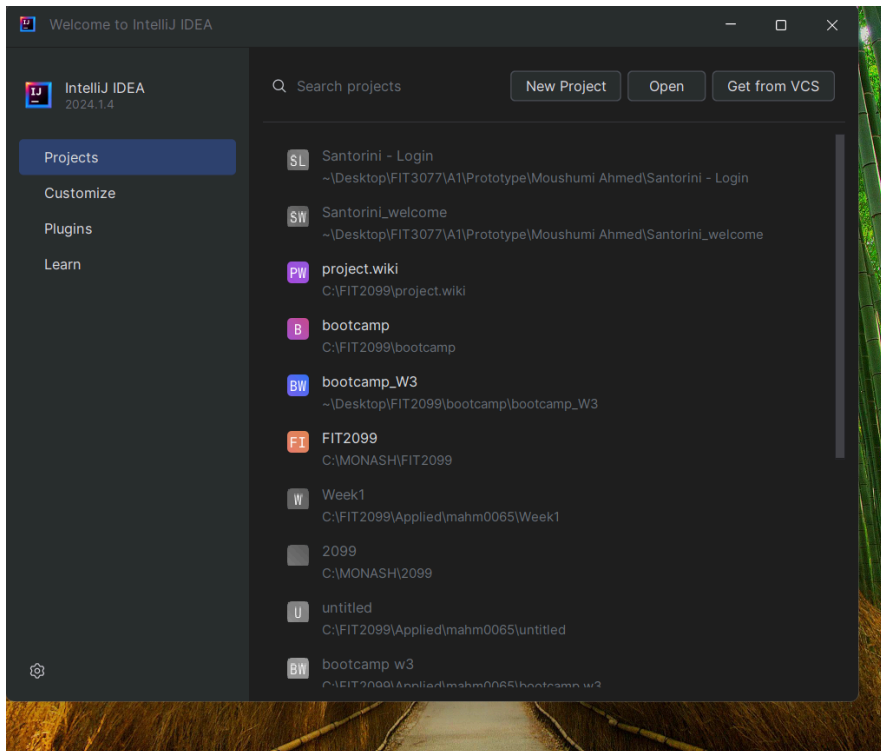How the program was created - IntelliJ IDEA.

As part of the Santorini project, I created the login form as an example of the prototype.
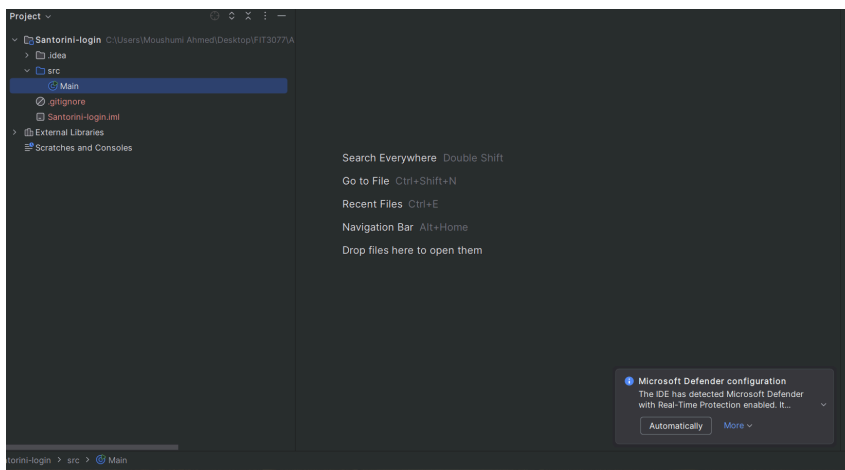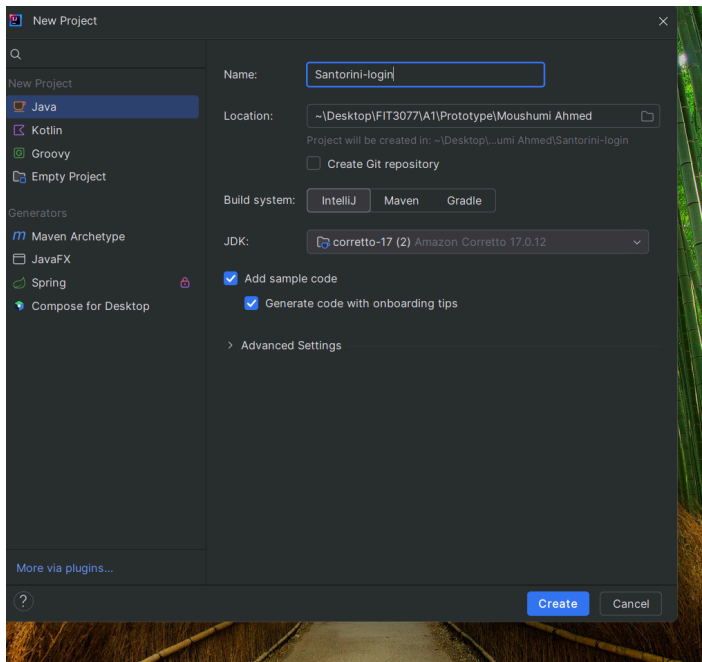
The steps are:

Step 1: Creating a new project:

Start IDE → Project →New project →

Select Java → in the name field, enter a name for the project. →Select a location for the project. →Leave the other default options as it is. →Click on 'Create'.

