

# Installing JavaFX in VS Code

This tutorial describes how to install and configure JavaFX as a library in VS Code and set it up to work with a new Java project.

Before going through the steps in this tutorial, make sure you have Java JDK 11 and the latest version of VS Code installed and working for Java programs that do not use JavaFX. **You should also have the "Java Extension Pack" extension installed in VS Code.**

## Download JavaFX

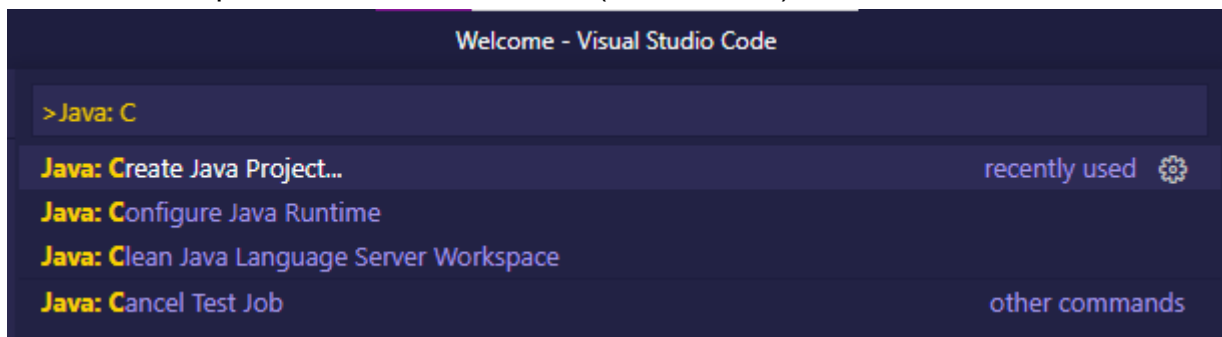
1. Go to <https://gluonhq.com/products/javafx/> [\\_ \(https://gluonhq.com/products/javafx/\)](https://gluonhq.com/products/javafx/) and download the SDK version for your platform (you'll only need the SDK, not the jmods).

Product	Public version	LTS version	Platform
JavaFX Windows SDK	11.0.2	11.0.10 <a href="#">More info</a>	Windows
JavaFX Windows jmods	11.0.2	11.0.10 <a href="#">More info</a>	Windows
JavaFX Mac OS X SDK	11.0.2	11.0.10 <a href="#">More info</a>	Mac
JavaFX Mac OS X jmods	11.0.2	11.0.10 <a href="#">More info</a>	Mac
JavaFX Linux SDK	11.0.2	11.0.10 <a href="#">More info</a>	Linux
JavaFX Linux jmods	11.0.2	11.0.10 <a href="#">More info</a>	Linux
JavaFX armv6hf SDK	11.0.2	11.0.10 <a href="#">More info</a>	Embedded armv6hf
JavaFX Documentation	11.0.2	11.0.10 <a href="#">More info</a>	Javadoc

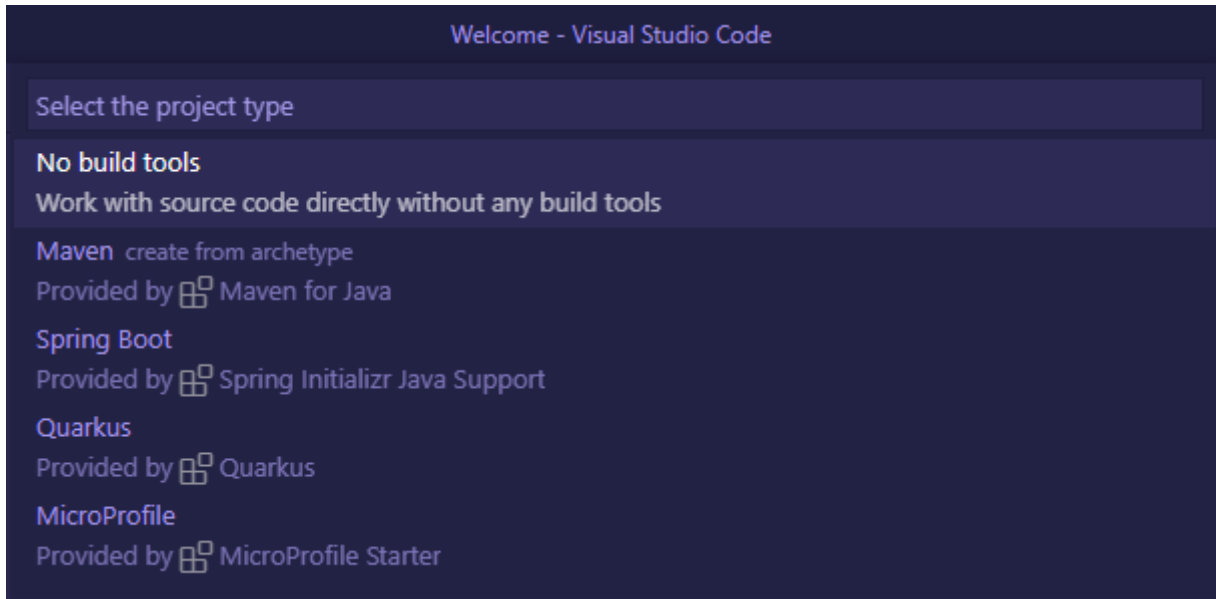
2. Extract the zip archive to a folder in your home directory. On my OSX machine, I extracted it into `/Users/florian/Applications/javafx-sdk-11.0.2/`. You will need this path later to set up JavaFX in VS Code.

