

0. Installing Java

Service and Process Programming

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1. Introduction

We are going to use Java 11 due to it is the last Long-Term Support (LTS) version of Java. Moreover, we will use the IDE IntelliJ IDEA join JavaFX and SceneBuilder.

1.1. Installing Java 11

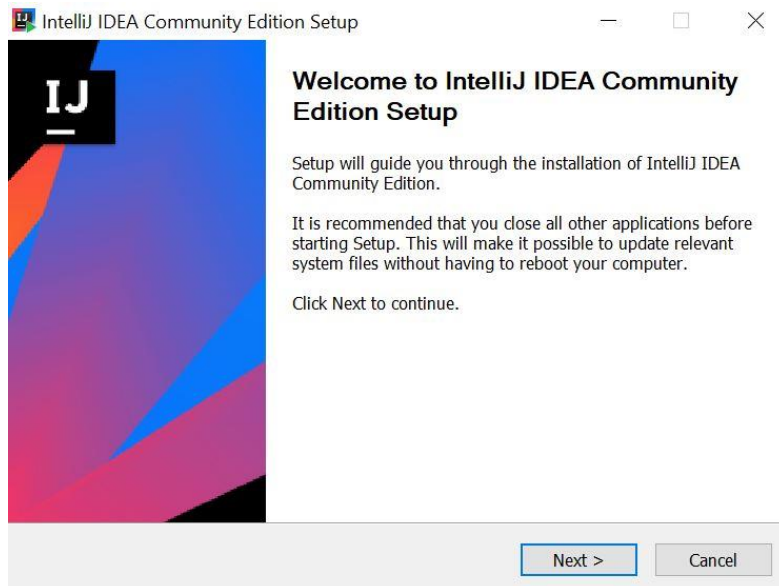
Download the last JDK Java 11 version either Oracle website or your classroom. Run the installation.



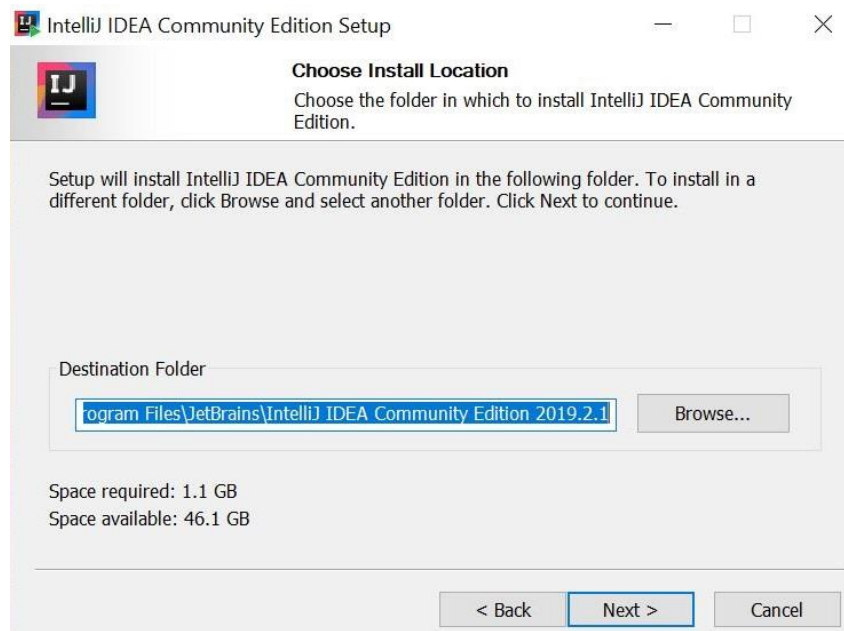
Once installed the Java JDK, we will proceed to install the IDE.

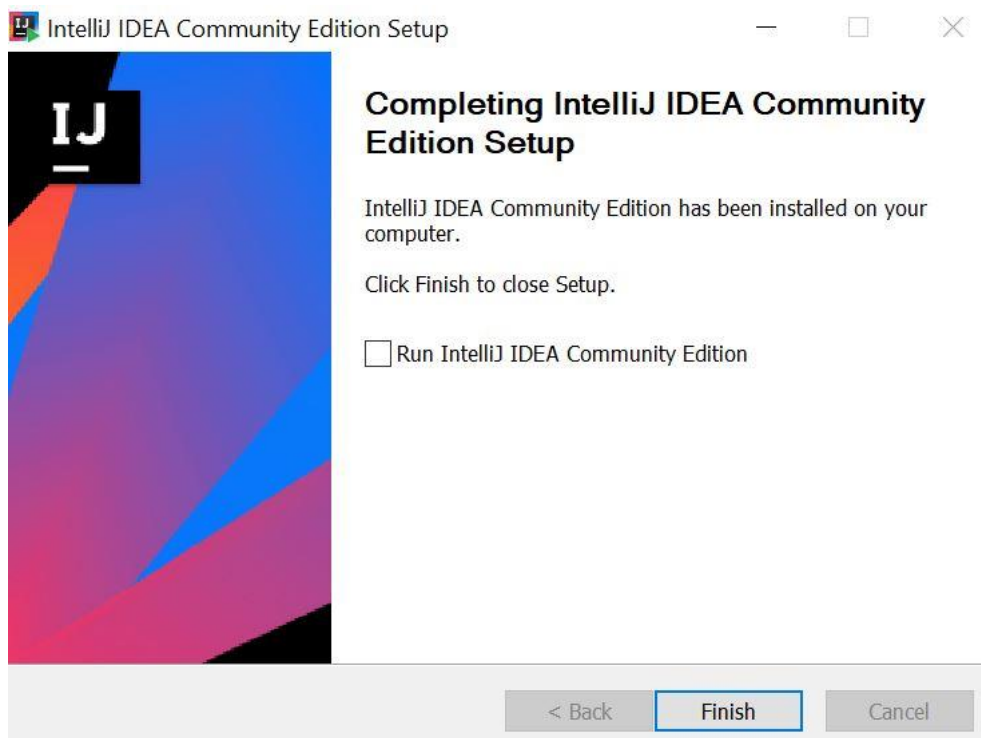
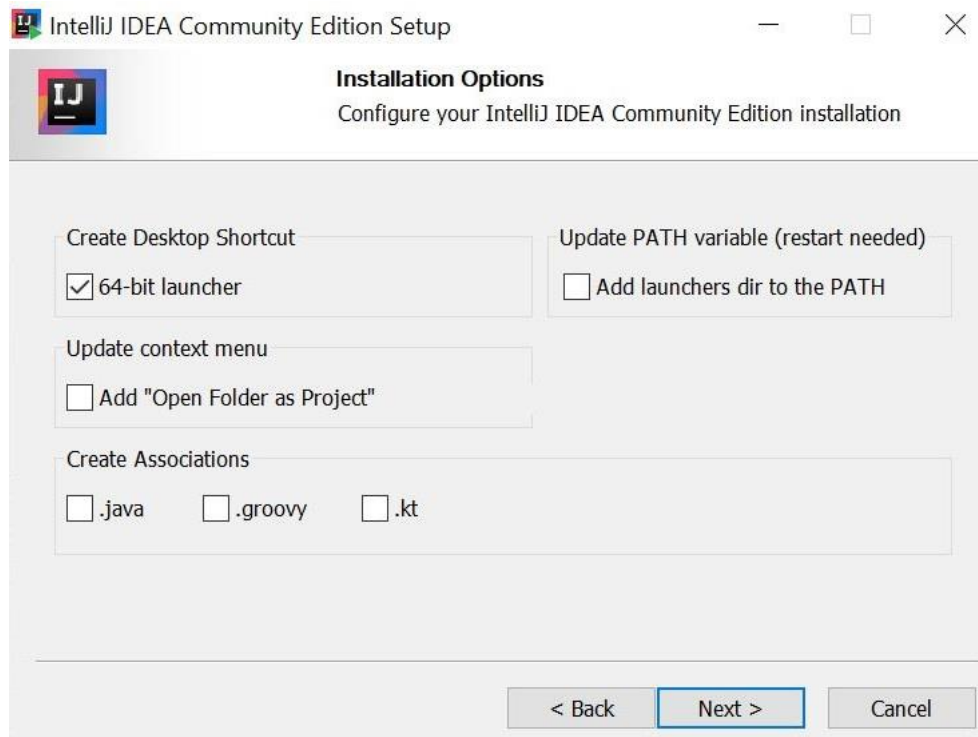
2. IntelliJ IDEA

Download the IntelliJ IDEA from your virtual classroom. Better to install this version because the teacher will have the same version as you. Run the installation.



