(48024) Applications Programming Lab 8 guide

This document provides some helpful hints for Lab 8.

Skip to the step that you're stuck on and read the hints listed under that section.

Step 1

No hints needed

Step 2

Although this is a simple step, what you need to be most careful of is to NOT let NetBeans generate any classes or fxml files for you. So:

1. Select File -> New Project…
2. Select the JavaFX category
3. Select the "JavaFX Application" project type.
4. Enter the project name "StoreLab8"
5. Uncheck the "Create Application Class" box. We don't want one to be generated.
6. Click finish.

Now you create your classes and fxml file manually.

Step 3

You create a new class by right-clicking on the default package and selecting New -> Java Class. Then copy and paste in the template code from the lab instructions.

Notice the comment inside the template code:

```
// Add code here to load the root node from the FXML file
// and show it
```

You have to follow that instruction. The code you need to write is in the lecture notes on slide 17.

Step 4

To create a new FXML file, you right-click on the default package and again select New. If you don't see any option to create an FXML file, select "Other", and you will see the FXML file type under the JavaFX category.\

Step 5

To declare the name of this controller class in your store.fxml file, refer to the slide 40.

To include an fx:id attribute that links it to the corresponding field, refer to slides 41-42.

Common errors:

Error #1: "Location not set". This error happens when you try to load your FXML file with:

FXMLLoader loader = new FXMLLoader(getClass().getResource("store.fxml"));

The error means that it could not find the file "store.fxml". This can happen for one of two reasons:

1. You created the actual file with a different name, or you made a typo in the file name, or you spelled it with a different case. Programming languages are case sensitive. Make sure the filename matches.
2. You created the file with the right name, but you created the project in the wrong way such that all or some of your files are in a sub-folder (sub-package). Usually students who make this mistake do so because they accepted NetBeans's offer to automatically create a main class. When NetBeans does this, it creates it in a sub-folder (sub-package) with the same name as your project, but all lowercase. So you might have all your files in a folder called storelab8. If so, you need to drag your files up one level to the parent folder, then delete the storelab8 folder. Then everything should be listed under the "default package". The error should go away.

Error #2: Somewhere in the error message is mentioned the name "awt". This is the name of the original GUI library for Java and it means somewhere you imported the wrong classes from the wrong package. Most likely this is in your controller class. Delete any imports from awt, and re-import them again, this time from the javafx packages.

Error #3: You are just given a line number within your FXML file. Look at the line number and see if you can spot any obvious errors. Usually these relate to your file not being quite well-formed XML syntax. Here are some examples of things that might be picked up as invalid XML:

- \<Button text"Sell"/> - the problem is a missing = sign between text and "Sell".
- \<Button text="Sell"> - the problem is a missing slash / sign at the end.
- \<Button text="Sell"GridPane.columnIndex="1"/> - the problem is a missing space before GridPane.
- etc.

If you see any other error, you could try copying and pasting the error message into google to see if any other programmer has encountered and solved your problem, or you could copy and paste the error to the UTSOnline discussion board.

Step 6

You are free to use your model solution from lab 4 but you will have to remove all of the user interface code. So, I have provided you with my solution which already has the user interface code removed.

It is strongly recommended to make the CashRegister an observer of the Product so that the CashRegister is automatically updated whenever a product is sold. You get this code for free if you copy and paste it from the lab instructions for step 6.

Step 7

You need to read lecture slides 30-36. You can also see how the property patterns are applied in practice by studying the two examples. The lecture demo example is downloadable from UTSOnline / Subject Documents / Code for Lecture 8. And the tutor demo example is downloadable from PLATE / Lab 8.

As it happens, every property in this exercise is either a read-only property or an immutable property (possibly with mutable state), so you need to know the difference between the two. The explanation of the difference is at timestamp 23:27 in the lecture 8 video.

Step 8

The lecture slides to look at are slides 47-52. It will be helpful to study the demo examples and also watch the lecture video starting from timestamp 38:35 through to the demo example.

Steps 9-10

If you have gotten this far, you will now know how to find the relevant material in the lecture notes.

Step 11

To create a JAR in NetBeans, follow the instructions in the NetBeans lab from week 6.