## Create a New Java Project

3. In VS Code, open the Command Palette (Ctrl+Shift+P) and select **Java: Create Java Project**



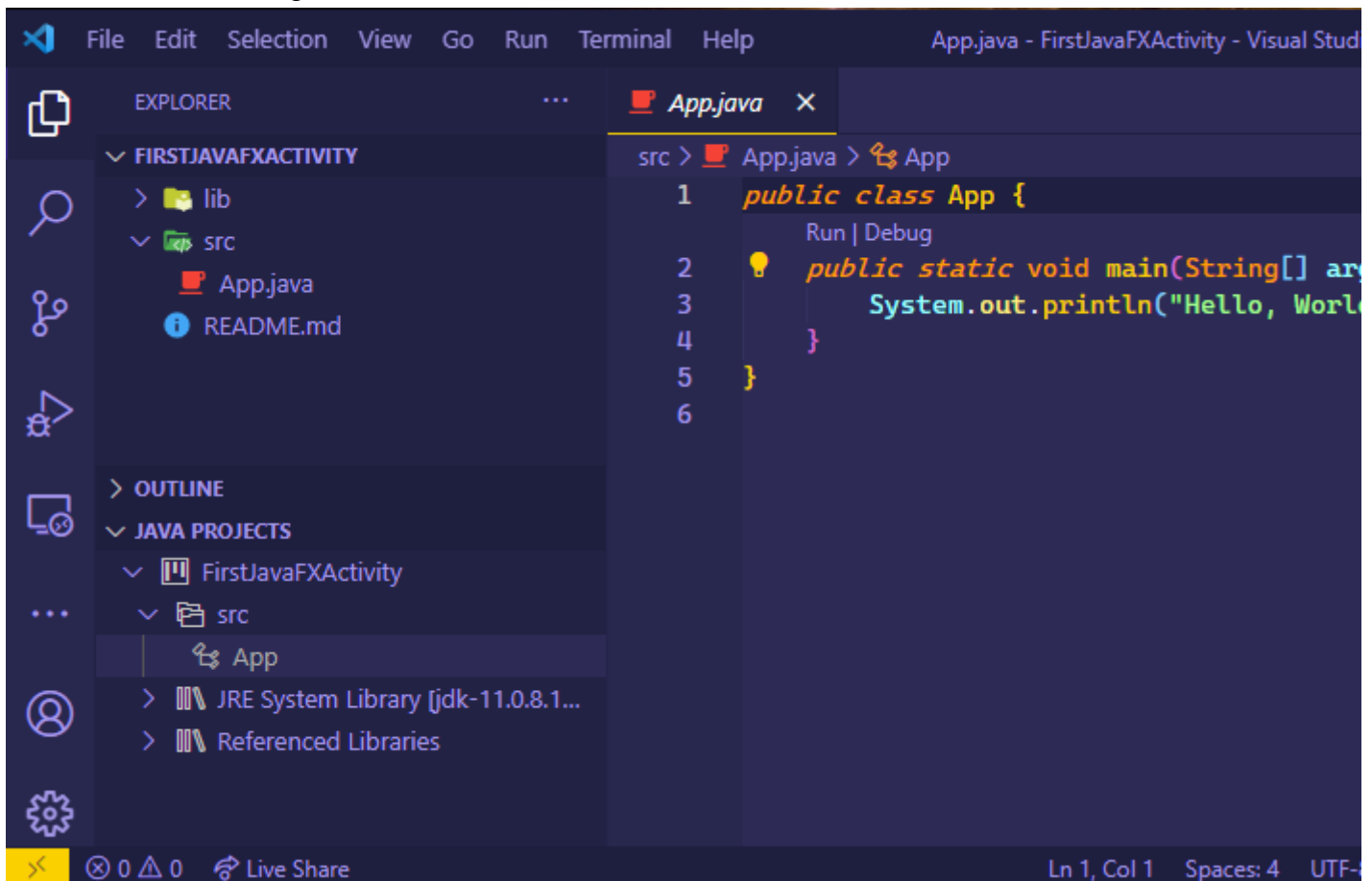