Define the path of the installation:





Before to run the IDE, install the SceneBuilder.

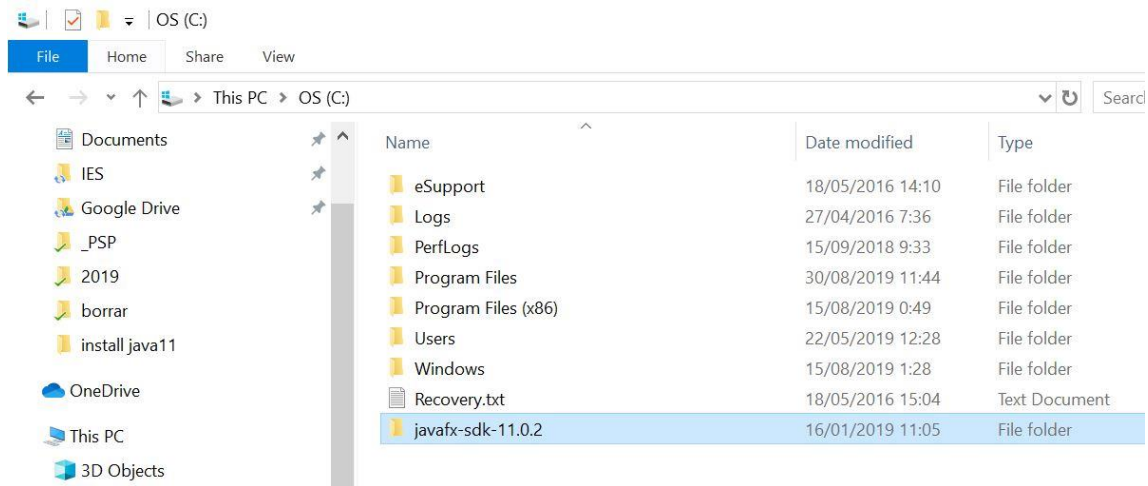
3. SceneBuilder

Download the SceneBuilder 11 from your virtual classroom. Better to install this version (The version 11, it's de last for Java 11) because the teacher will have the same version as you. Run the installation.

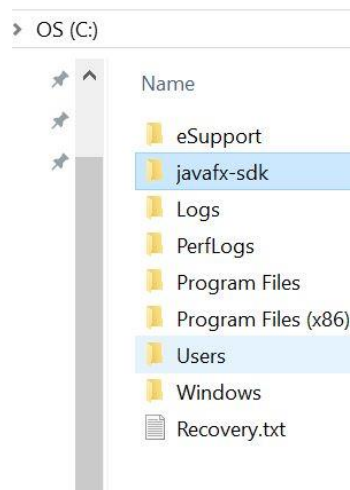


4. Installing JavaFx SDK Library

Download the javafx sdk v.11.0.2 and unzip the sdk to C:\ folder. Take a look at the image below



Rename the folder to javafx-sdk:



4.1. My first project with IntelliJ IDEA

Run the IDE for the first time

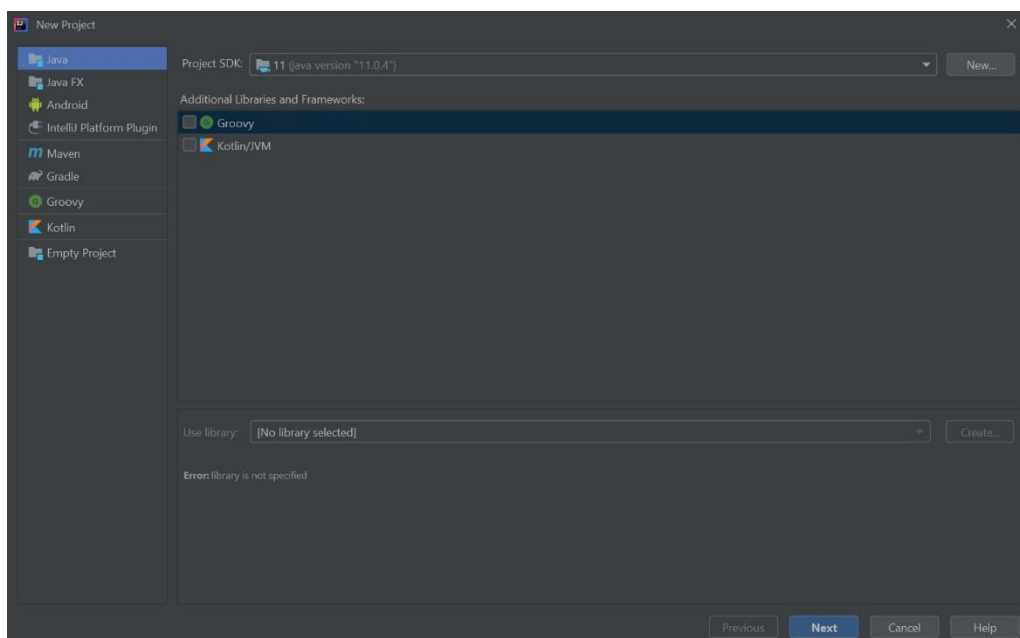


4.1.1. Create a New Project

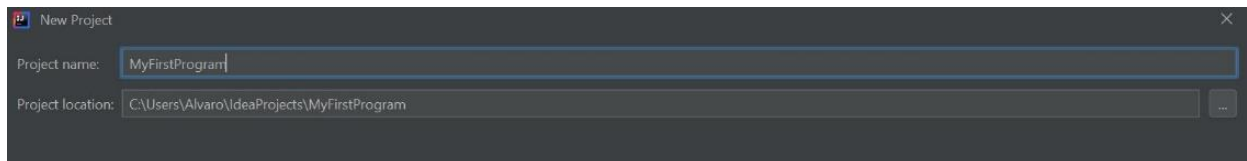
Create a New Java Project, look at the images below.



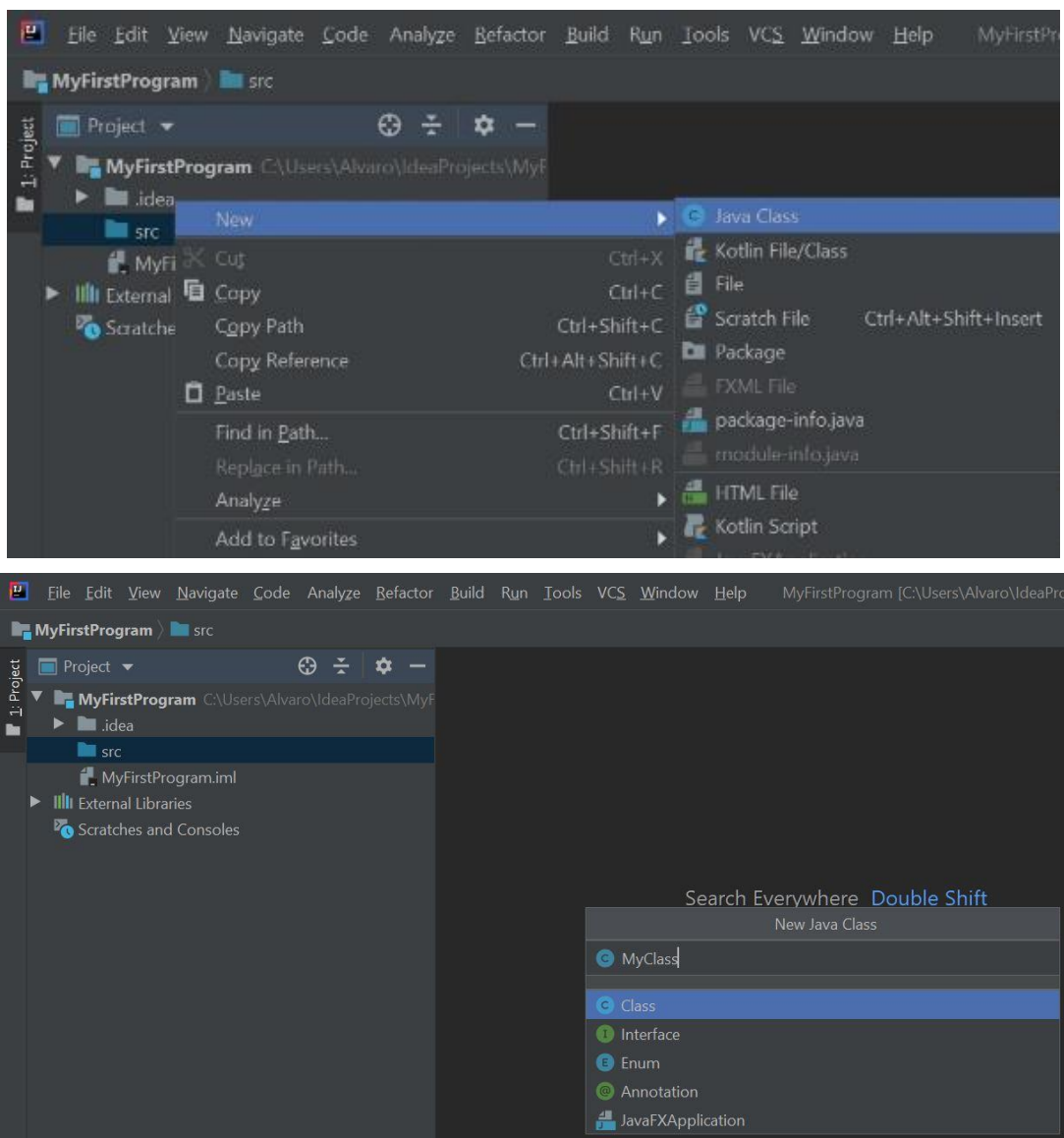
You must indicate that the project is a Java project:



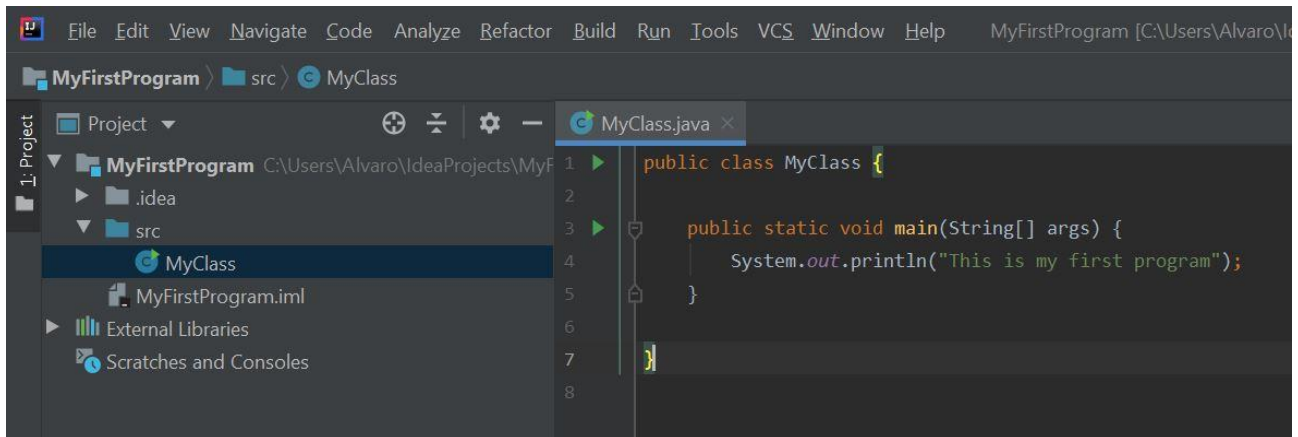
Define a Project Name:



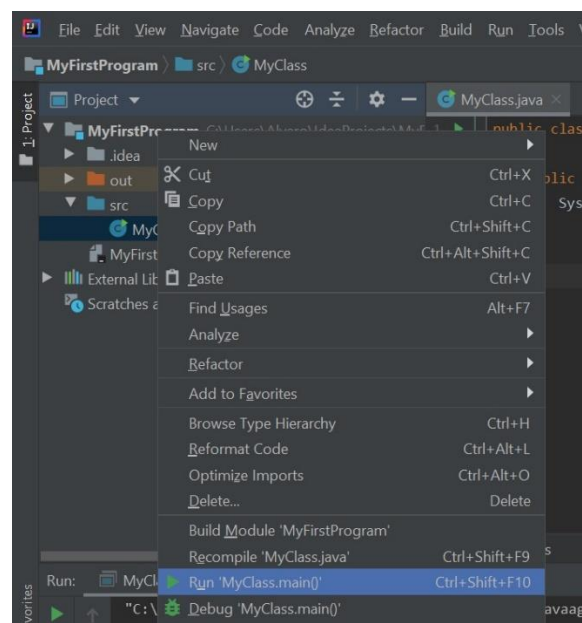
Create a new Java Class using the right button of your mouse:



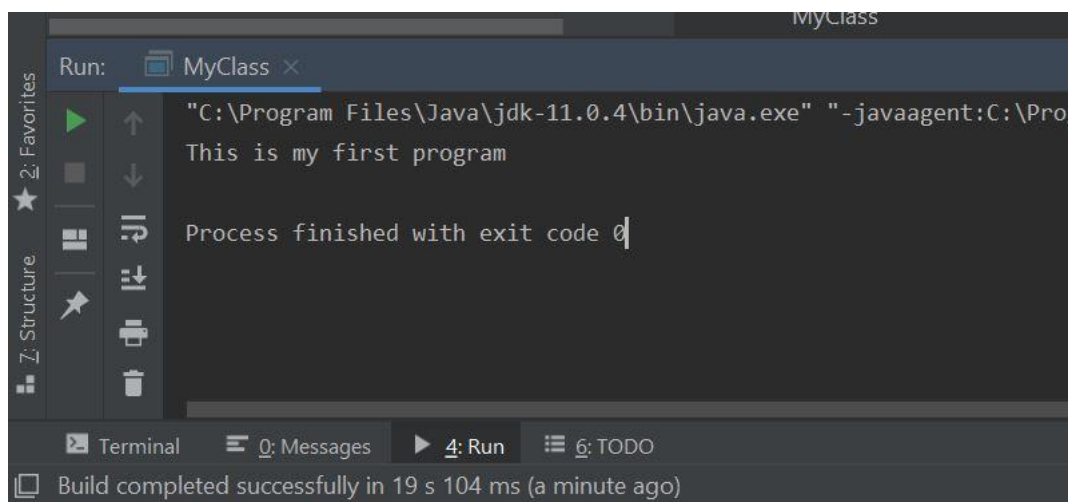
Type the Java code to show a message by the terminal.



Run the program:



Check the terminal:



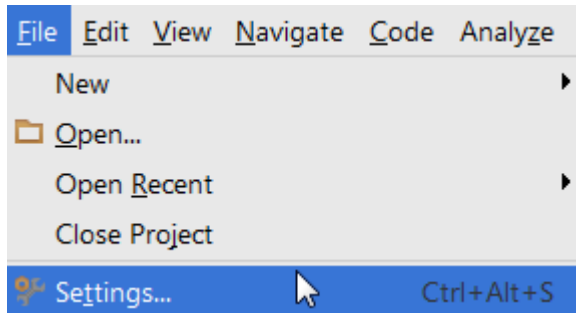
4.1.2. How to type the main method quickly

There are two ways to do this, the first is to type the command so that IntelliJ does it automatically, and the other is to create a template.