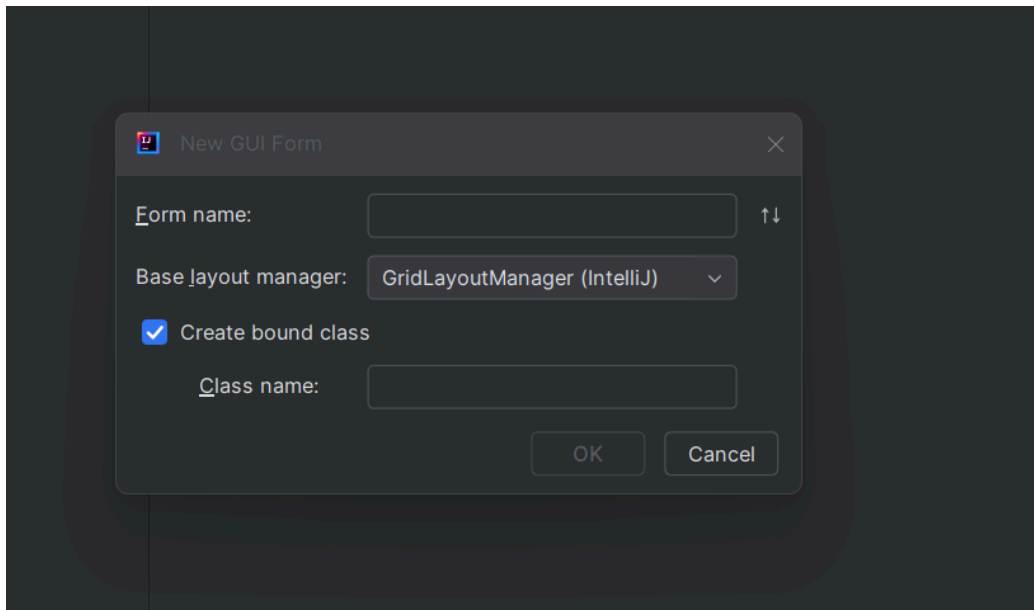Right click on the 'src' folder to add a package folder. Right click →New→Package→Give it a name.

After the package folder is created, the new folder will be shown under 'src' folder. Right click the folder and add a new GUI form by

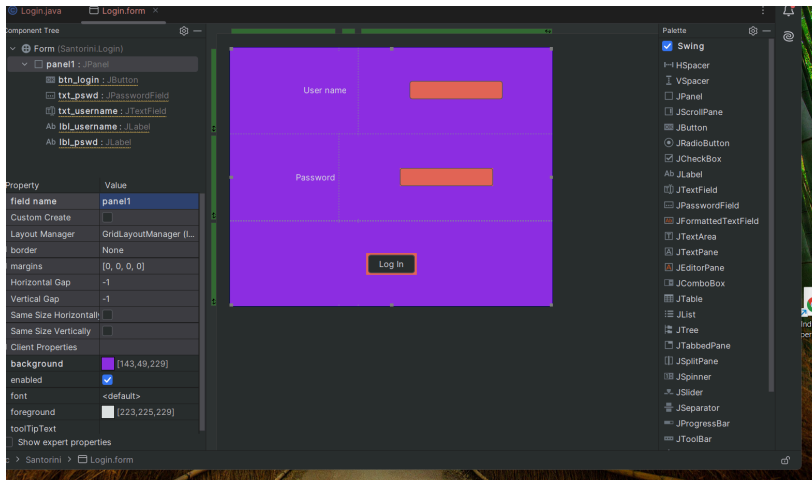Selecting new →Swing UI designer →GUI form
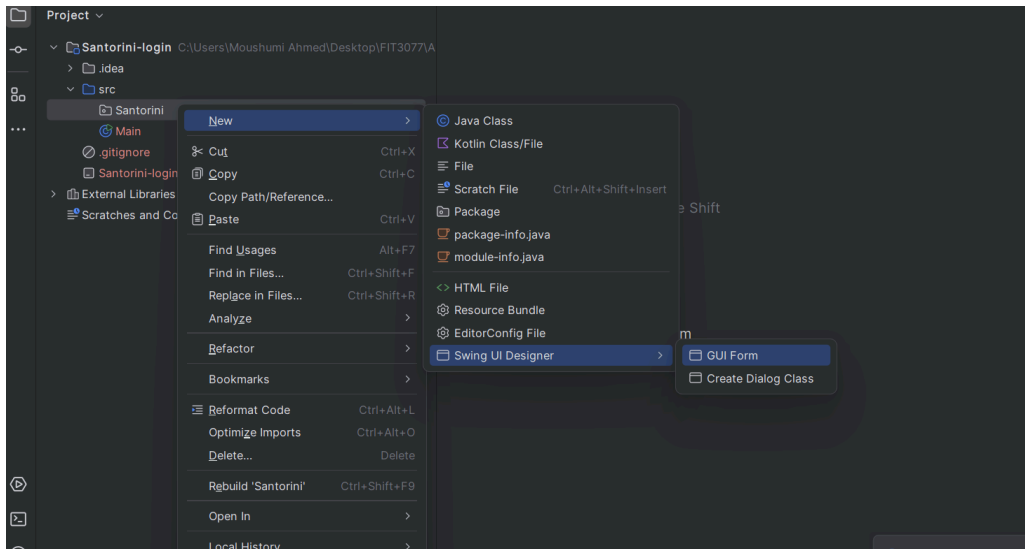
On the window that pops up, give the form a name:

A JPanel will open and there will also be a java file created corresponding to the JPanel.

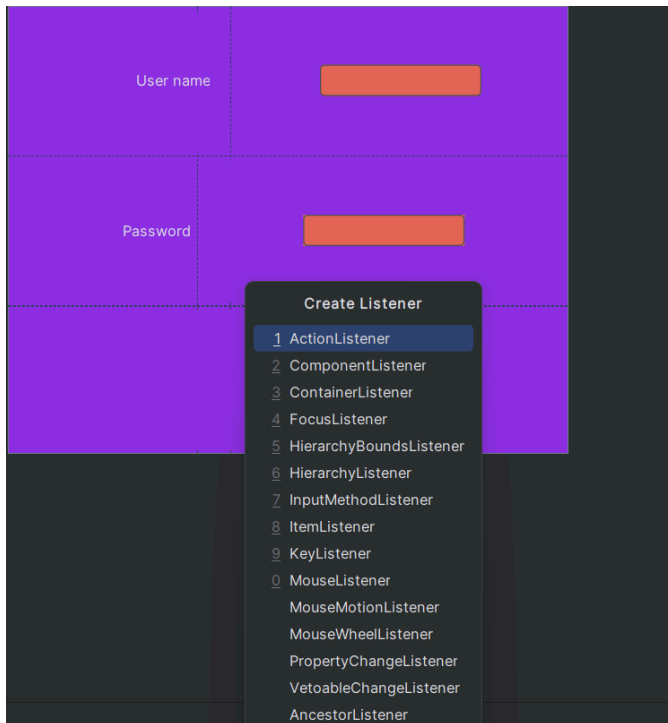Design the form by adding labels, text fields and setting properties.

After the form is created it will look like this:

Next step is to add clickListener event handler. To do this right click on the button element and in the menu that pops up, click on the 'Create listener'
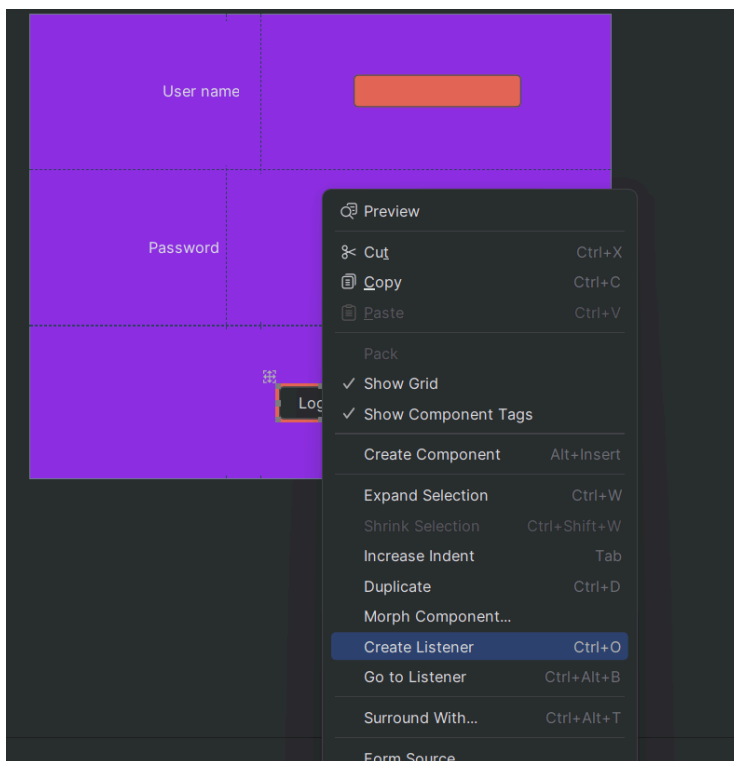
Choose ActionListener.