#### 4. Select **No build Tools**



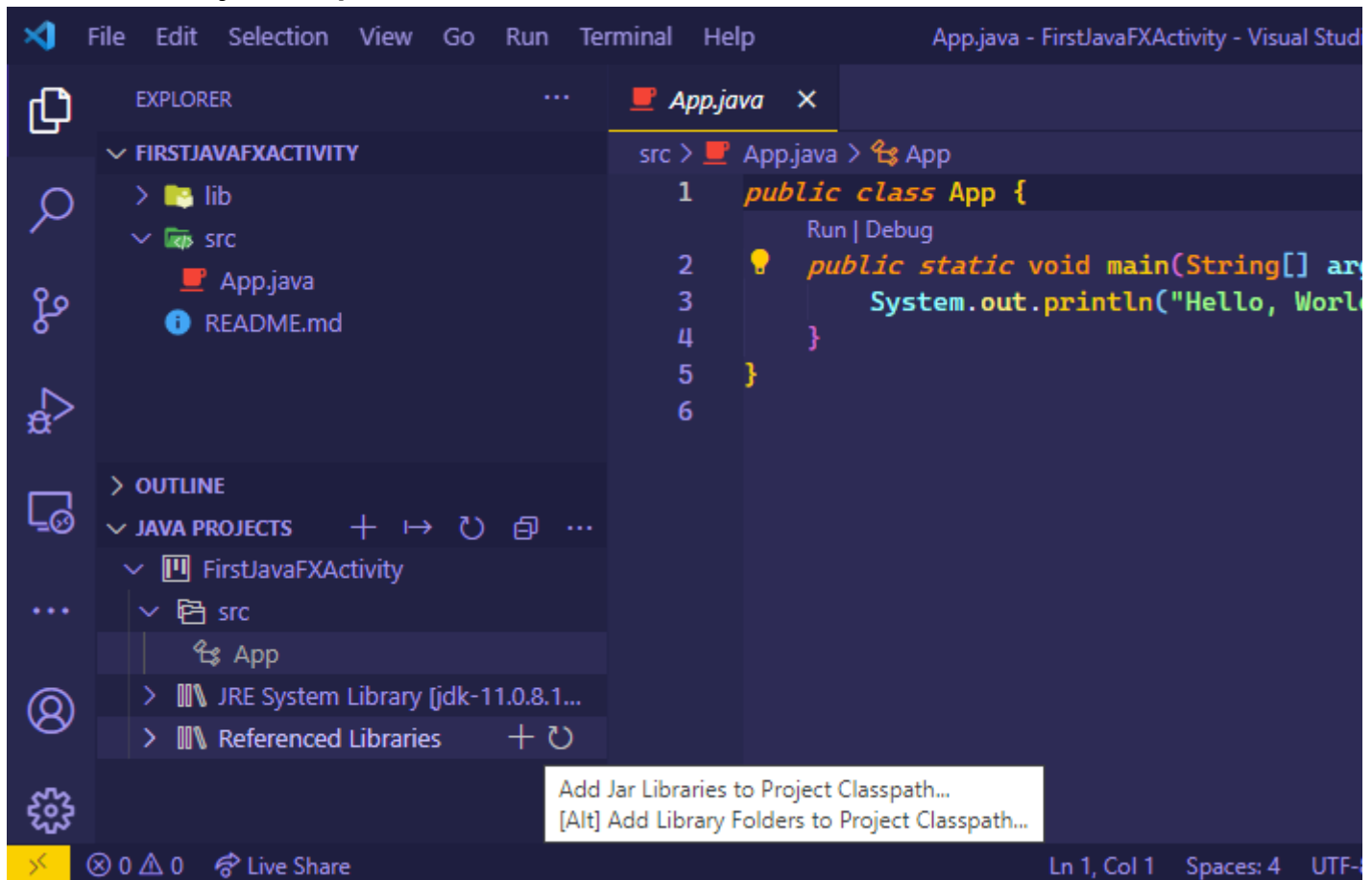
5. Select where you want the project to be on your machine. For example, **~/Documents/**

