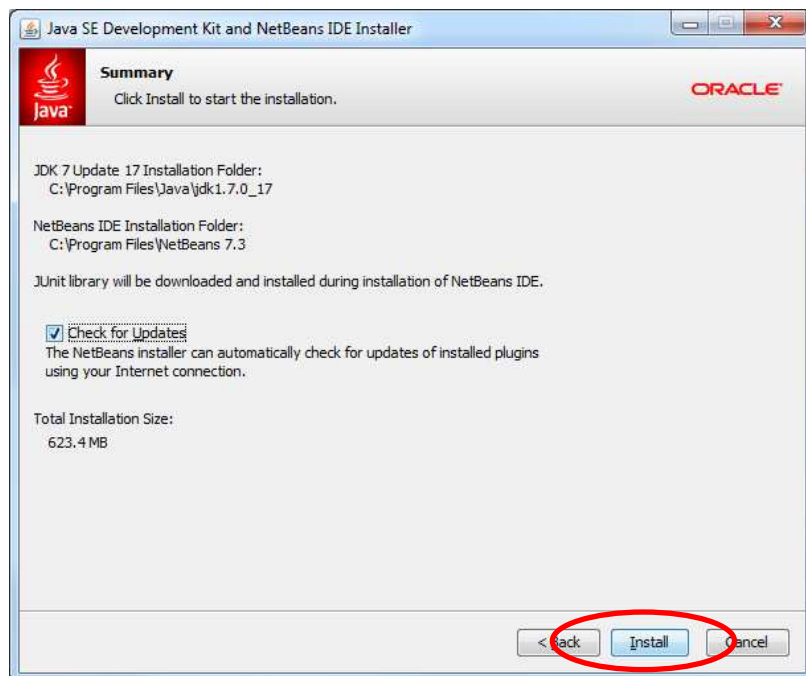


# Java and the NetBeans IDE



## The NetBeans IDE (Installation)

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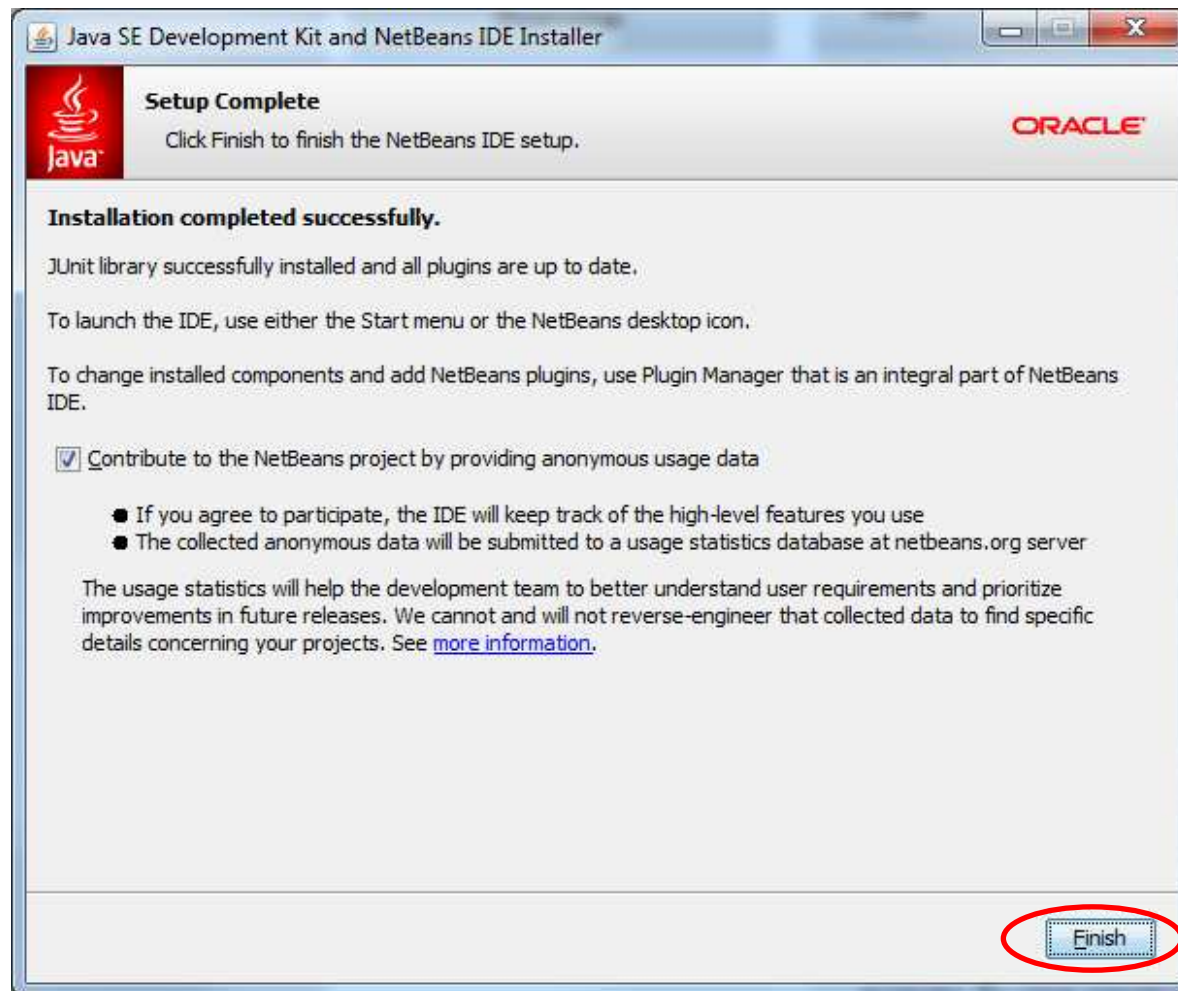


# Java and the NetBeans IDE



## The NetBeans IDE (Installation)

Upon completion of the installation, click “Finish”.





# Java and the NetBeans IDE



## The NetBeans IDE (Running)

### Creating/Using/Running a “Project” in the NetBeans IDE

Before starting NetBeans, create a directory (folder) in which you plan to store your Java files & other project-related files. It is a good idea to do this for each project (i.e., program) you work on.

Example:

“MyProjectDir” folder on the C: drive:

“C:/MyProjectDir”

*Alternatively, you can create a project folder anywhere you want on your system.*

To start the NetBeans IDE, either double-click the desktop icon (if one was created)



or select:

“All Programs” -> “NetBeans” -> “NetBeans IDE 7.3” from the “Start” menu. *(on a PC)*  
*(Always keep in mind that the latest version number may have changed over time - always use the latest version)*

# Java and the NetBeans IDE



## The NetBeans IDE (Project Creation)

### Creating/Using/Running a “Project” in the NetBeans IDE

The following is displayed during the NetBeans IDE startup:



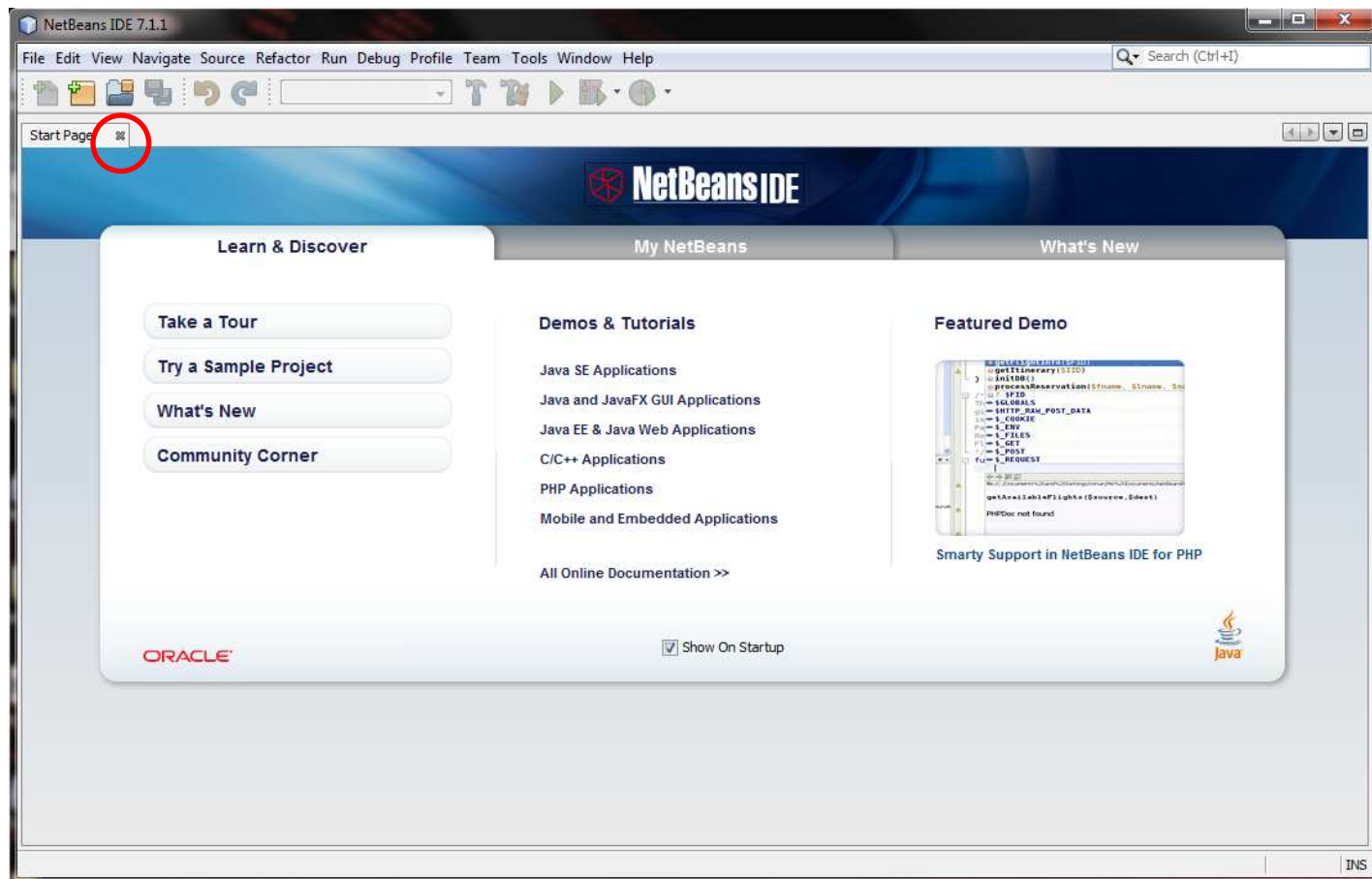
# Java and the NetBeans IDE



## The NetBeans IDE (Project Creation)

### Creating/Using/Running a “Project” in the NetBeans IDE

Upon startup, your NetBeans IDE should look similar to the following. You can close the “Start Page” tab by clicking on the “X” on the “Start Page” tab.:



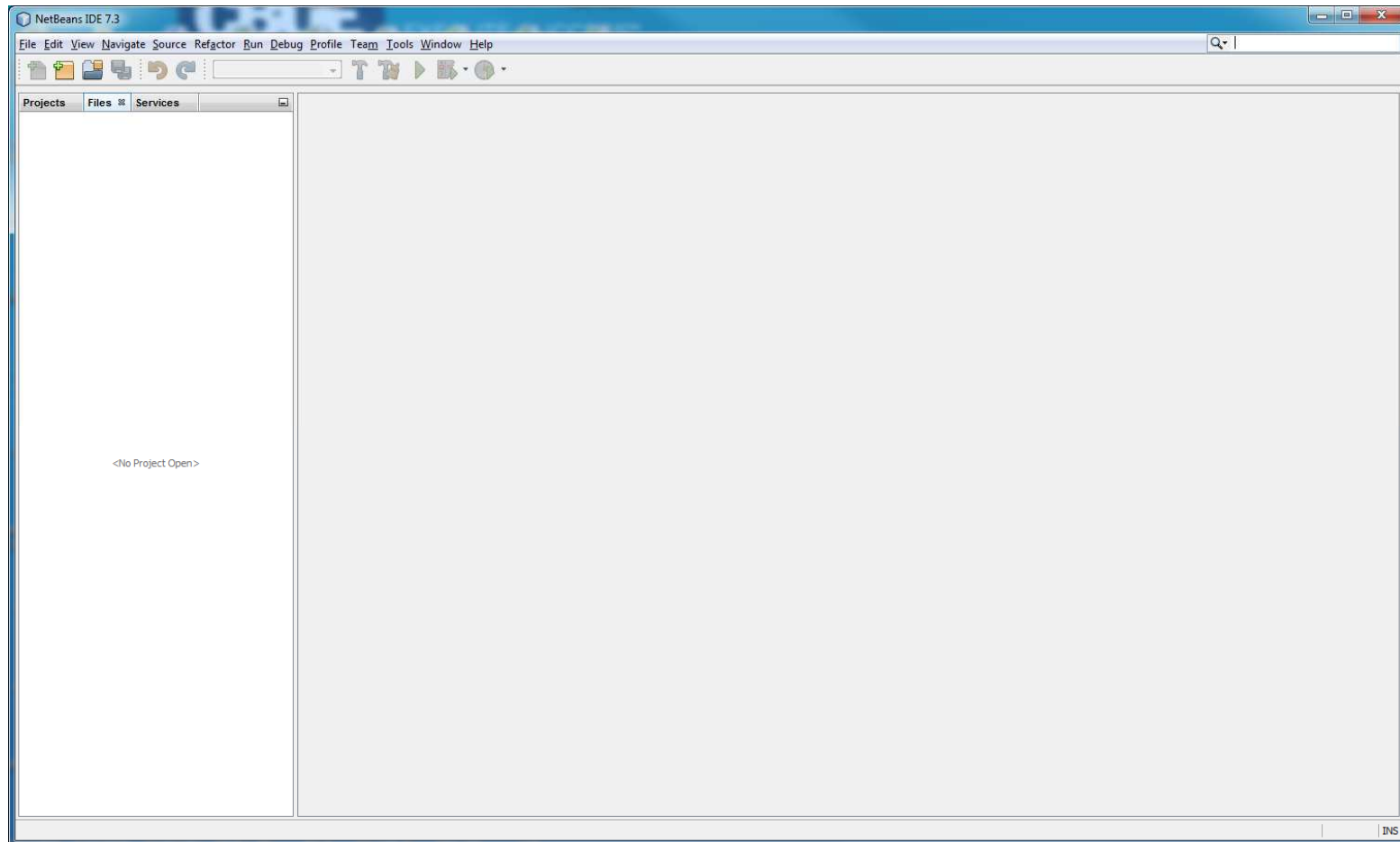
# Java and the NetBeans IDE



## The NetBeans IDE (Project Creation)

### Creating/Using/Running a “Project” in the NetBeans IDE

Once the “Welcome” tab is closed, your NetBeans IDE should look something like this:





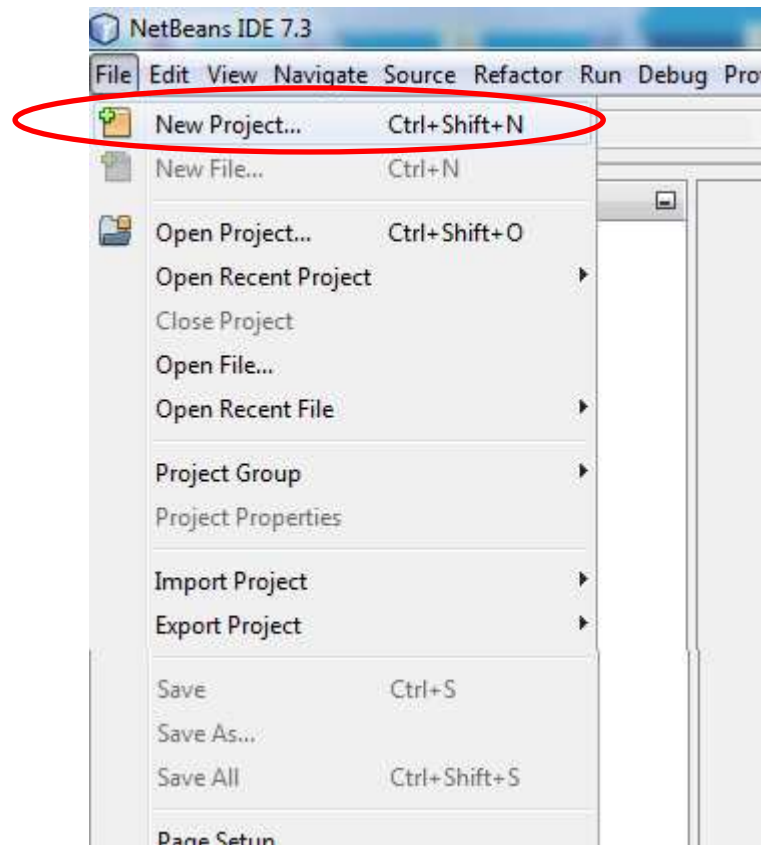
# Java and the NetBeans IDE



## The NetBeans IDE (Project Creation)

### Creating/Using/Running a “Project” in the NetBeans IDE

To create a new NetBeans project, select “File” -> “New Project...”



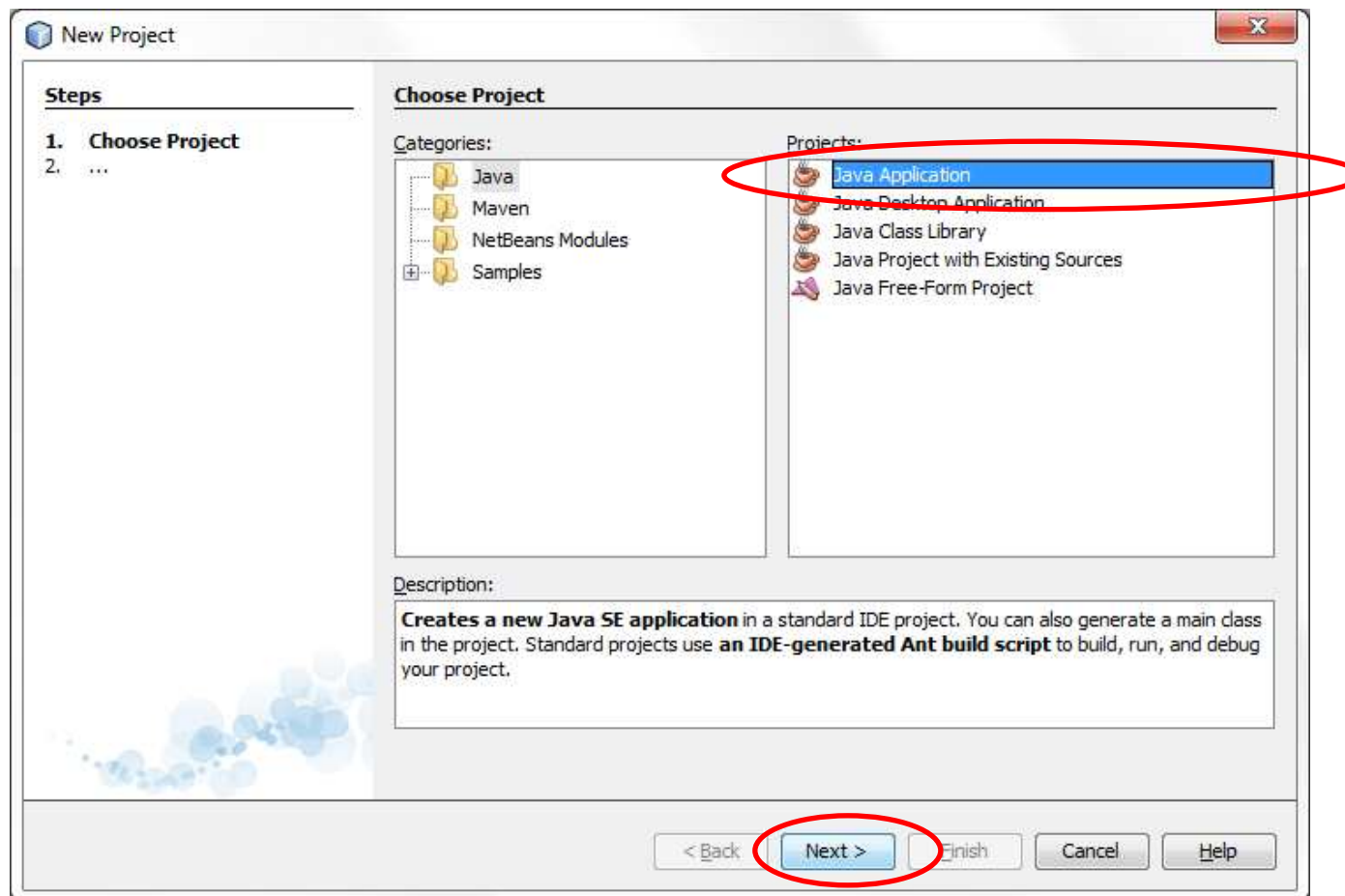
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## The NetBeans IDE (Project Creation)

### Creating/Using/Running a “Project” in the NetBeans IDE

In the subsequent “New Project” window, select “Java Application”, then click “Next >”.