A window will open where there will be options to select methods for the listener.
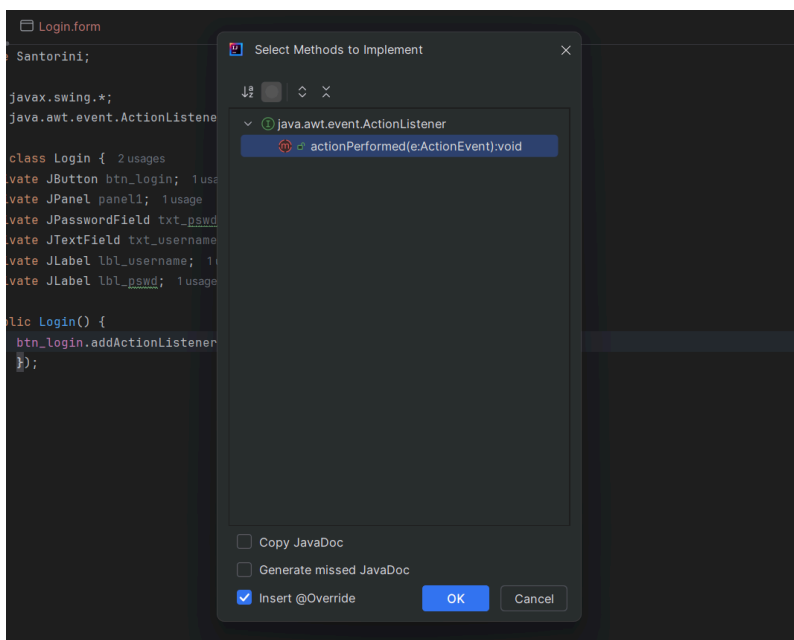
In this window just accept the default selection ('actionPerformed') and click on 'OK'.

After adding the method to implement, the .java file will have the following code:

```
    © Login.java  ×     ☐ Login.form
1        package Santorini;
2
3        import javax.swing.*;
4        import java.awt.event.ActionEvent;
5        import java.awt.event.ActionListener;
6
7  ☐     public class Login {  2 usages
8  ▥         private JButton btn_login;  2 usages
9  ☐         private JPanel panel1;  1 usage
10 ⊡         private JPasswordField txt_pswd;  1 usage
11 ⬚         private JTextField txt_username;  1 usage
12 Ab        private JLabel lbl_username;  1 usage
13 Ab        private JLabel lbl_pswd;  1 usage
14
15            public Login() {  no usages
16                btn_login.addActionListener(new ActionListener() {
17                    @Override
18 ℭ                 public void actionPerformed(ActionEvent e) {
19
20                    }
21                });
22            }
23        }
24
```