6. Provide a name for the project, such as **FirstJavaFXActivity**.

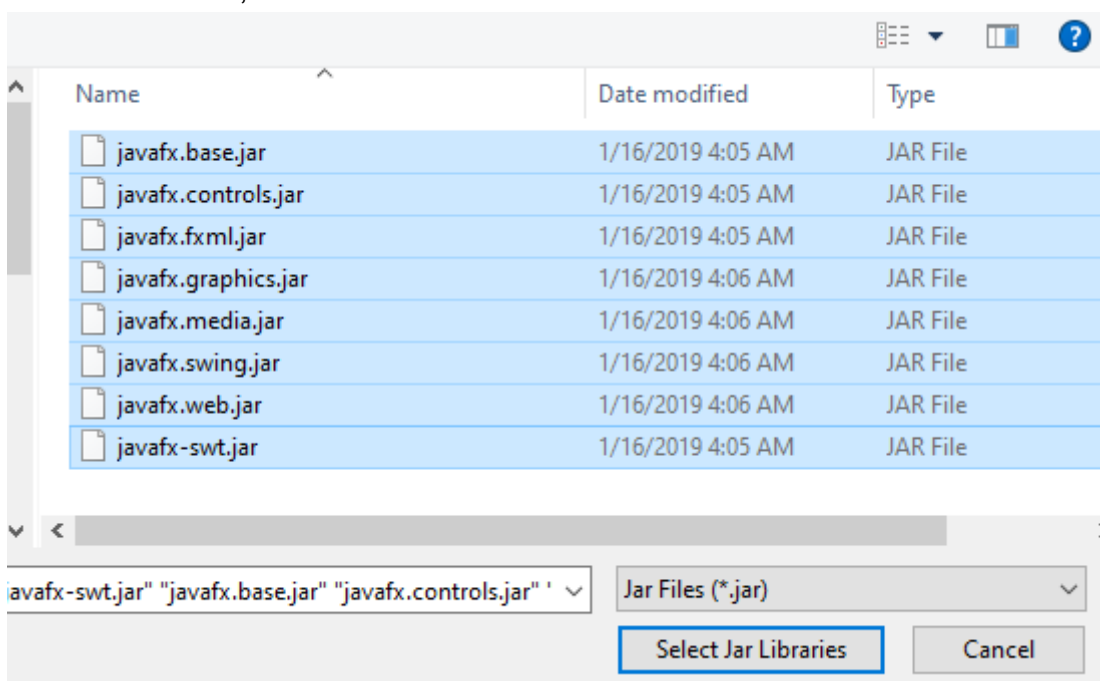
7. The project is now created. Open **src/App.java**. This will activate the java extension and you should see something similar to:



8. In the **Java Projects Explorer**, select the **+** next to **Referenced Libraries**

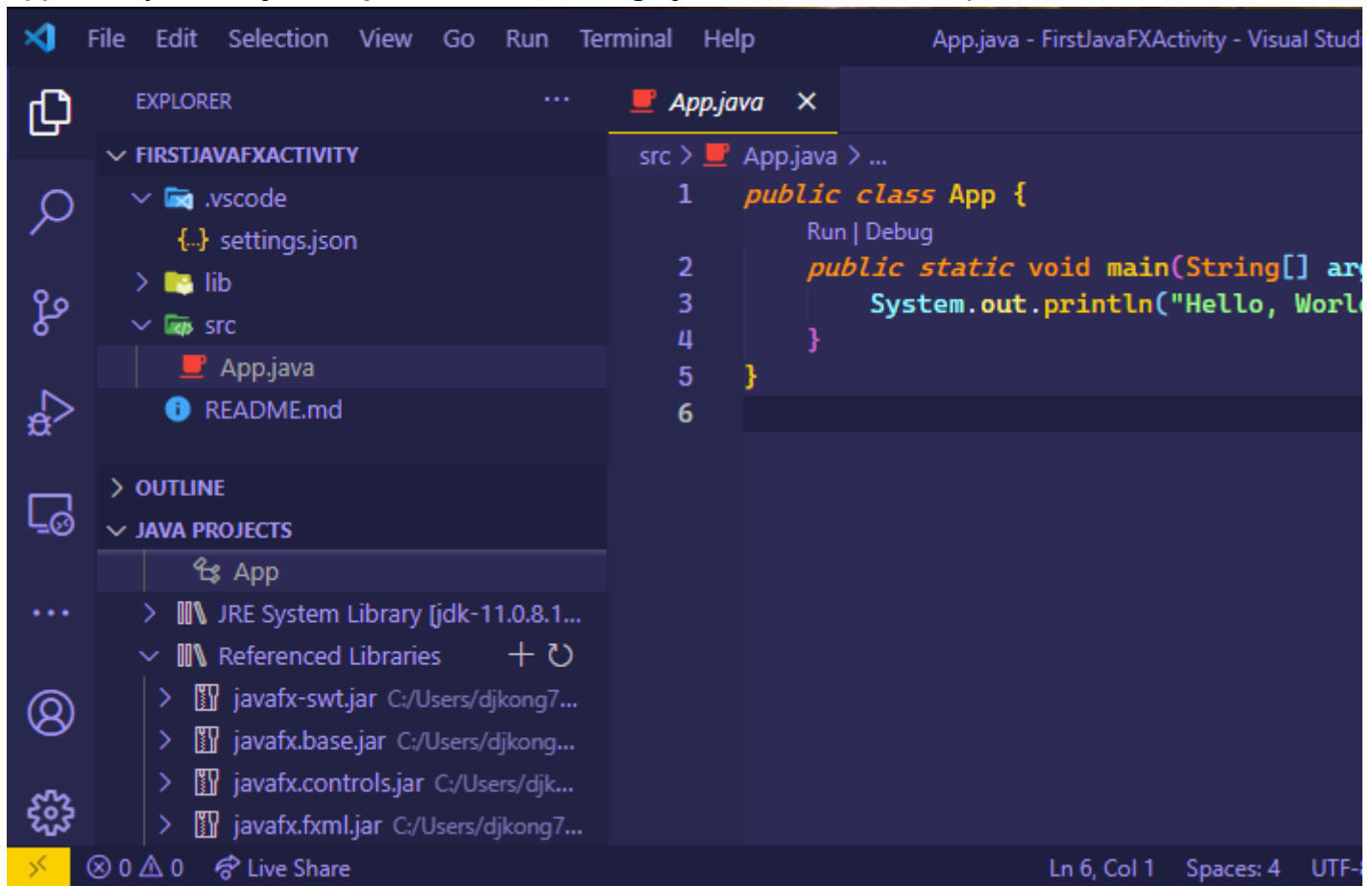


9. Go to the folder that you extracted the JavaFX archive into and navigate to the **lib** subdirectory. On my machine, the full path is **/Users/florian/Applications/javafx-sdk-11.0.2/lib/**. Select all jar files in the folder, then click **Select Jar Libraries**.



## Creating the Program Starter File

10. The jar files will now be listed under **Referenced Libraries** and a new folder named **.vscode** will appear in your **Project Explorer** with a **settings.json** file that lists the paths to the Jar files.