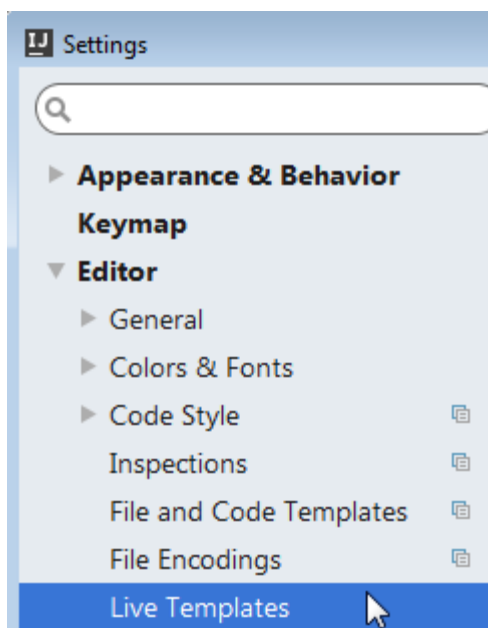
0. Type psvm (**public static void main**) > press Tab

1. Create a template:

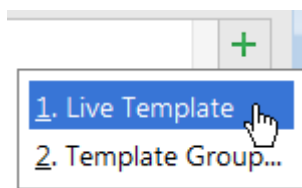
- **File > Settings** or press Ctrl + Alt + S



- **Editor > Live Templates**



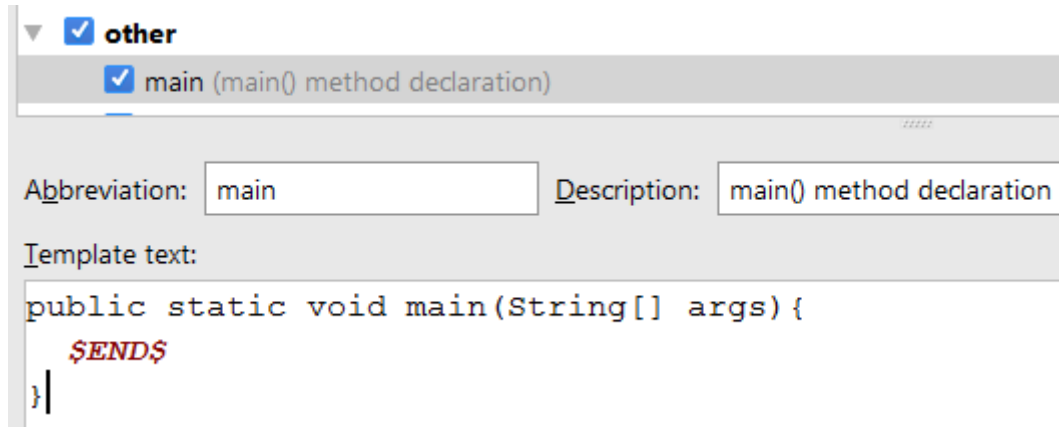
- From the right side, click on the "+" sign > **Live Template**



- Add the following details:

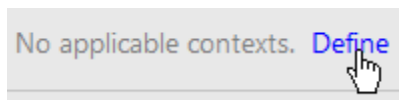
- Abbreviation: main
- Description: main() method declaration
- Template text:

```
public static void main(String[] args){
    $END$
}
```

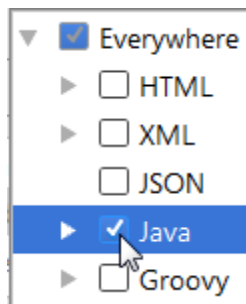


You will see the new template added in Others.

- Click on **Define**



- Select **Java** > Press on **OK**



Type **main** in your Java code > press Tab

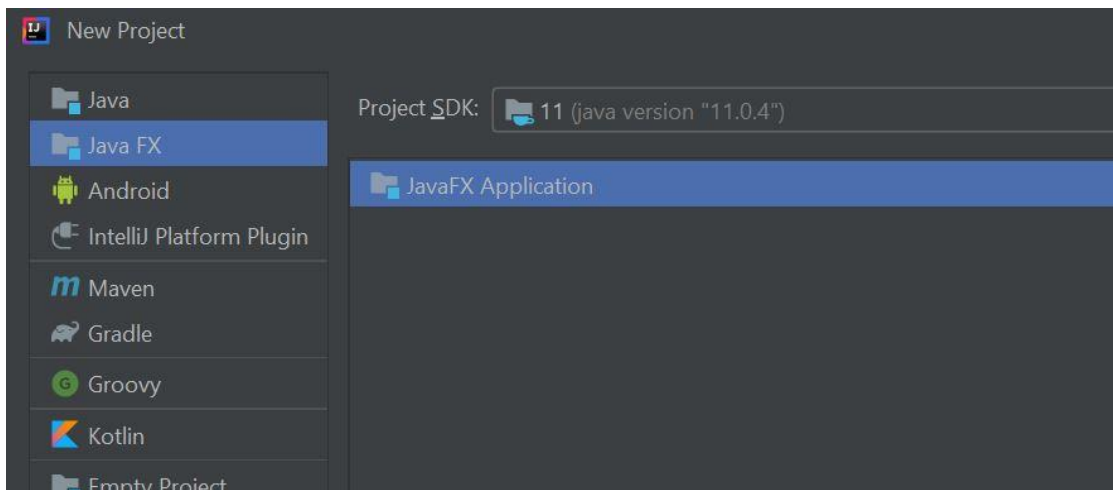
4.2. Create a New JavaFX Project

JavaFX is a software for creating and delivering desktop applications that can run across a wide variety of devices. JavaFX is intended to replace Swing as the standard GUI library for Java SE.

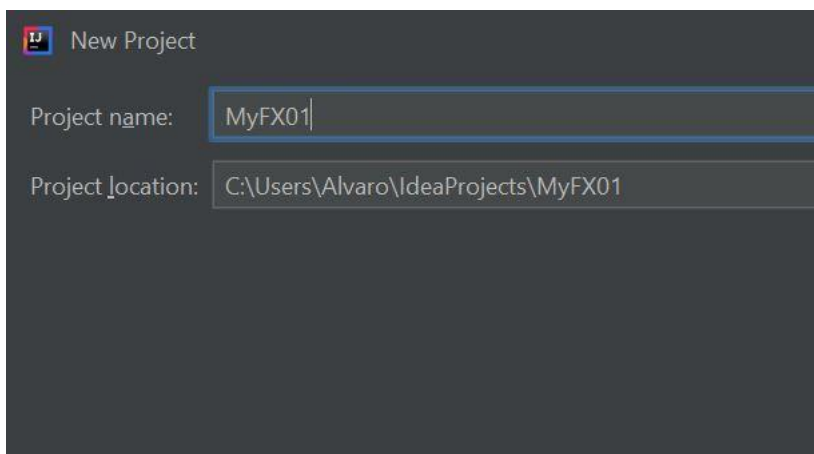


4.2.1. Example

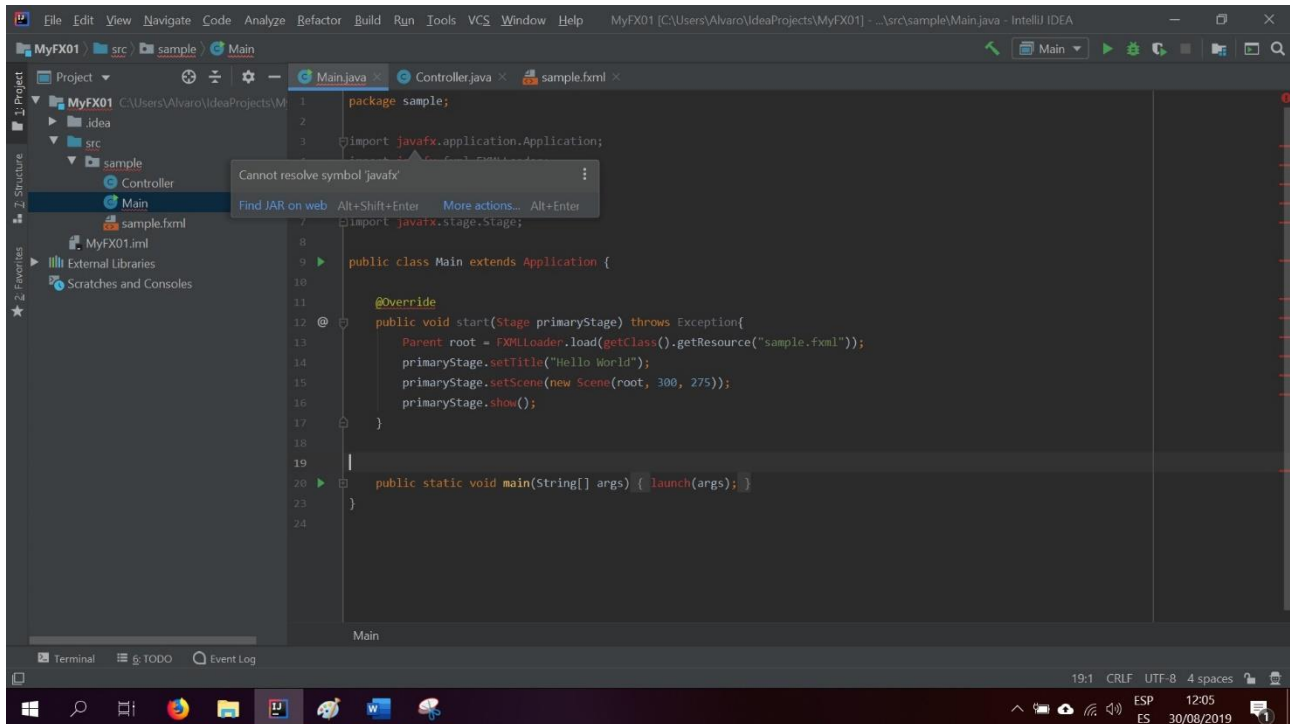
Create a New Java FX project from IntelliJ:



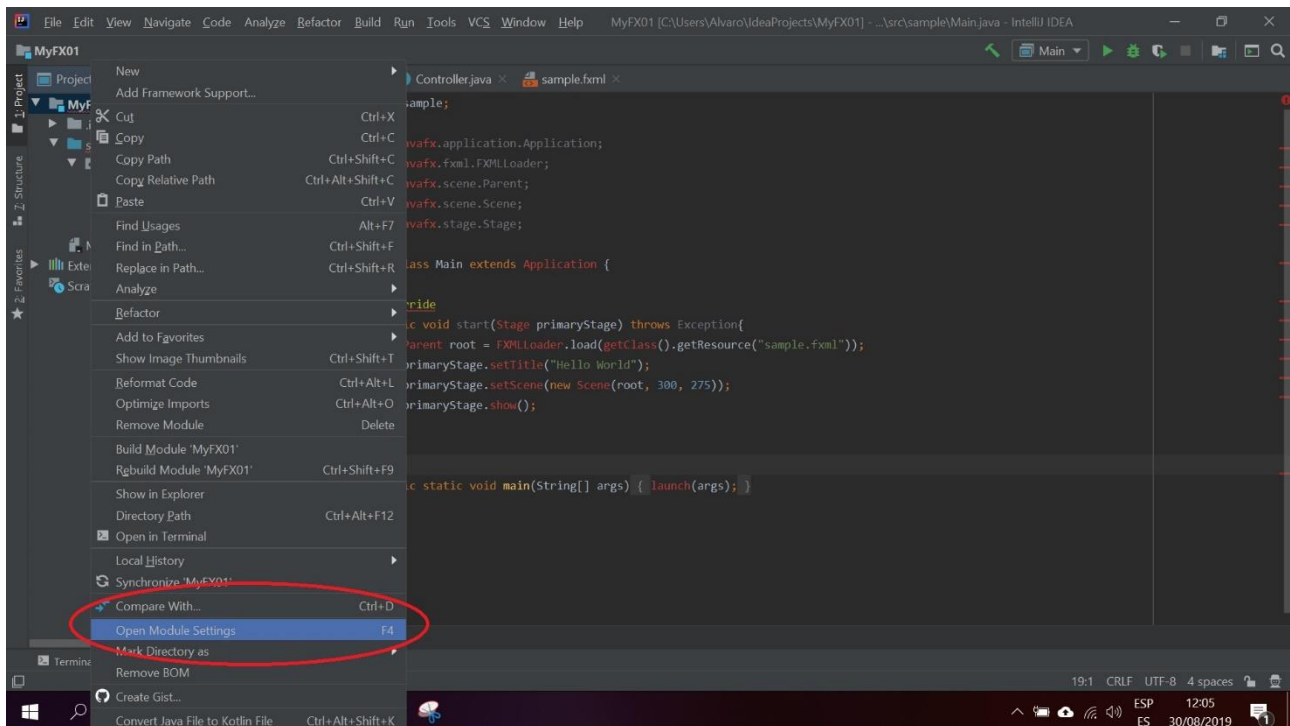
Indicate a project name:



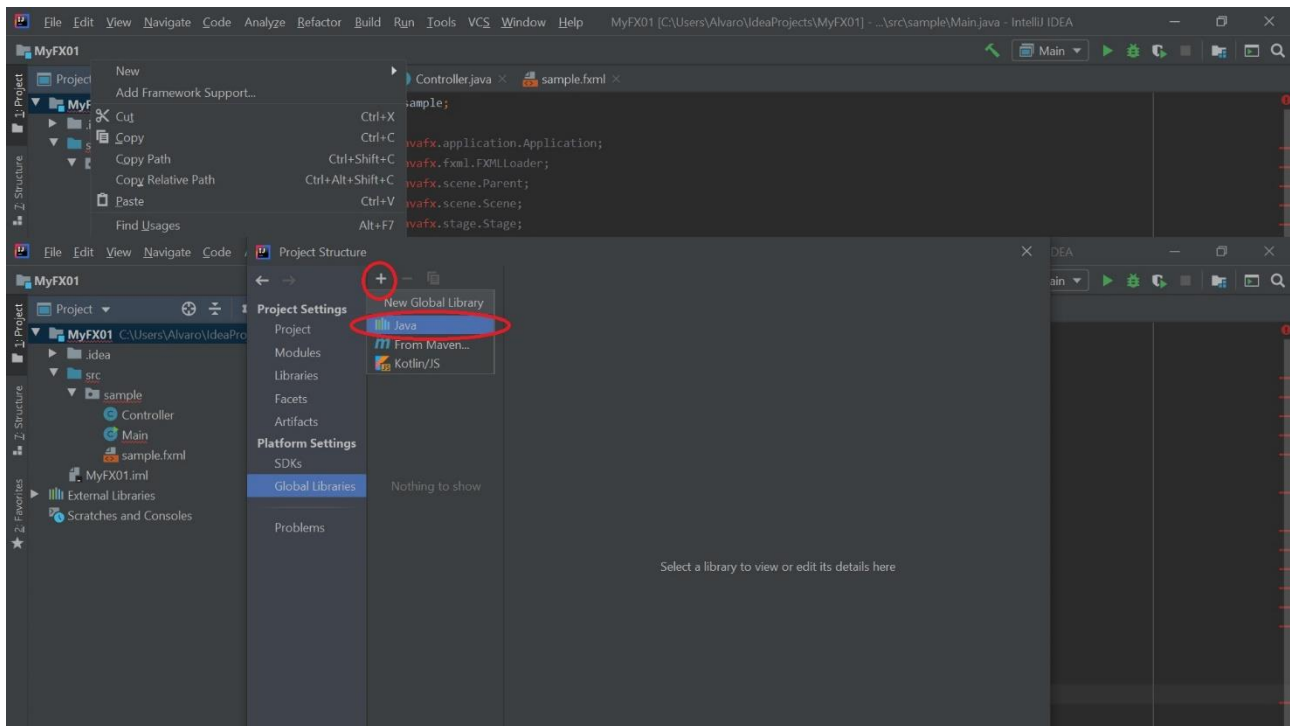
We can check there is a problem with the Java FX library due to it is not included in Java 11. On the contrary, in Java 8 this library was included.



