Create new Button and Set Action Listener in JavaFX

JavaFX Tutorial – We shall learn to Create new Button and Set Action Listener in JavaFX Application.

Quick Code Snippet

```java
Button btn = new Button();
btn.setText("Display Message");
btn.setOnAction(new EventHandler() {
    @Override
    public void handle(ActionEvent event) {
        System.out.println("Hi there! You clicked me!");
    }
});
```

Following is a step by step guide to create a new Button in JavaFX and Set Action Listener.

1. **Instantiate a new Button.**

   ```java
   Button btn = new Button();
   ```

2. **Set some text in button.**

   ```java
   btn.setText("Display Message");
   ```

3. **Set Action Listener**

   If you have set an Action Listener and the button is clicked, EventHandler would execute the handle method. You should implement the handle method to perform an action after an event happens for button.

   ```java
   btn.setOnAction(new EventHandler() {
       @Override
       public void handle(ActionEvent event) {
           System.out.println("Hi there! You clicked me!");
       }
   });
   ```

4. **Run the JavaFX Application.**

   Following is the complete Class.

   ```java
   Main.java, Java Program to create a new button and its event handler
   ```
package application;

import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.layout.StackPane;
import javafx.stage.Stage;

public class NewButtonExample extends Application {

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

    @Override
    public void start(Stage primaryStage) {
        try {
            // set title
            primaryStage.setTitle("New Button and its Action Listener");
            // create a new Button shape
            Button btn = new Button();
            // set text inside button
            btn.setText("Display Message");
            // set Action Listener
            btn.setOnAction(new EventHandler<ActionEvent>() {
                @Override
                public void handle(ActionEvent event) {
                    // instructions executed when the button is clicked
                    System.out.println("Hi there! You clicked me!");
                }
            });
            // stack pane
            StackPane root = new StackPane();
            // add button to Stack Pane
            root.getChildren().add(btn);
            Scene scene = new Scene(root, 400, 400);
            scene.getStylesheets().add(getClass().getResource("application.css").toExternalForm());
            primaryStage.setScene(scene);
            primaryStage.show();
        } catch(Exception e) {
            e.printStackTrace();
        }
    }
}

5. Output

Following would be the output on running the JavaFX Application.
Click on the Button

If you click on the button ‘Display message’, ‘Hi there! You clicked me!’ would be printed to console output. You may replace the code in handle() method to perform your own defined action.

<table>
<thead>
<tr>
<th>Output in console</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hi there! You clicked me!</td>
</tr>
</tbody>
</table>

**Conclusion:**

In this JavaFX Tutorial: Create new Button and Set Action Listener in JavaFX, we have learnt to create a new button with desired text and trigger an action when the button is clicked.