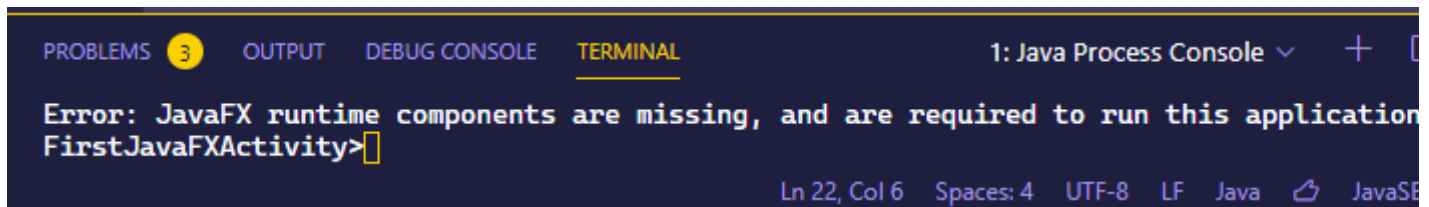
11. Rename **App.java** to **JavaFXActivity.java** and copy the following starter code for the [First JavaFX Activity](https://canvas.wisc.edu/courses/244796/pages/12-first-javafx-activity) (<https://canvas.wisc.edu/courses/244796/pages/12-first-javafx-activity>) into it:

```
import javafx.application.Application;
import javafx.scene.Group;
import javafx.scene.Scene;
import javafx.stage.Stage;
// these imports are used for the First JavaFX Activity
import javafx.scene.control.Label;
import javafx.scene.shape.Circle;
import javafx.scene.shape.Polygon;

public class JavaFXActivity extends Application {
    @Override
    public void start(final Stage stage) {
        // update this method definition to complete the First JavaFX Activity
        Group group = new Group();
        Scene scene = new Scene(group, 320, 240);
        stage.setScene(scene);
        stage.show();
    }

    public static void main(String[] args) {
        Application.launch();
    }
}
```