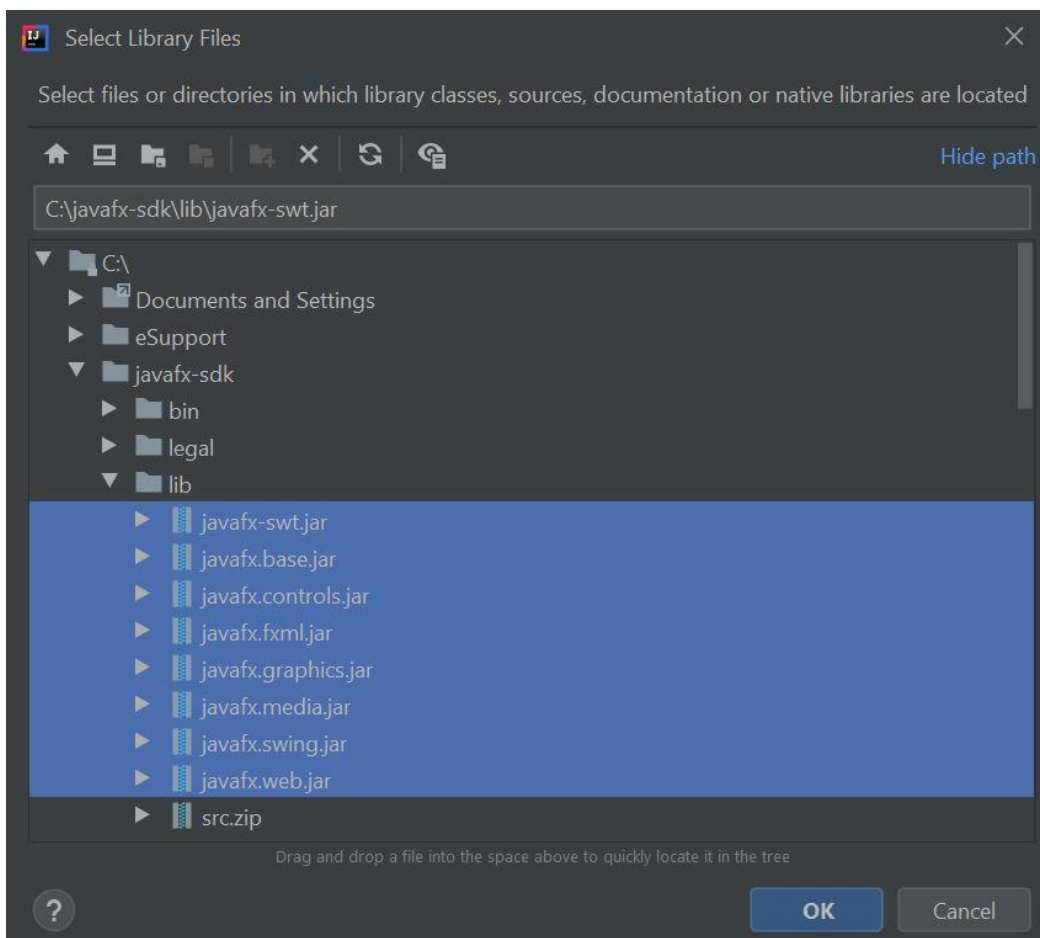
To solve this error, you must add the javafx library manually. Click on Open Module Settings.

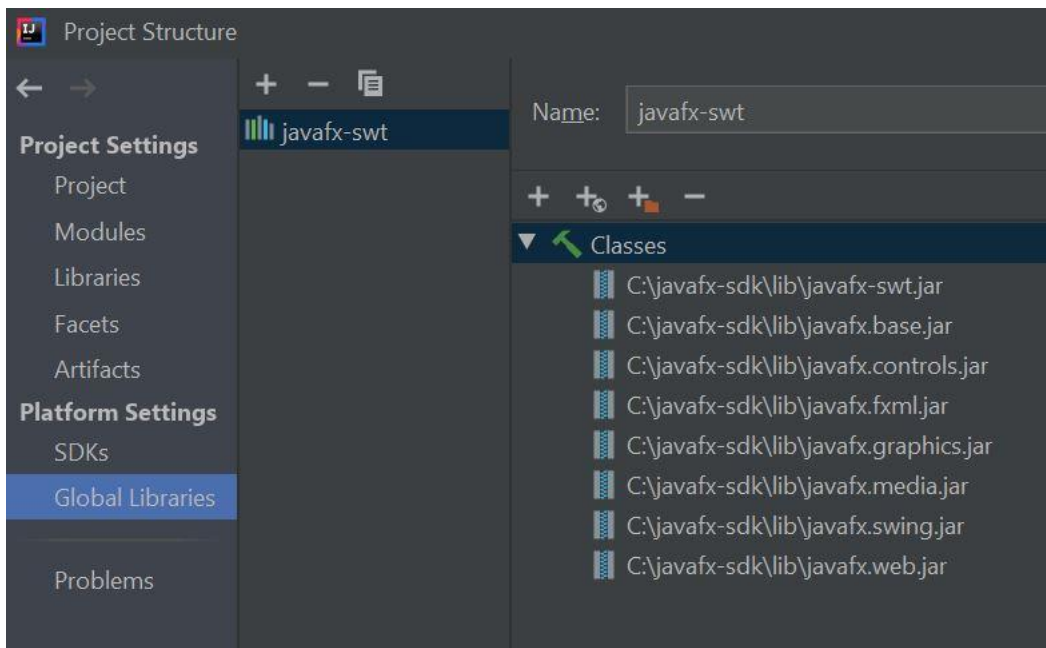


Click on Global Libraries and Click on + symbol and Java.

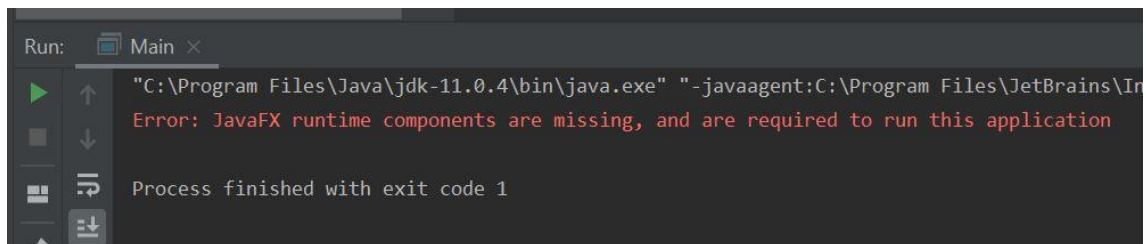


Select the java-fx sdk folder that previously you had unzipped. Select the jar files.