Then more codes will be added. After adding the code the full code will look like this:

```
    package Santorini;

    import javax.swing.*;
    import java.awt.event.ActionEvent;
    import java.awt.event.ActionListener;

☐   public class Login {
        private JButton btn_login;  2 usages
        private JPanel panel1;  2 usages
        private JPasswordField txt_pswd;  1 usage
        private JTextField txt_username;  1 usage
        private JLabel lbl_username;  1 usage
        private JLabel lbl_pswd;  1 usage

        public Login() {  1 usage
    💡      btn_login.addActionListener(new ActionListener() {
                @Override
                public void actionPerformed(ActionEvent e) {

                    JOptionPane.showMessageDialog( parentComponent: null,  message: "Login
                }

            });
        }
    public static void main(String[] args){
            JFrame newFrame = new JFrame( title: "Login");
        newFrame.setContentPane(new Login().panel1);
        newFrame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        newFrame.pack();
        newFrame.setVisible(true);
    }
```
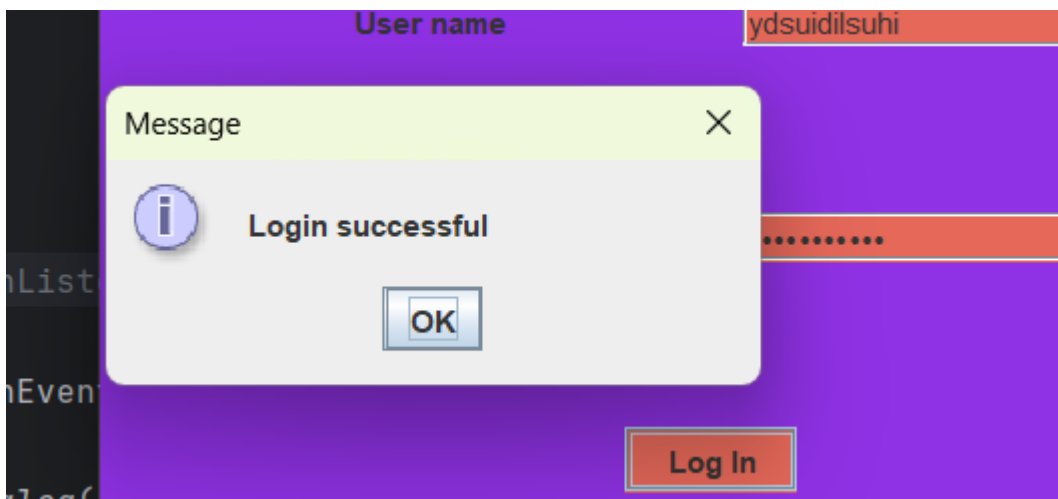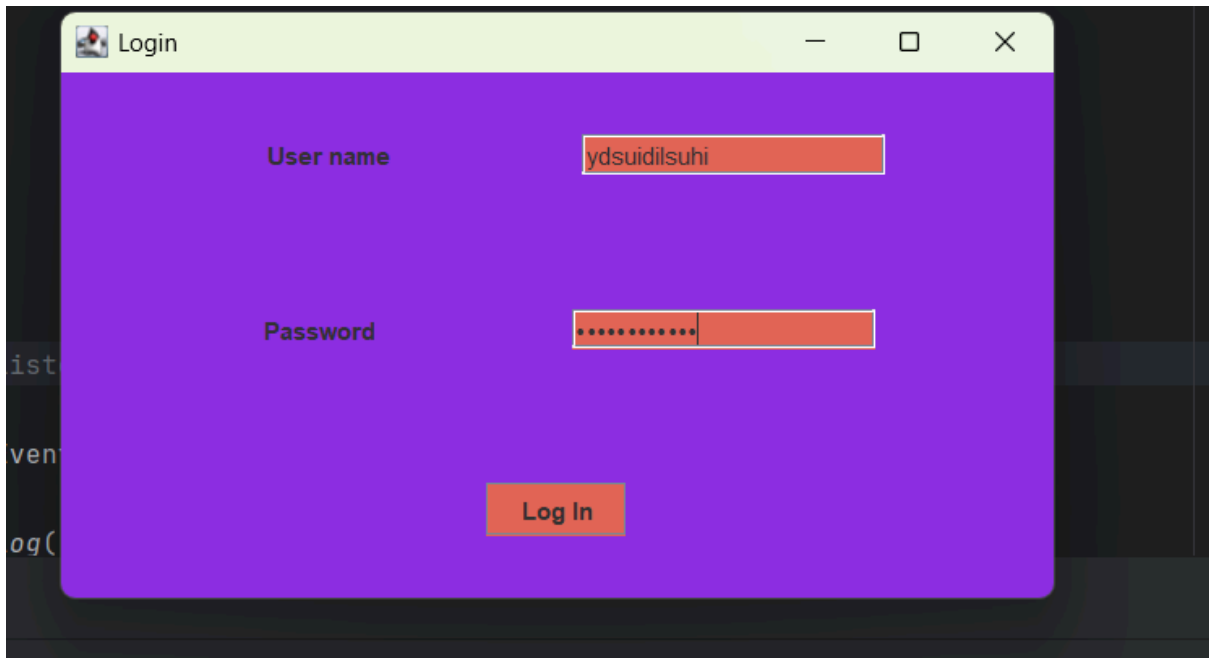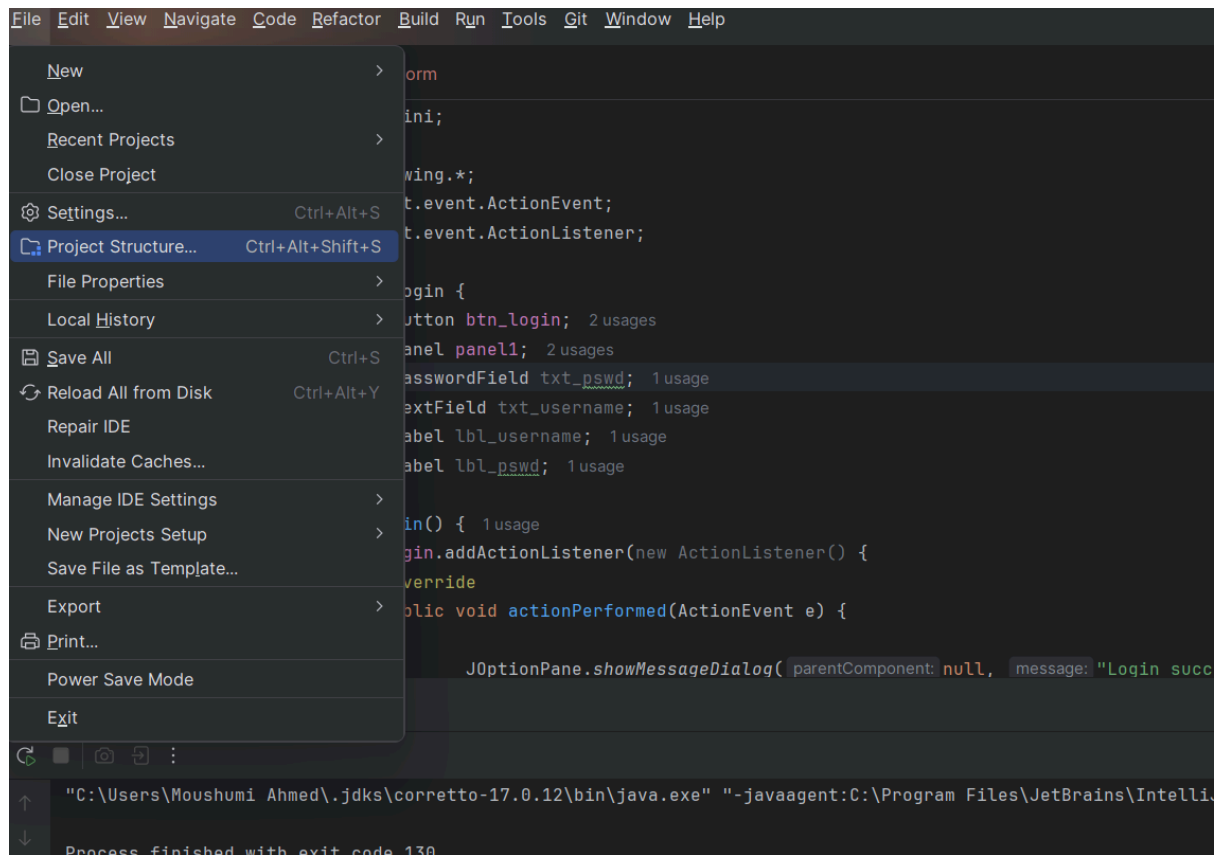
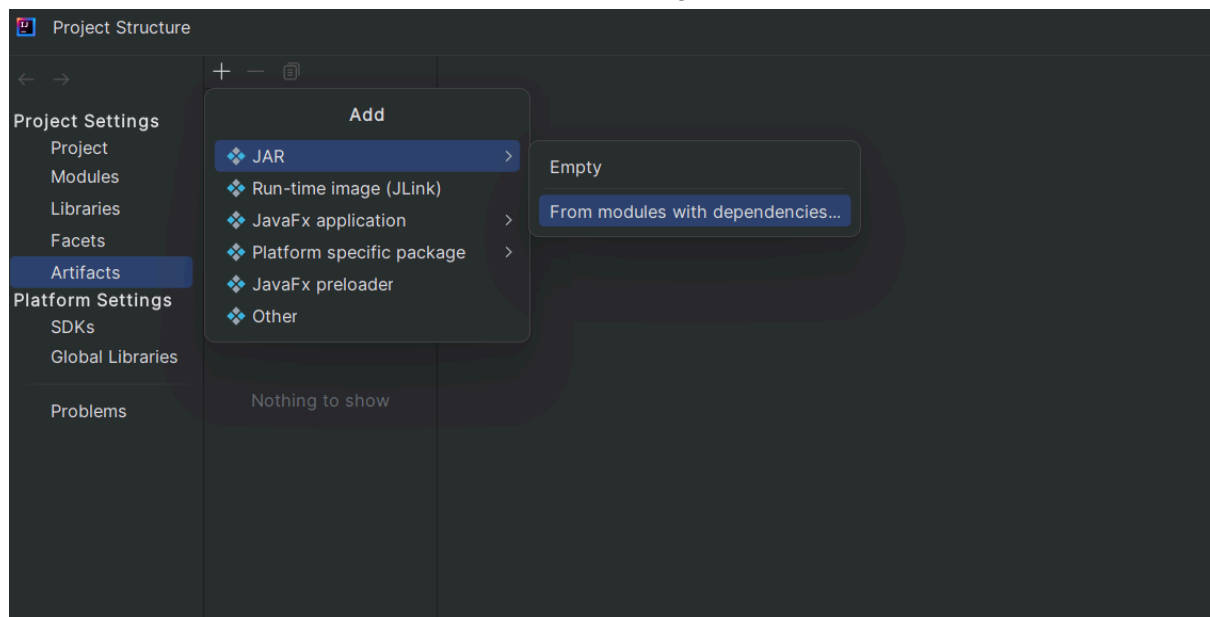Save the files and run the code. Running app will look like this:

Step 2: Creating jar file from the project:

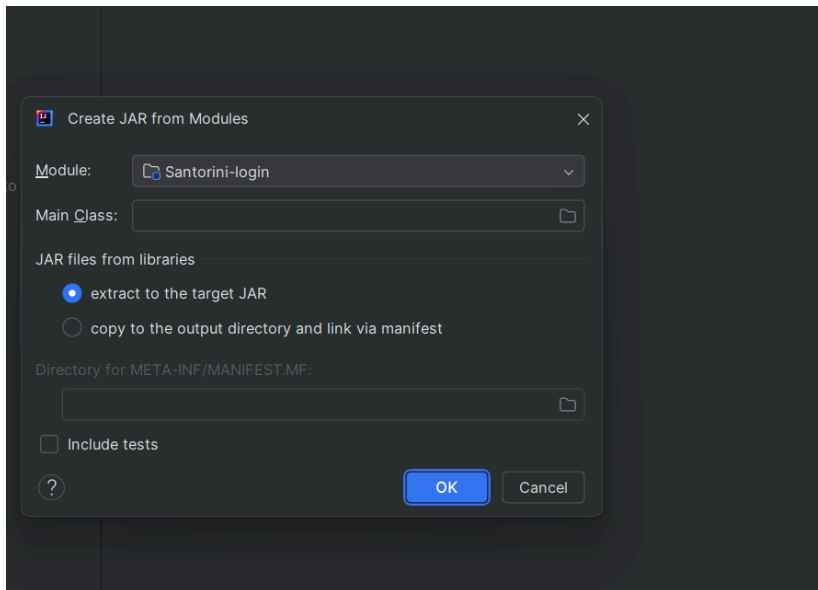Open the fikle containing the main method. Click on fie and then Project Structure.

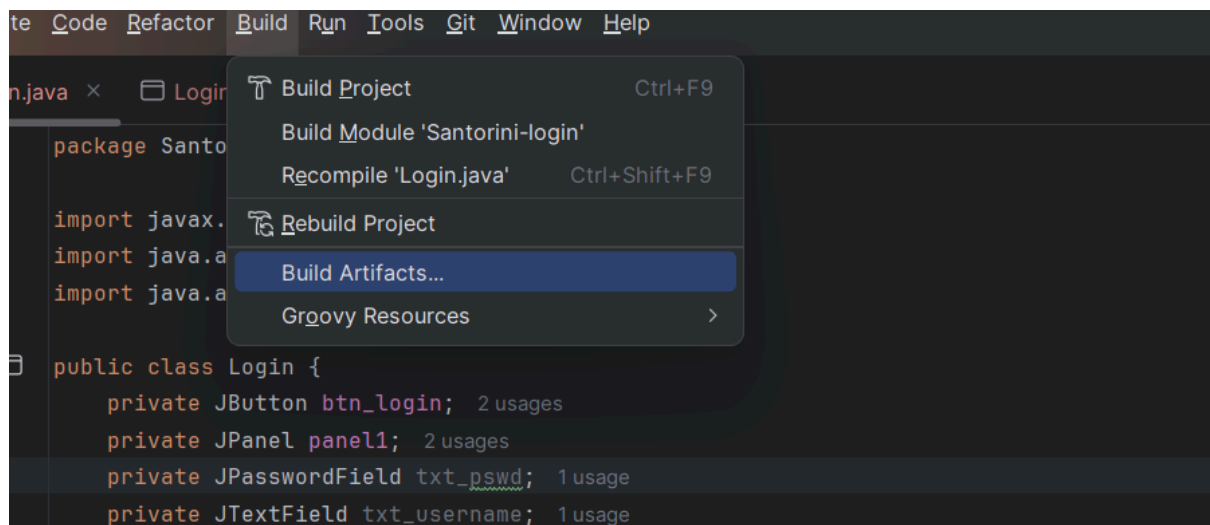Then click on the artifacts and then click on the + sign to add artifacts.