# Java and the NetBeans IDE

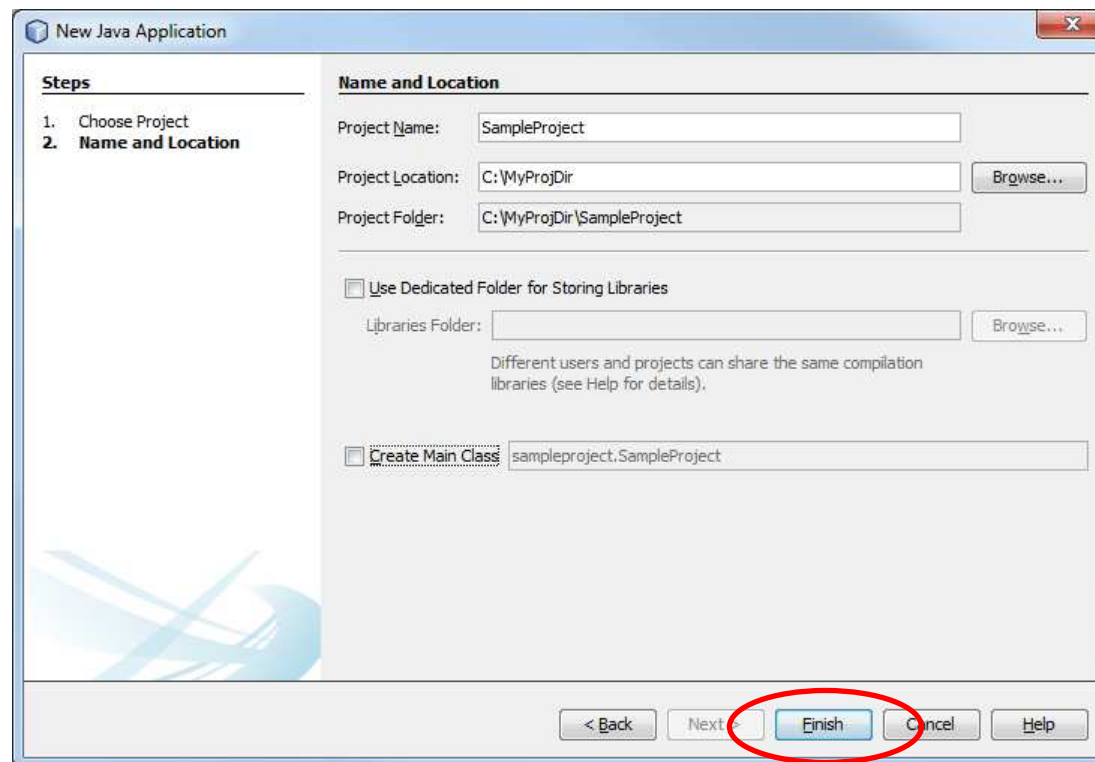


## The NetBeans IDE (Project Creation)

### Creating/Using/Running a “Project” in the NetBeans IDE

Next, in the “New Java Application” window:

- Enter a project name (“SampleProject” in this example)
- Click “Browse...” to select a location for your project (“C:\MyProjDir” in this example)
- Be sure “Create Main Class” is not selected. Then click “Finish”.



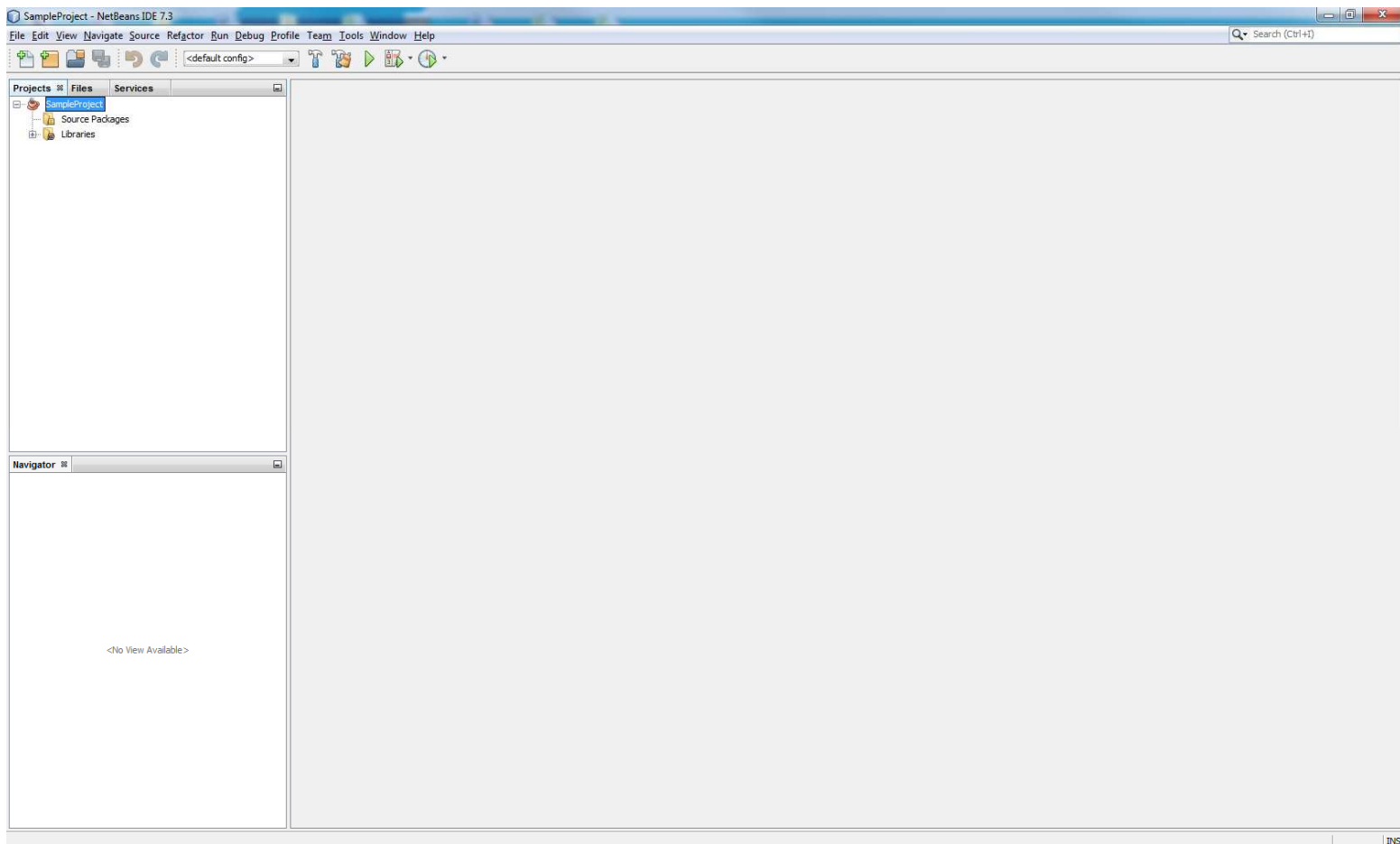
# Java and the NetBeans IDE



## The NetBeans IDE (Project Creation)

### Creating/Using/Running a “Project” in the NetBeans IDE

NetBeans will now create and open your new project. The IDE should now look like this:





# Java and the NetBeans IDE

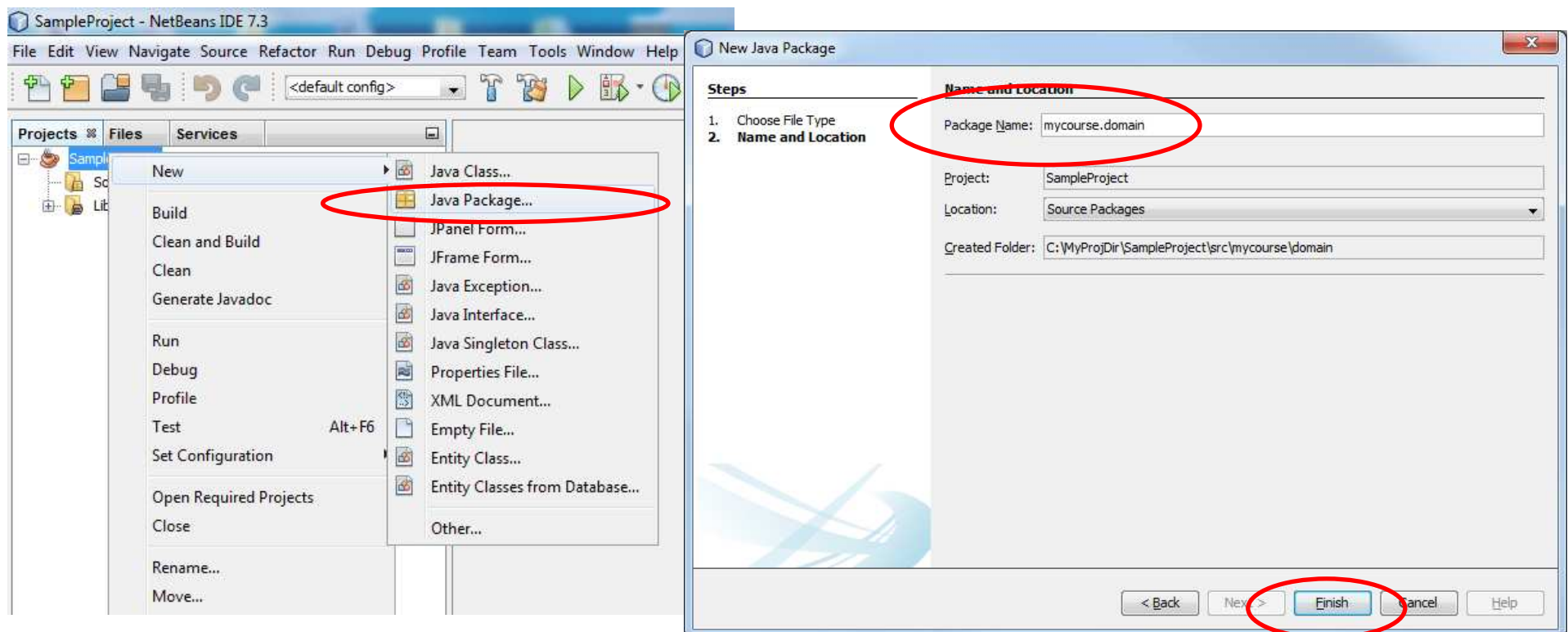


## The NetBeans IDE (Package & Class Creation)

### Creating/Using/Running a “Project” in the NetBeans IDE

Before you create your first class, you must first create the package it belongs in. Let’s create a class called “Person” in a package named “mycourse.domain”. To do this, right-click on the “SampleProject” entry in the “Projects” frame (shown below), and select “New” -> “Java Package...”.

Enter the full package name “mycourse.domain” in the resulting “New Java Package” pop-up window, and click “Finish”.



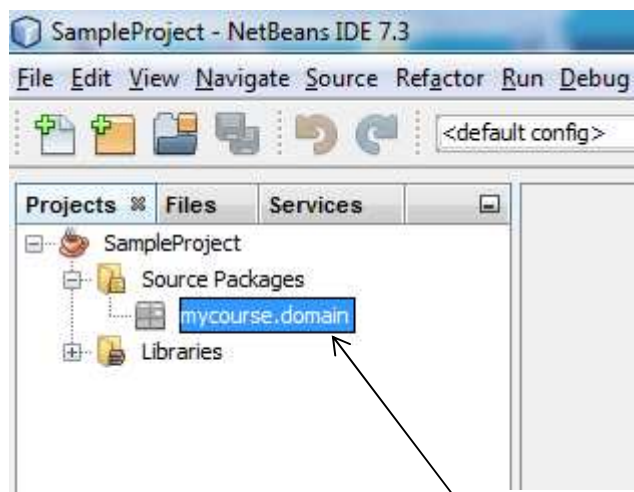
# Java and the NetBeans IDE



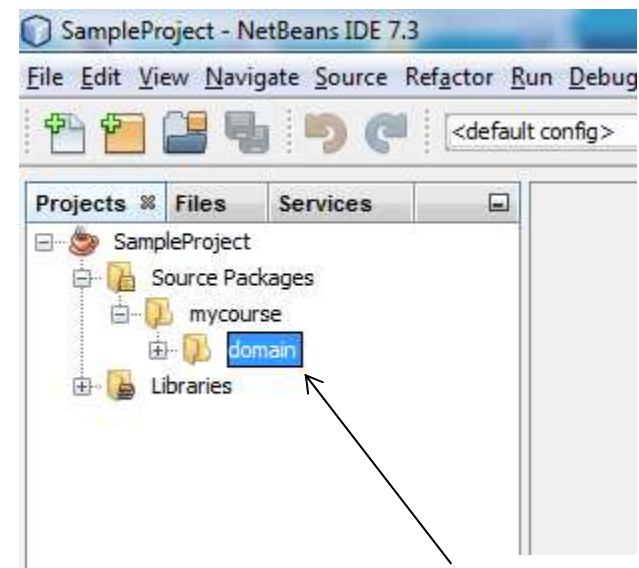
## The NetBeans IDE (Package & Class Creation)

### Creating/Using/Running a “Project” in the NetBeans IDE

Your NetBeans IDE should now look something like this:



Note your new package is displayed in the “Source Packages” list.



To view your packages and classes in a “tree view”, right-click on a blank space in this “Projects” tab and choose the “View Java Packages As...” -> “Tree”

# Java and the NetBeans IDE



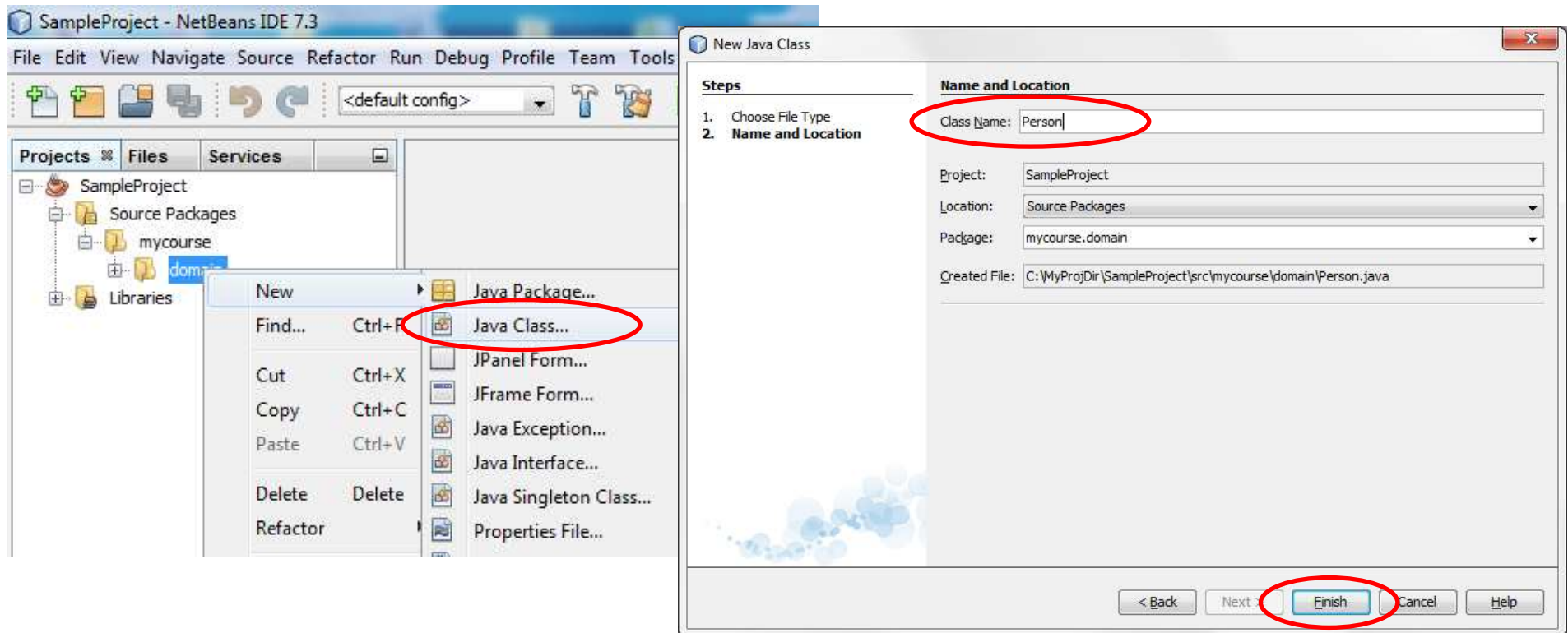
## The NetBeans IDE (Package & Class Creation)

### Creating/Using/Running a “Project” in the NetBeans IDE

Now you are ready to create a sample “Person” class.

Right-click on “domain” in the package-tree diagram in the Project frame and select “New” -> “Java Class...”.

Enter “Person” in the “Class Name” text field in the resulting “New Java Class” pop-up window, and click “Finish”.