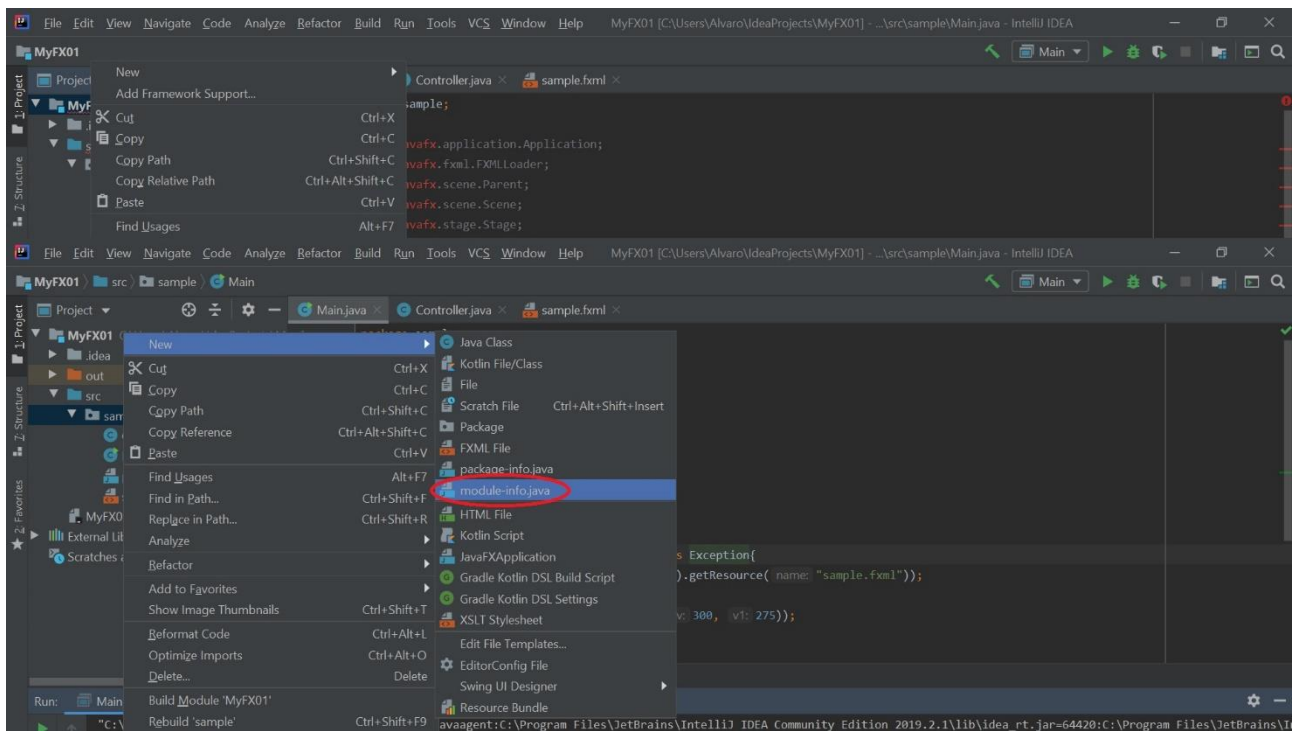




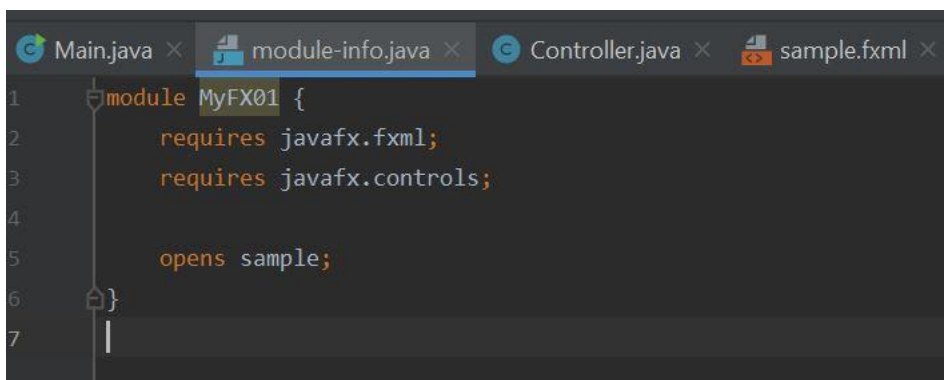
Try to run again your program:



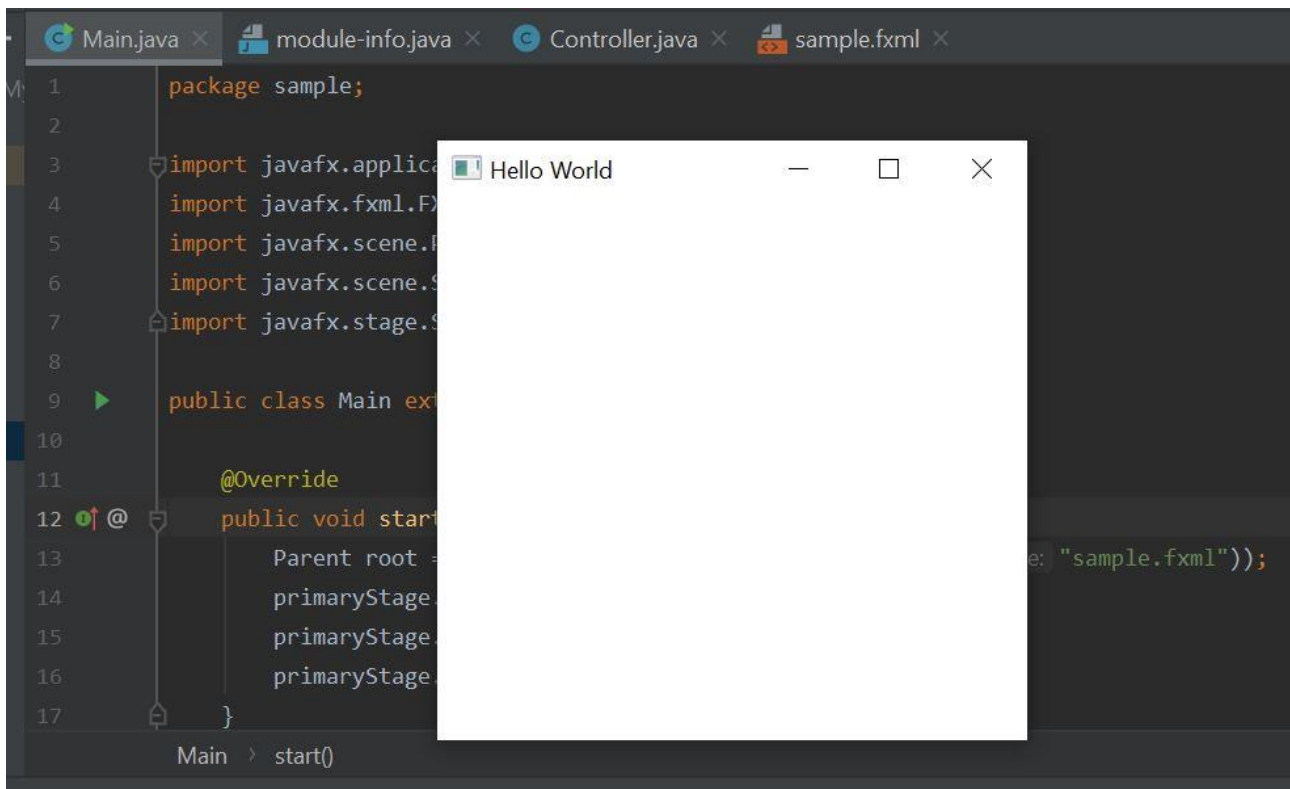
You can check that there is a new problem. To solve it, you have to indicate that the program requires the javafx library. Click on New → module-info.java



Type the following instructions:



Try to run again the program.

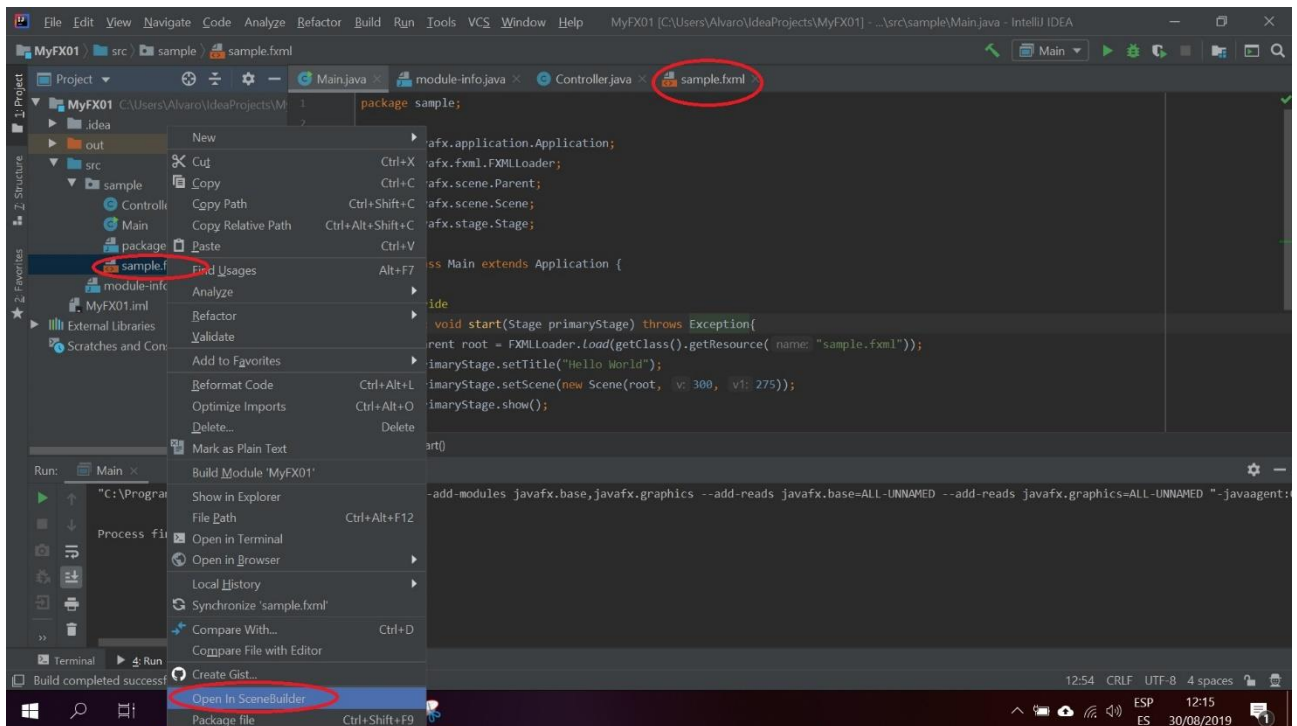


It's work!!!