12. When you now try to run the class (**Run -> Run Without Debugging**) you will see the following error:

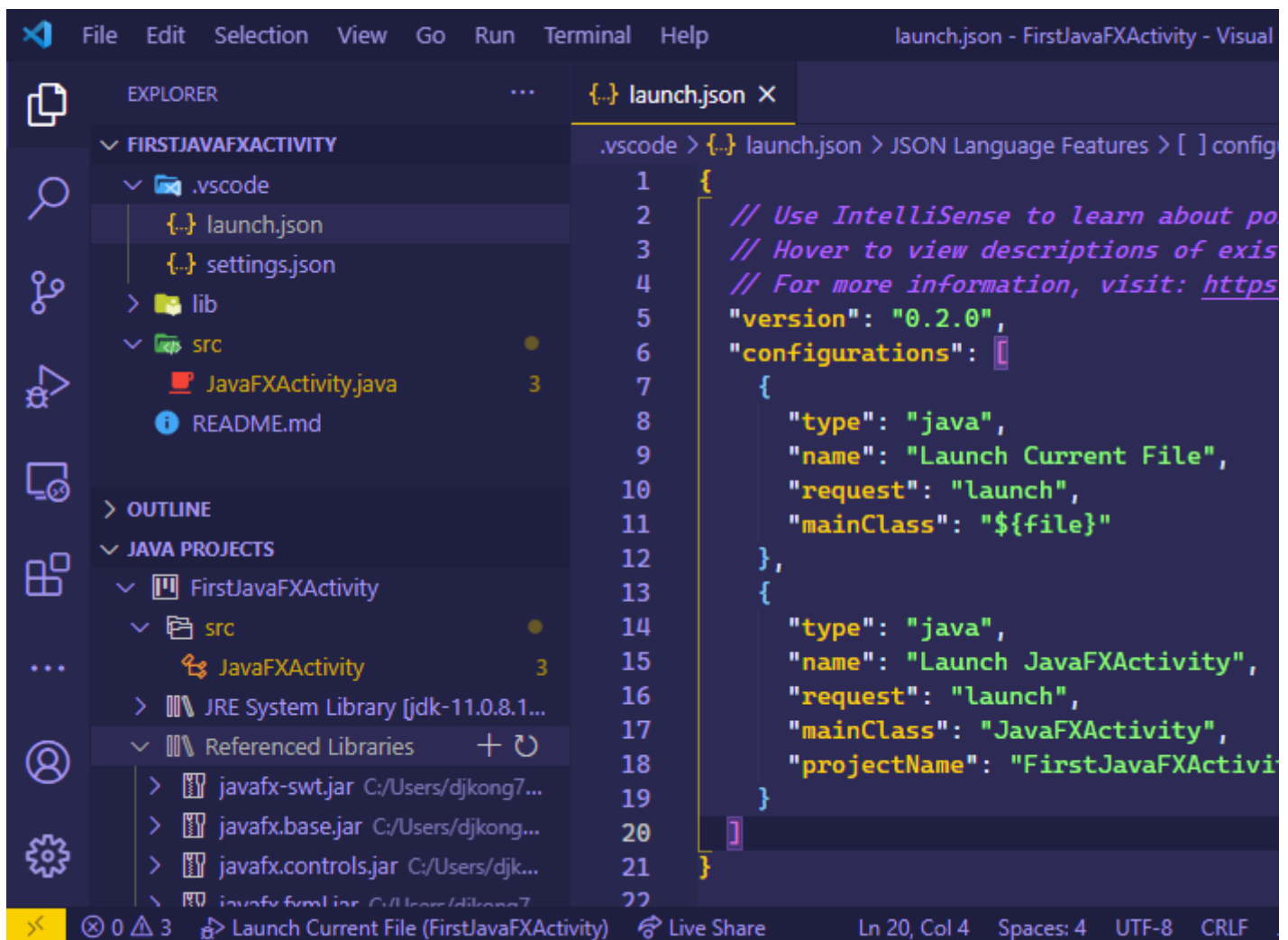


The screenshot shows the VS Code terminal with the 'TERMINAL' tab selected. The error message reads: 'Error: JavaFX runtime components are missing, and are required to run this application FirstJavaFXActivity>'. The status bar at the bottom indicates 'Ln 22, Col 6', 'Spaces: 4', 'UTF-8', 'LF', 'Java', and 'JavaSE'.

```
Error: JavaFX runtime components are missing, and are required to run this application
FirstJavaFXActivity>
```

## Set Run Configurations

13. Navigate to **Run -> Add Configuration**. This will create a new file called **.vscode/launch.json**.



The screenshot shows the VS Code editor with the '.vscode/launch.json' file open. The Explorer sidebar on the left shows the project structure, including the '.vscode' folder, 'lib' folder, 'src' folder with 'JavaFXActivity.java' and 'README.md', and 'Referenced Libraries'. The main editor area shows the JSON content of the launch.json file, which is partially filled out with comments and some configuration details. The status bar at the bottom indicates 'Ln 20, Col 4', 'Spaces: 4', 'UTF-8', and 'CRLF'.

```
{
  // Use IntelliSense to learn about possible properties.
  // Hover to view descriptions of existing properties.
  // For more information, visit: https://aka.ms/launch-json-features
  "version": "0.2.0",
  "configurations": [
    {
      "type": "java",
      "name": "Launch Current File",
      "request": "launch",
      "mainClass": "${file}"
    },
    {
      "type": "java",
      "name": "Launch JavaFXActivity",
      "request": "launch",
      "mainClass": "JavaFXActivity",
      "projectName": "FirstJavaFXActivity"
    }
  ]
}
```

14. Add a new line after **"request": "launch"** and copy the following line into the file (replace **/Users/florian/Applications/javafx-sdk-11.0.2/lib/** with the path on your machine):

```
"vmArgs": "--module-path /Users/florian/Applications/javafx-sdk-11.0.2/lib/ --add-modules javafx.controls,javafx.fxml",
```

```
// Use IntelliSense to learn about possible attributes.
// Hover to view descriptions of existing attributes.
// For more information, visit: https://go.microsoft.com/fwlink/?linkid=830387
"version": "0.2.0",
"configurations": [
  {
    "type": "java",
    "name": "Launch Current File",
    "request": "launch",
    "mainClass": "${file}"
  },
  {
    "type": "java",
    "name": "Launch JavaFXActivity",
    "request": "launch",
    "vmArgs": "--module-path /Users/florian/Applications/javafx-sdk-11.0.2/lib/ --add
    "mainClass": "JavaFXActivity",
    "projectName": "FirstJavaFXActivity_772de2"
  }
]
```

15. Now when you run, you should see an empty window pop up. Continue filling the window as part of the [First JavaFX Activity](https://canvas.wisc.edu/courses/244796/pages/12-first-javafx-activity) (<https://canvas.wisc.edu/courses/244796/pages/12-first-javafx-activity>).