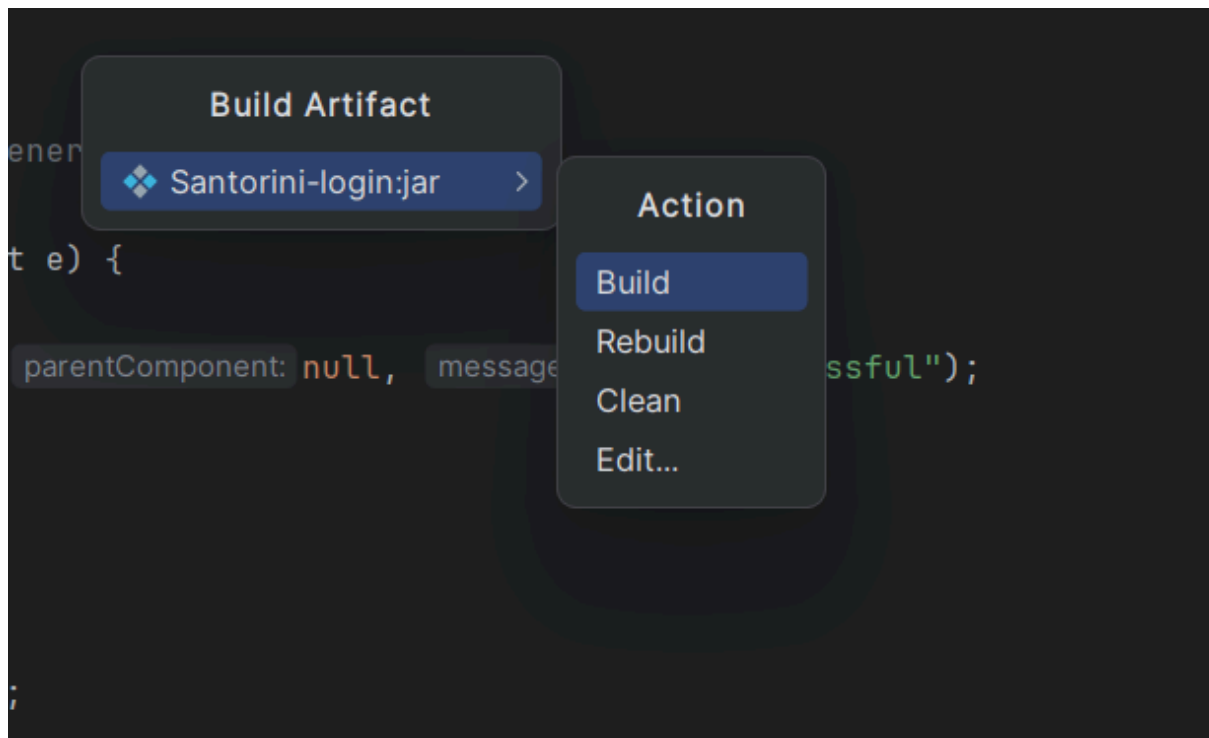Select the JAR then 'From modules with with deoendencies'.

In the 'Create JAR from Modules', select the module and the main class which contains the main method. Click on OK.
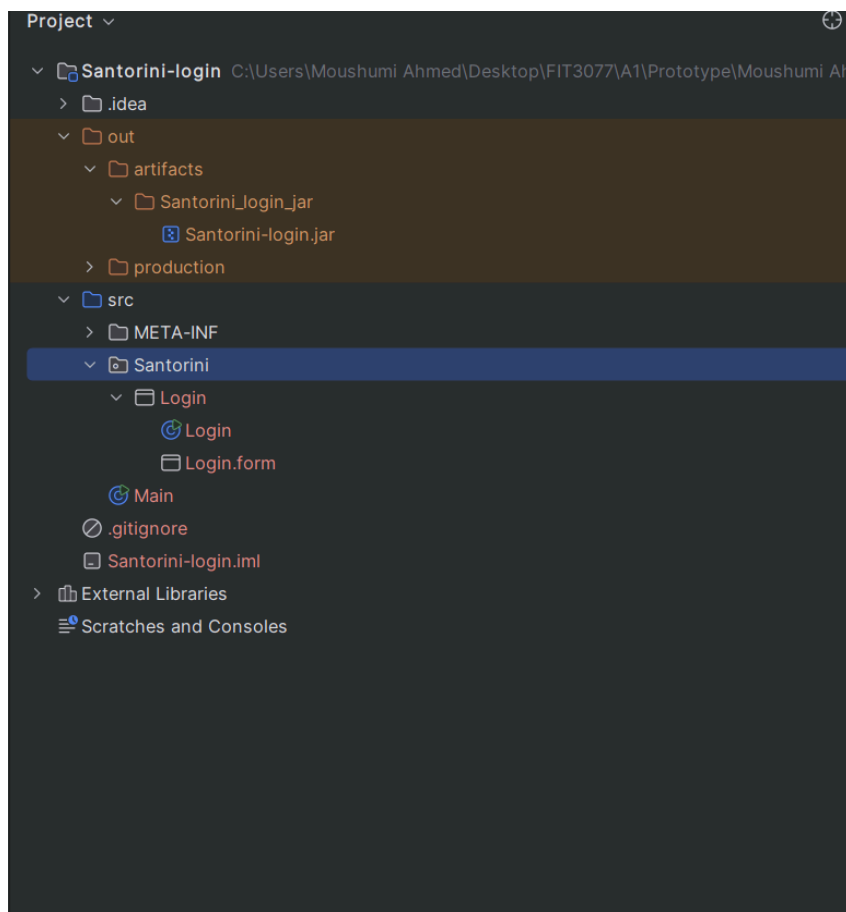
On the window tht opens, select the output directory and click on 'OK'.

To build the jar file, click on 'Build ' on the top menu bar, then select Build Artifacts, then jar file and then click on build.

After the build is complete, the jar file will be placed in the folder with the name of the jar file, which is under the 'artifacts' folder inside the 'out' folder.

To open the file in exlorer, right click on the fike and click on 'Open in' then select explorer.

After the fike is displayed in the explorer, copy the file in desktop and doubpe click on it to run.

Reference:

https://www.youtube.com/watch?v=_XQjs1xGtaU (Step 1)

https://www.youtube.com/watch?v=5vSyyIPPEko (Step 2)