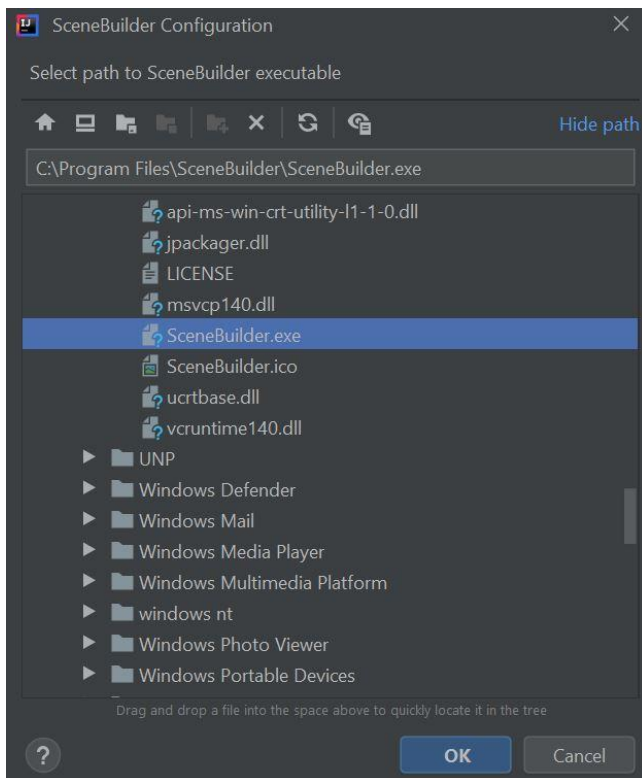
You can now to code javafx programs using Java 11 and IntelliJ.

4.3. Run SceneBuilder from IntelliJ

Click right button on sample.fxml and click on Open in SceneBuilder.



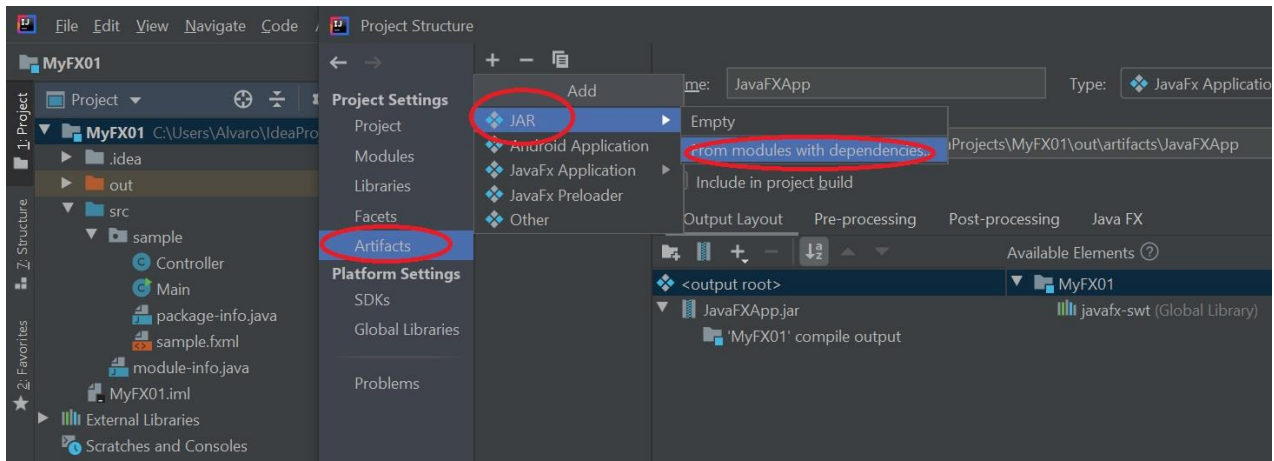
Choose the folder where is installed SceneBuilder:



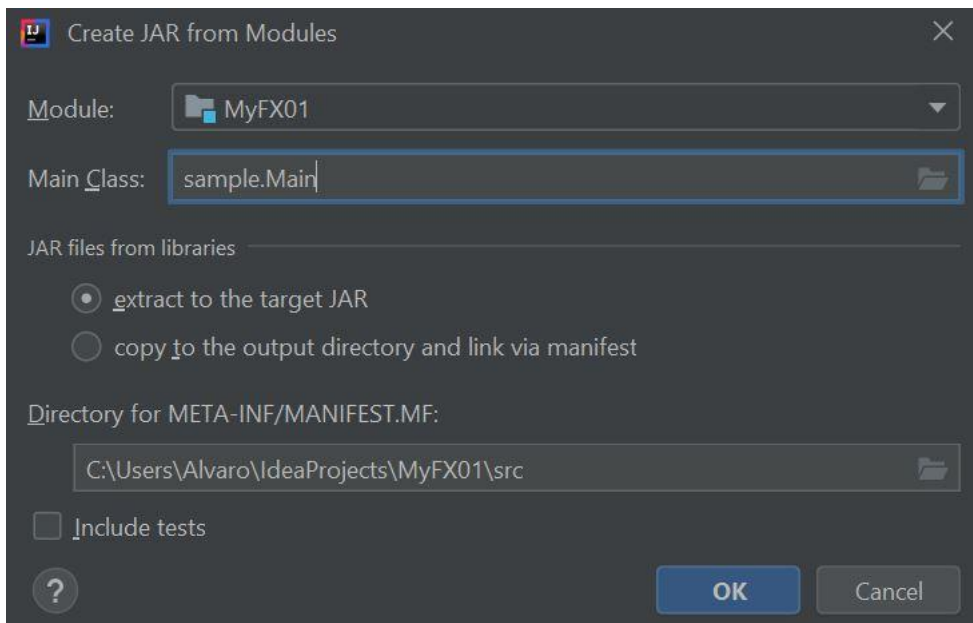
You can now use Scenebuilder from IntelliJ.

5. How to create a JAR

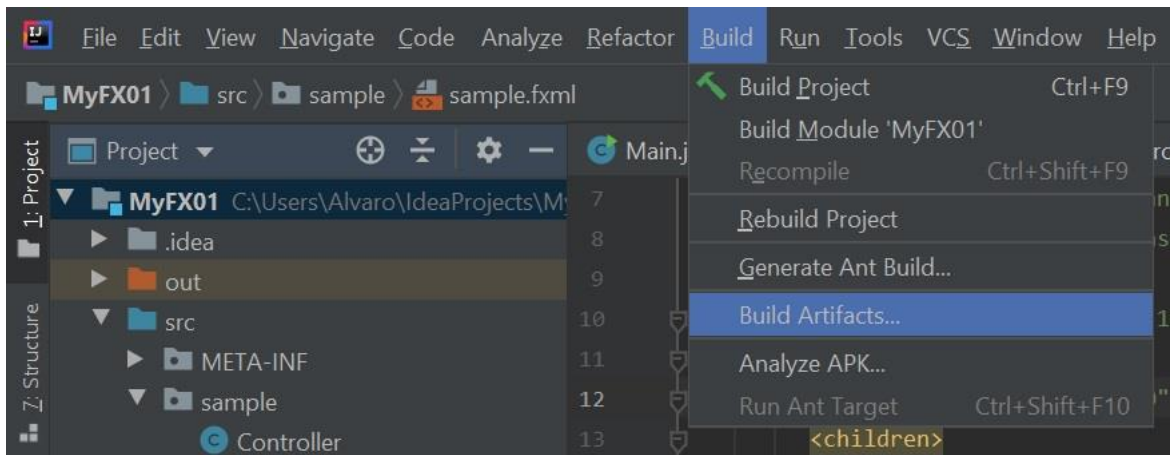
A JAR file allows Java runtimes to efficiently deploy an entire application, including its classes and their associated resources, in a single request. To create a jar from a project, you must go to Project Structure → Artifacts → JAR → from modules with dependencies



Choose the main class:



From Build → Build Artifacts, you can create the jar file



To run a jar with javafx library on a Terminal, you must type:

```
set path=C:\Program Files\Java\jdk-11.0.4\bin
java --module-path C:\javafx-sdk\lib --add-modules javafx.controls,javafx.fxml -jar MyFX01.jar
```

```
C:\Users\Alvaro\Documents\Google Drive\IES\2019-2020\PSP\varios\IdeaProjects\MyFX01\out\artifacts\MyFX01_jar>set path=C:\Program Files\Java\jdk-11.0.4\bin
C:\Users\Alvaro\Documents\Google Drive\IES\2019-2020\PSP\varios\IdeaProjects\MyFX01\out\artifacts\MyFX01_jar>java --module-path C:\javafx-sdk\lib --add-modules javafx.controls,
javafx.fxml -jar MyFX01.jar
You clicked me!
```