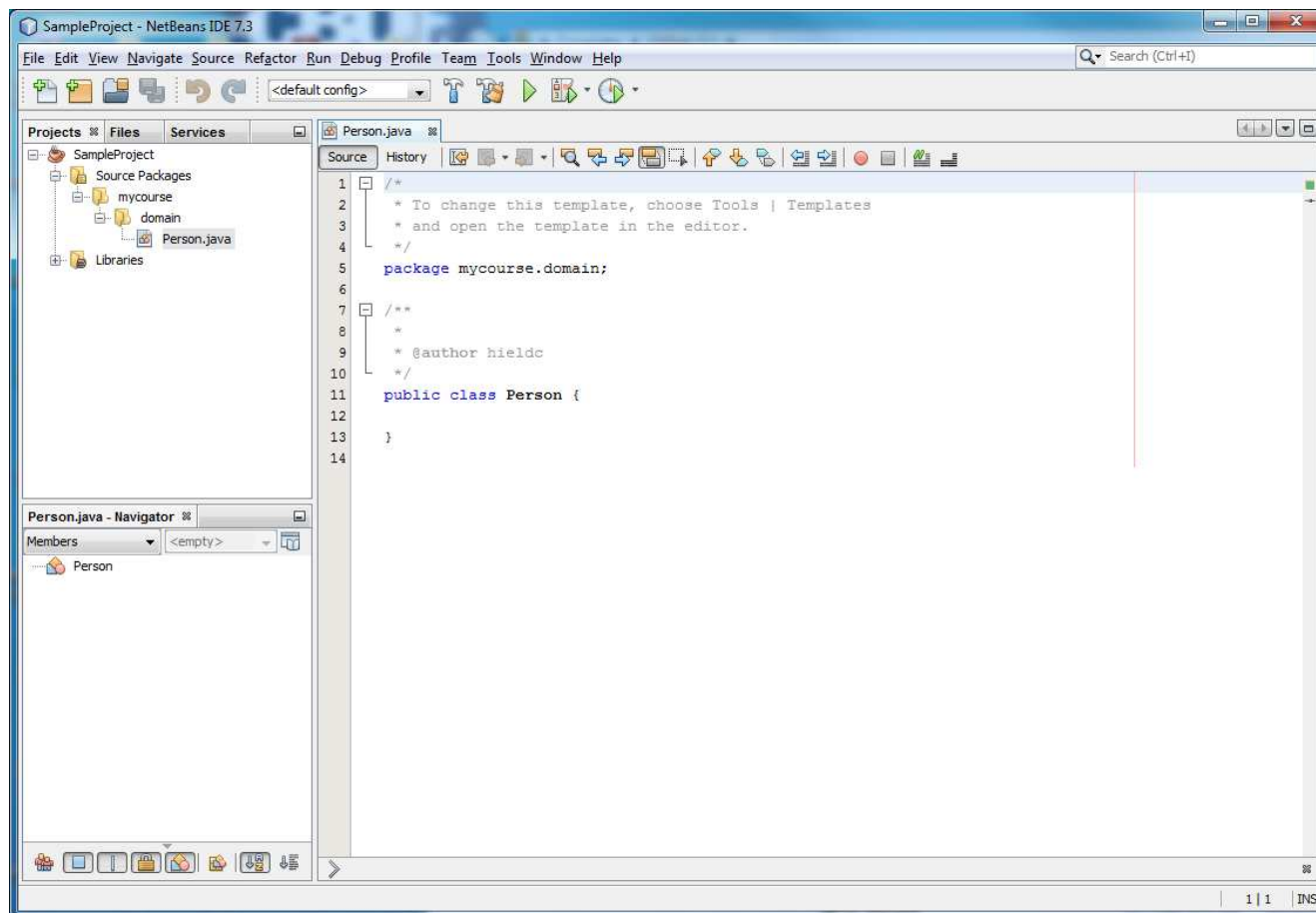
# Java and the NetBeans IDE



## The NetBeans IDE (Package & Class Creation)

Creating/Using/Running a “Project” in the NetBeans IDE

Your NetBeans IDE should now look something like this:





# Java and the NetBeans IDE

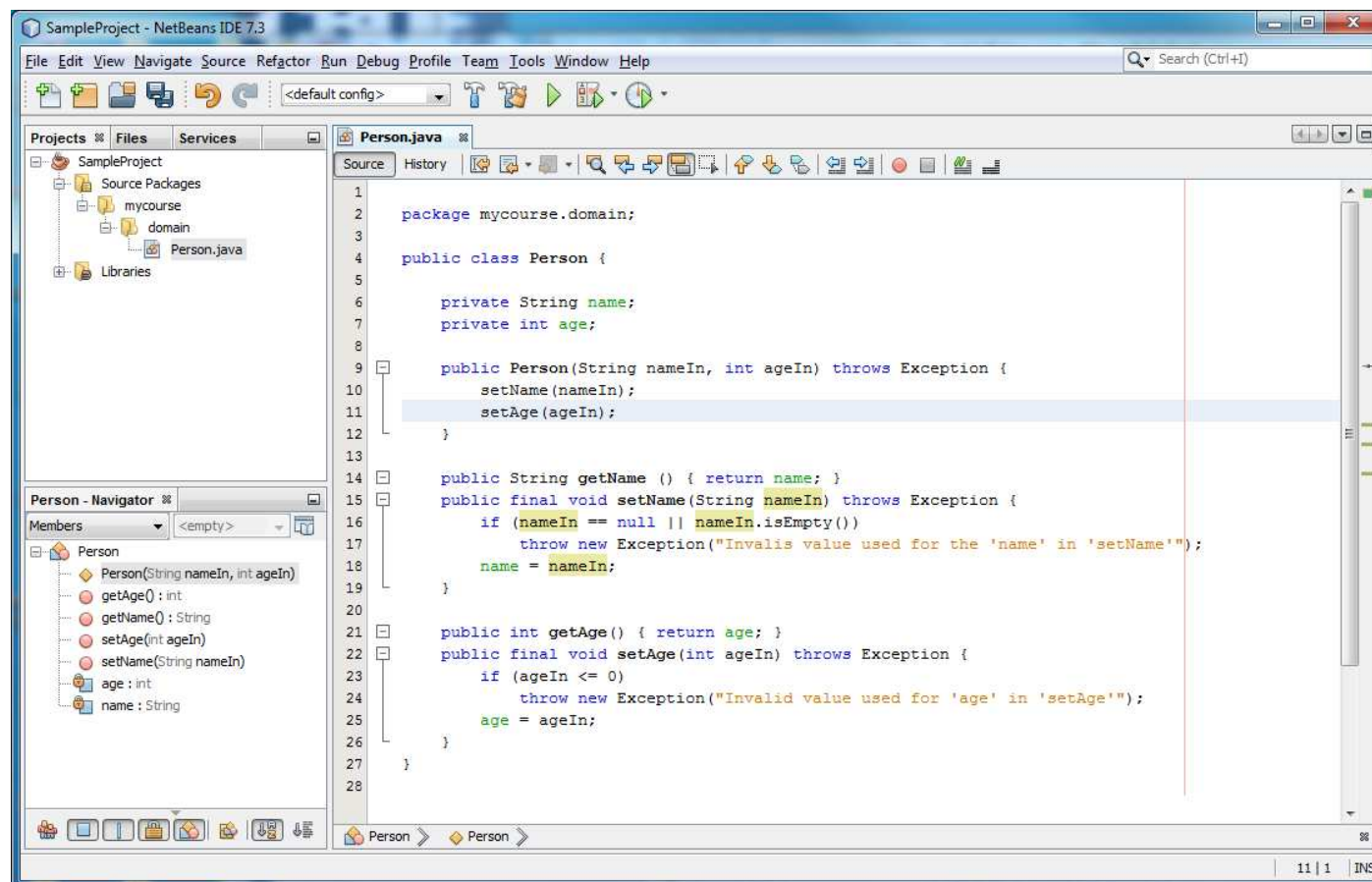


## The NetBeans IDE (Package & Class Creation)

### Creating/Using/Running a “Project” in the NetBeans IDE

Now write your Person class as shown below.

You can remove or just modify the “default” java code that is provided for a new class to create your Person class.



# Java and the NetBeans IDE

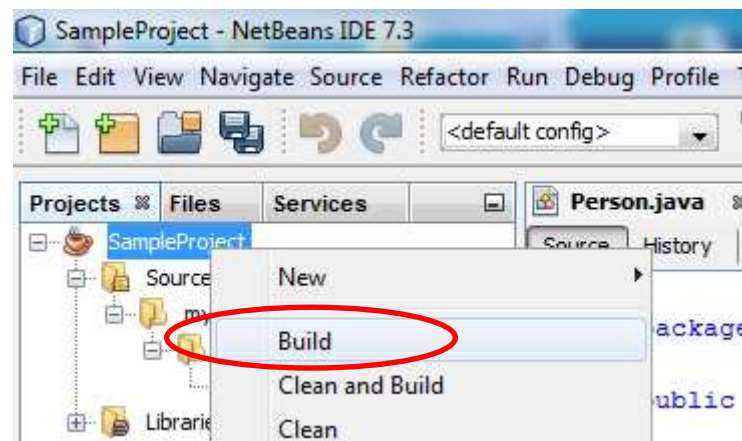


## The NetBeans IDE (Compiling)

### Creating/Using/Running a “Project” in the NetBeans IDE

Once you are done (or think you are done) with your class, right-click on your project name (“SampleProject”) in the package-tree diagram in the “Projects” frame and select “Build” to compile your project.

(NOTE: “Build” will build the entire project).



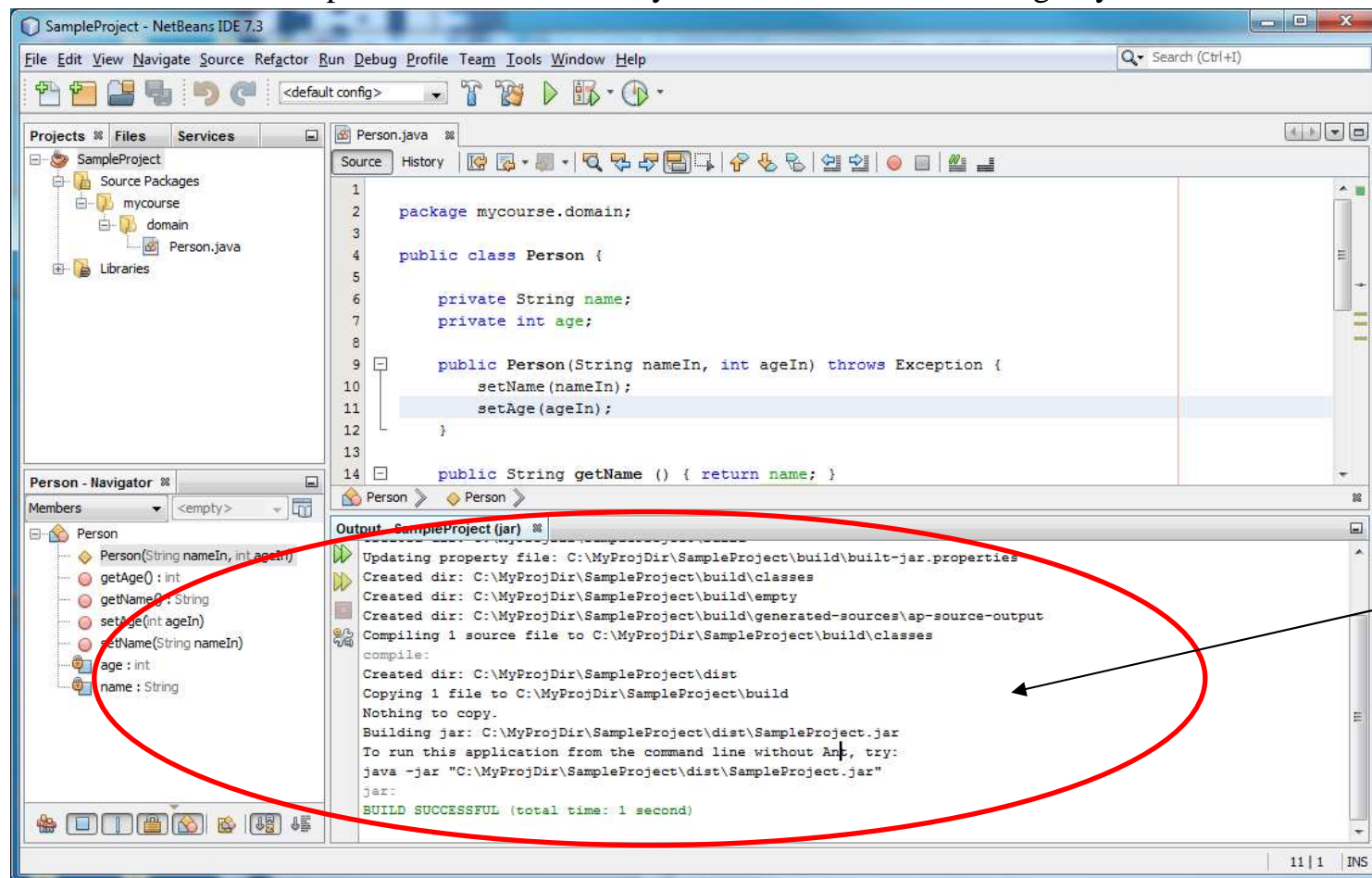
# Java and the NetBeans IDE



## The NetBeans IDE (Compiling)

### Creating/Using/Running a “Project” in the NetBeans IDE

If the results of the compilation are successful, you should see the following in your NetBeans IDE:



*If you do not see this  
“Output” frame, you  
can open it by  
selecting menu option  
“Window” ->  
“Output” -> “Output”*



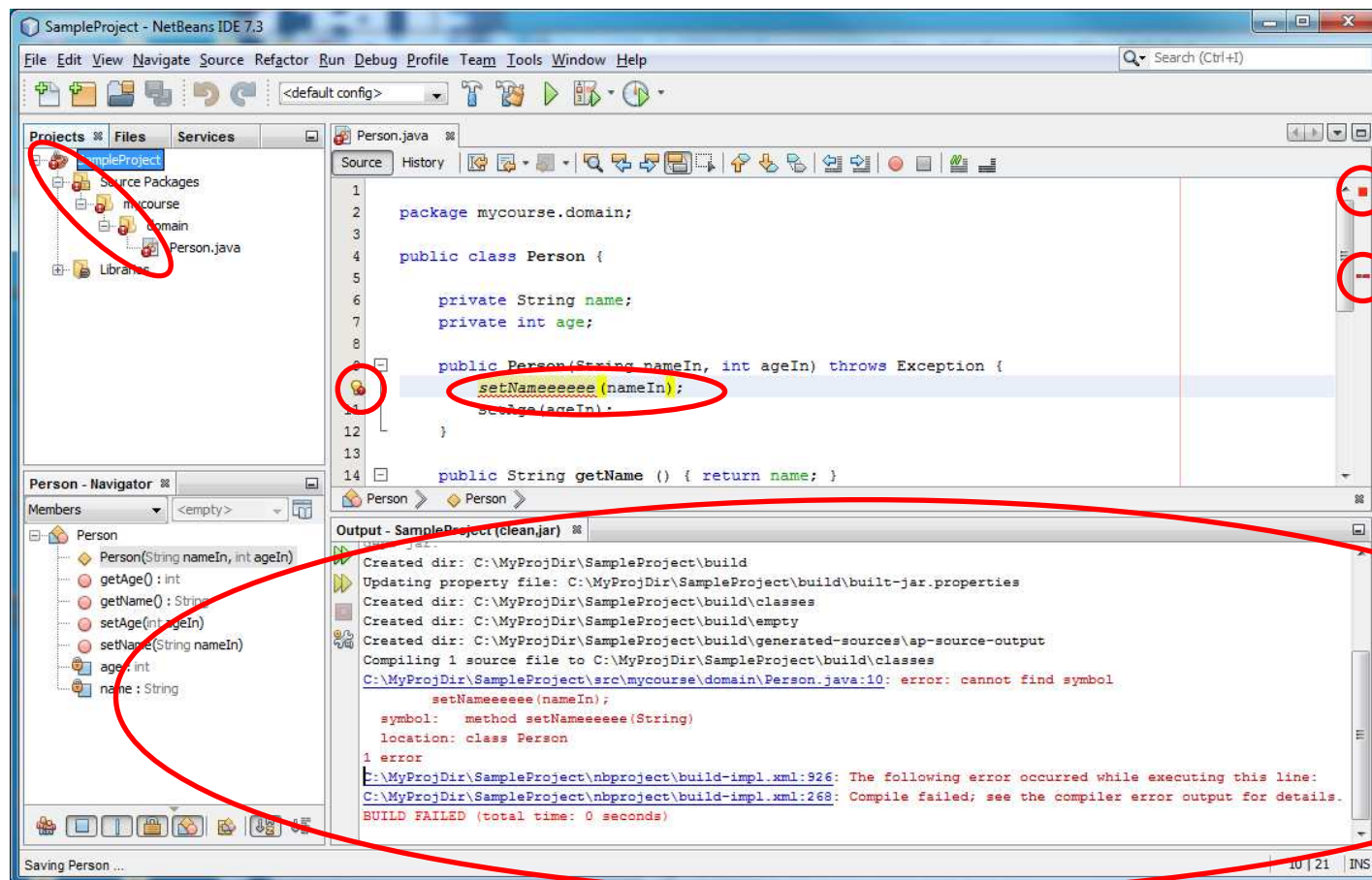
# Java and the NetBeans IDE



## The NetBeans IDE (Compiling)

### Creating/Using/Running a “Project” in the NetBeans IDE

If there are errors in your java code, these errors are displayed in the editor window, and will also be detailed in the “Output” frame. (An error has been introduced in the “Person” constructor to demonstrate this).





# Java and the NetBeans IDE



## The NetBeans IDE (Compiling)

### Creating/Using/Running a “Project” in the NetBeans IDE

If you encounter errors, fix them and then recompile.

This is the basic process you will go through when you create new classes for your course project.

Edit – Compile – Fix Any Errors – Compile Again – Etc.

### Miscellaneous Points

#### Class/Package and File/Directory Relationships

Note that your project files will be saved under the directory you specified when you first created your project in a folder named after your project name (C:\MyProjectDir\SampleProject in this example). Your java code is found under that “SampleProject” folder, in a sub-folder called “src” (that’s where the top-level mycourse is found).

Example:

Your class “Person” in package mycourse.domain is physically located in a file called “Person.java”, in directory:

C:\MyProjectDir\SampleProject\src\mycourse\domain\Person.java

# Java and the NetBeans IDE

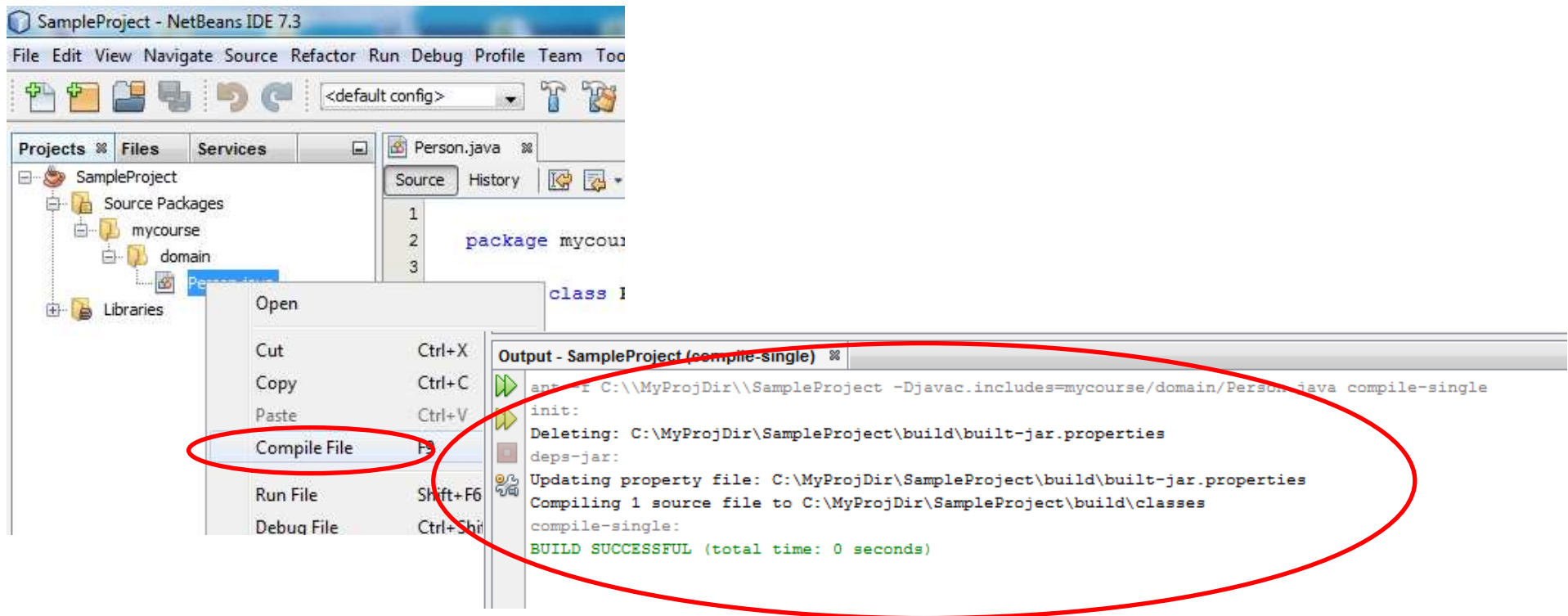


## The NetBeans IDE (Compiling)

### Creating/Using/Running a “Project” in the NetBeans IDE

#### Project vs. Class Compiling

Previously we compiled the entire project using “Build”. You can compile a single class by right-clicking on the class you wish to compile in the package-tree diagram in the “Projects” frame and select “Compile File” to compile a single class, as shown below:



# Java and the NetBeans IDE

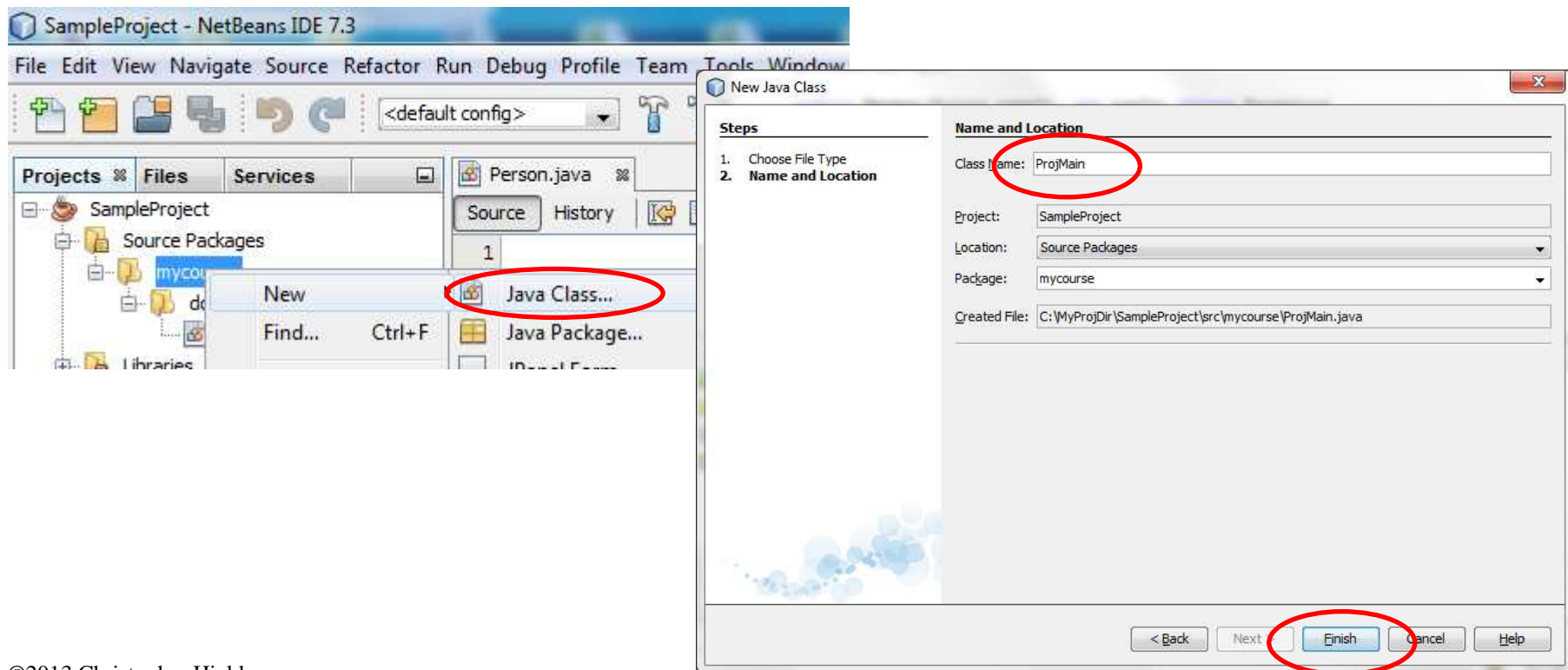


## The NetBeans IDE (Execution)

### Creating/Using/Running a “Project” in the NetBeans IDE

Now we’ll add a “driver” class called “ProjMain” (up in the “mycourse” package) to the project. We’ll add a “main” method to “ProjMain” so we have something to execute.

Right-click on “mycourse” in the package-tree diagram in the “Projects” frame and select “New” -> “Java Class...”. Enter “ProjMain” in the “Class Name” text field in the resulting “New Java Class” pop-up window, and click “Finish”.



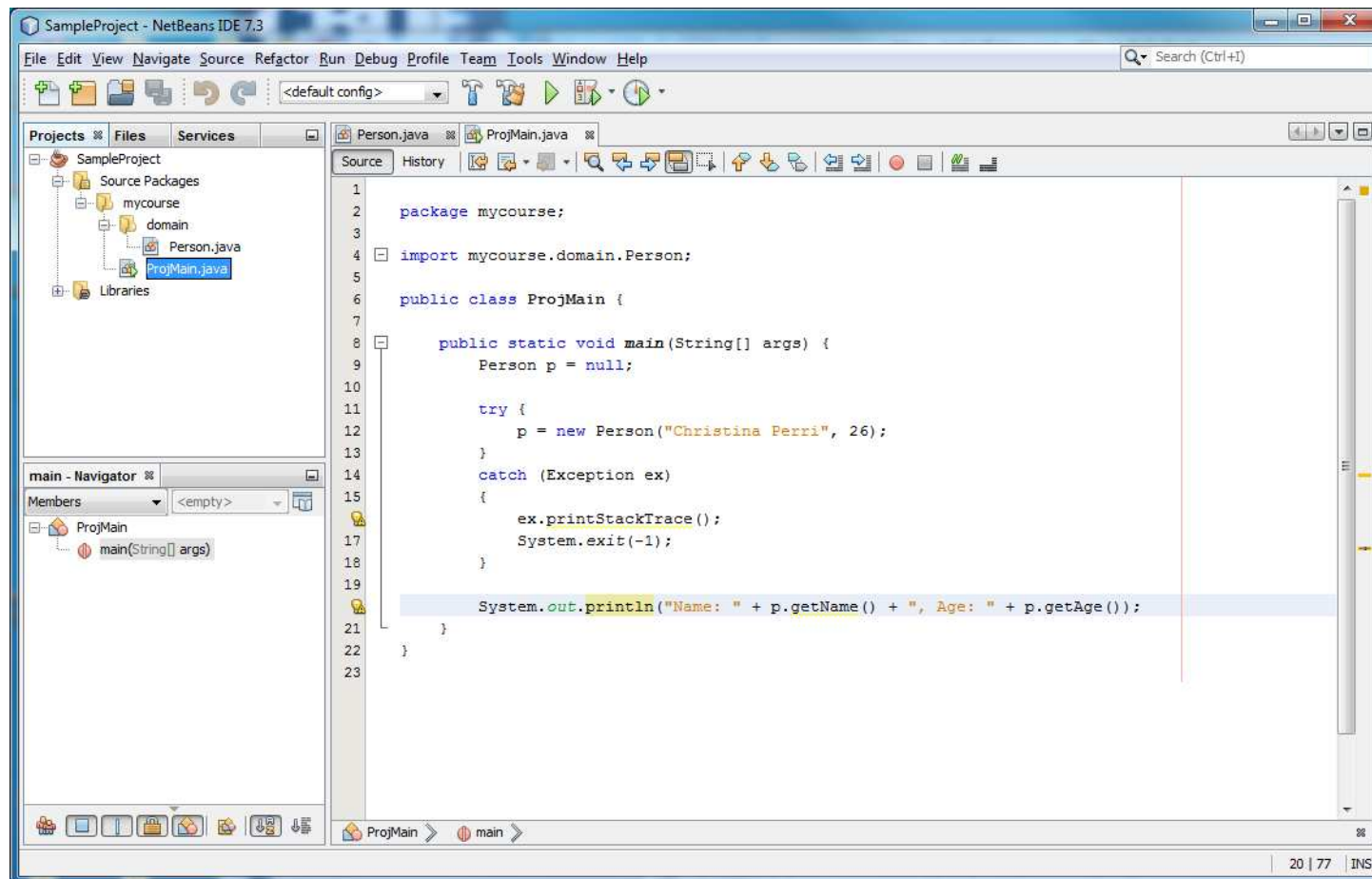
# Java and the NetBeans IDE



## The NetBeans IDE (Execution)

Creating/Using/Running a “Project” in the NetBeans IDE

Edit the “ProjMain” class so that it looks like the following:





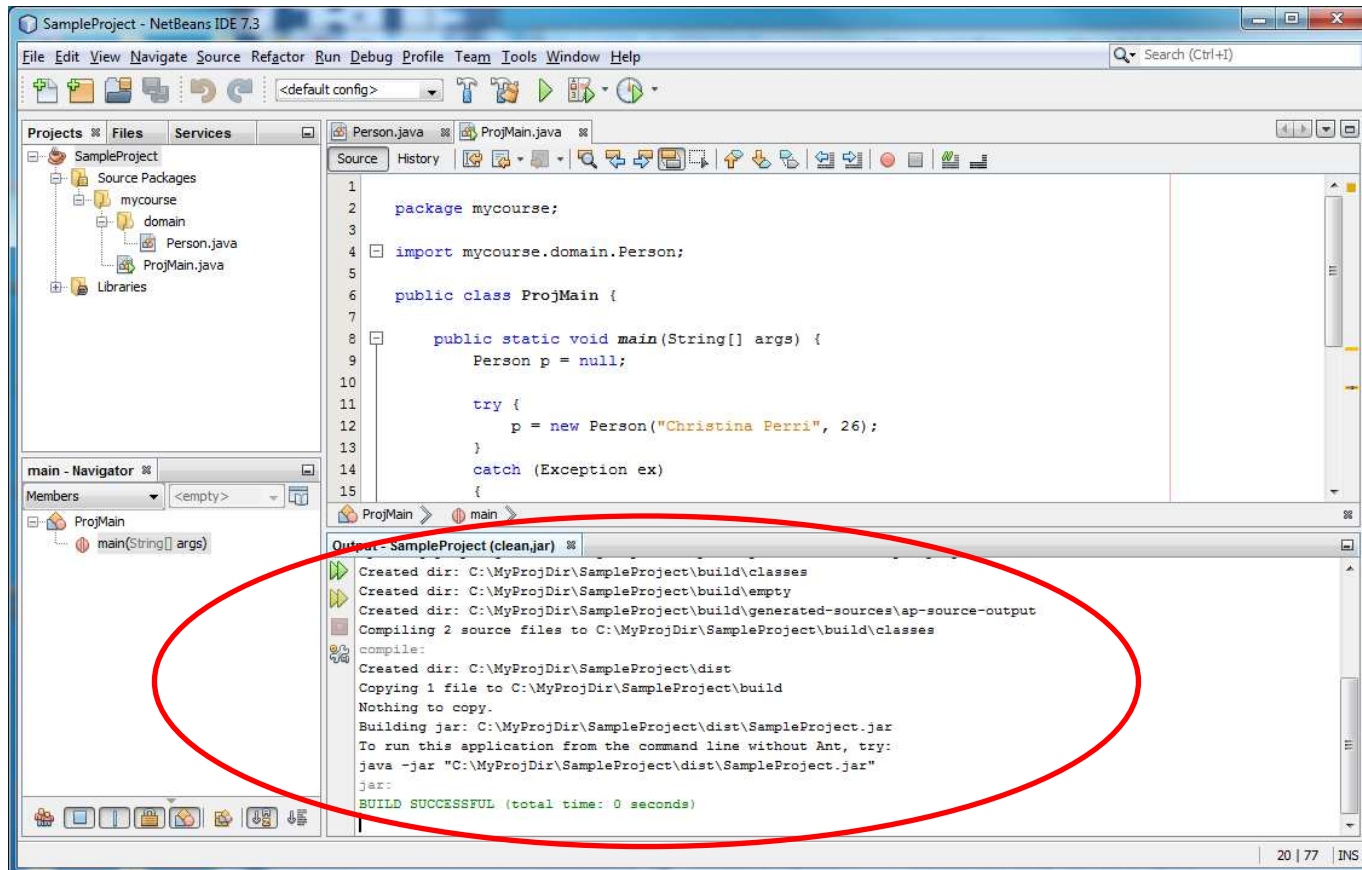
# Java and the NetBeans IDE



## The NetBeans IDE (Execution)

### Creating/Using/Running a “Project” in the NetBeans IDE

You can then build your project by right-clicking on the “SampleProject” entry in the “Projects” frame and select “Clean and Build” (“Clean” will remove any previously compiled “.class” files before starting the new “Build”). The build results (and any errors) will be displayed as described earlier.





# Java and the NetBeans IDE

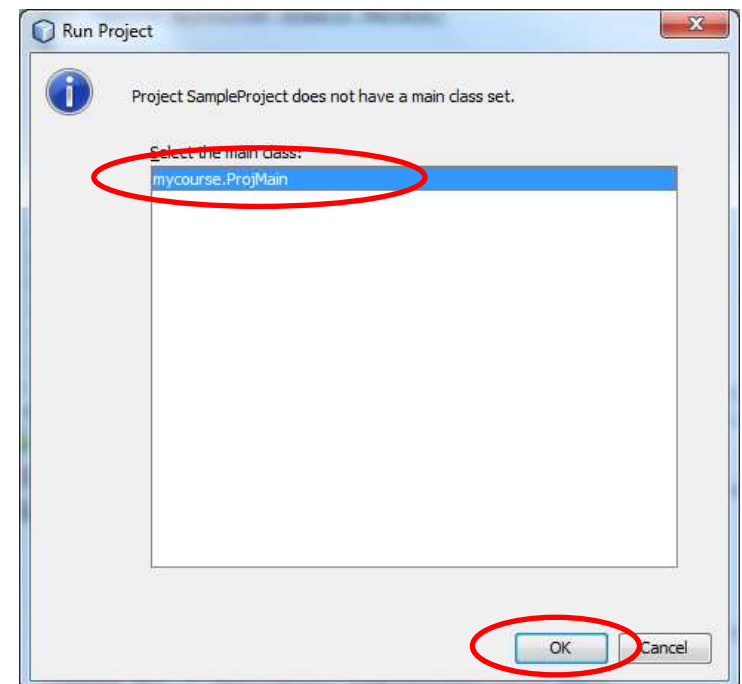
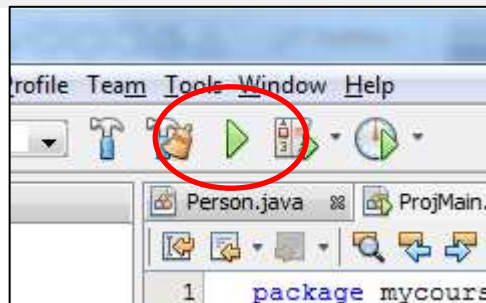
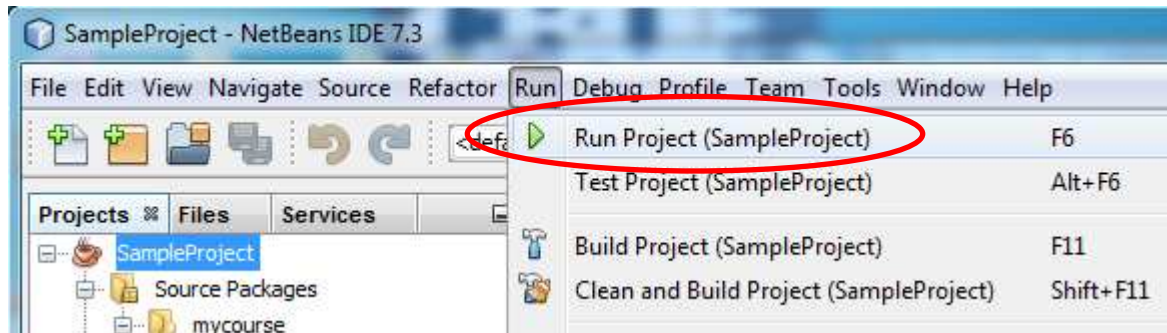


## The NetBeans IDE (Execution)

### Creating/Using/Running a “Project” in the NetBeans IDE

Once you have successfully compiled your project (including your new “ProjMain” class), you are ready to run it. Select the “Run” menu (from the top menu bar), then select the “Run Main Project” menu item OR click the green arrow icon on the toolbar to run the project.

If this is the first time you are running the project, the “Run Project” window will be displayed as shown below. All project classes containing a “main” method are displayed here. Select the class whose main you wish to run (we only have one choice here) and click “OK”. The program will now execute



# Java and the NetBeans IDE

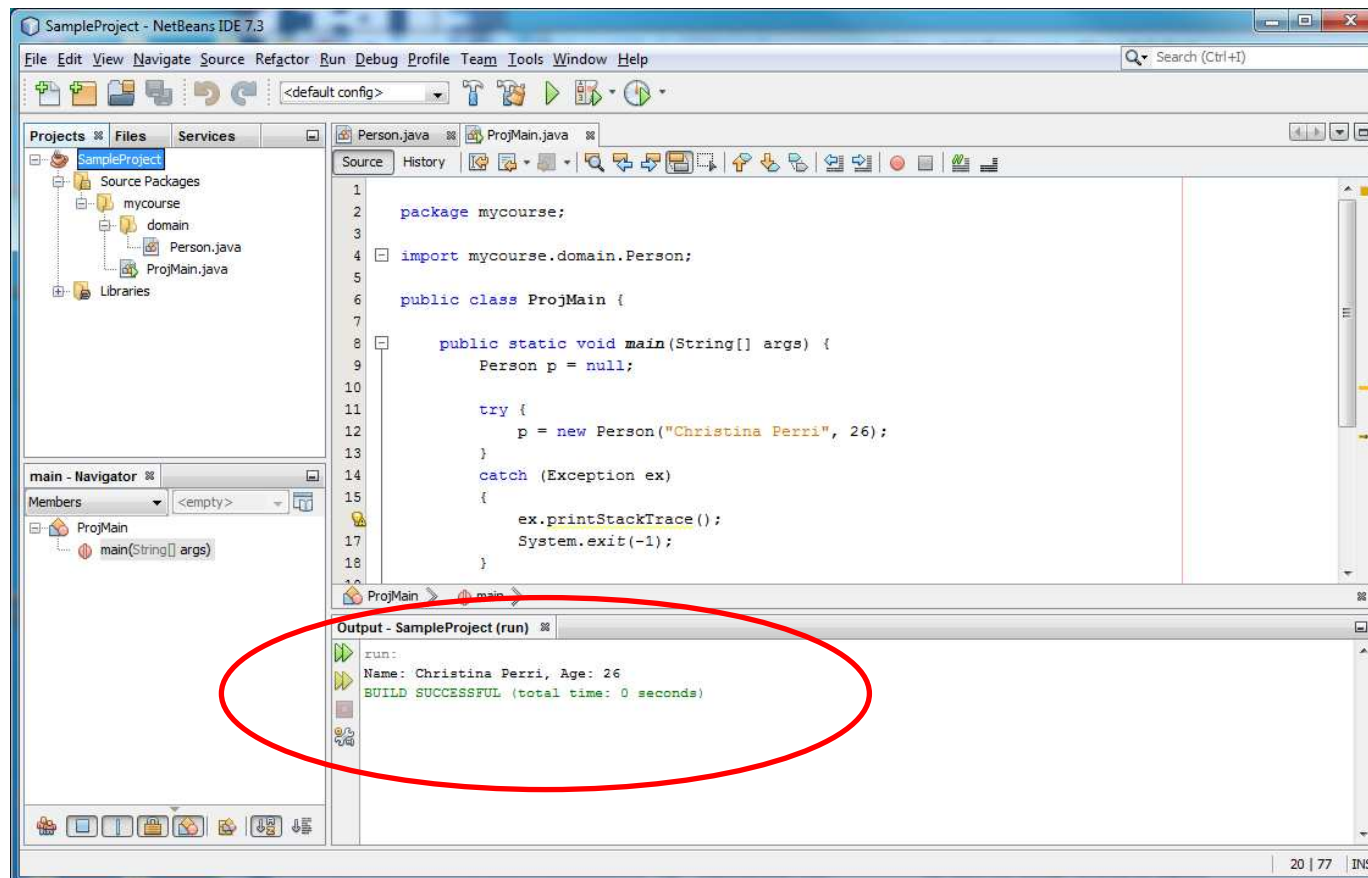


## The NetBeans IDE (Execution)

### Creating/Using/Running a “Project” in the NetBeans IDE

The following shows how your NetBeans will look upon program execution completion.

Program outputs (or errors) are displayed in the lower “Output” frame.



# Java and the NetBeans IDE



## The NetBeans IDE (Execution)

### Creating/Using/Running a “Project” in the NetBeans IDE

NOTE - NetBeans regularly saves your work.

If the “Save” icon in the NetBeans tool bar is greyed out, then NetBeans has already saved the project and your Java files and there is nothing left unsaved. If it is not greyed out, clicking it will force NetBeans to immediately save your files.

### Further Information on NetBeans

For further information on the NetBeans IDE, please see the NetBeans web site:

<http://www.netbeans.org>