

JAVA 11

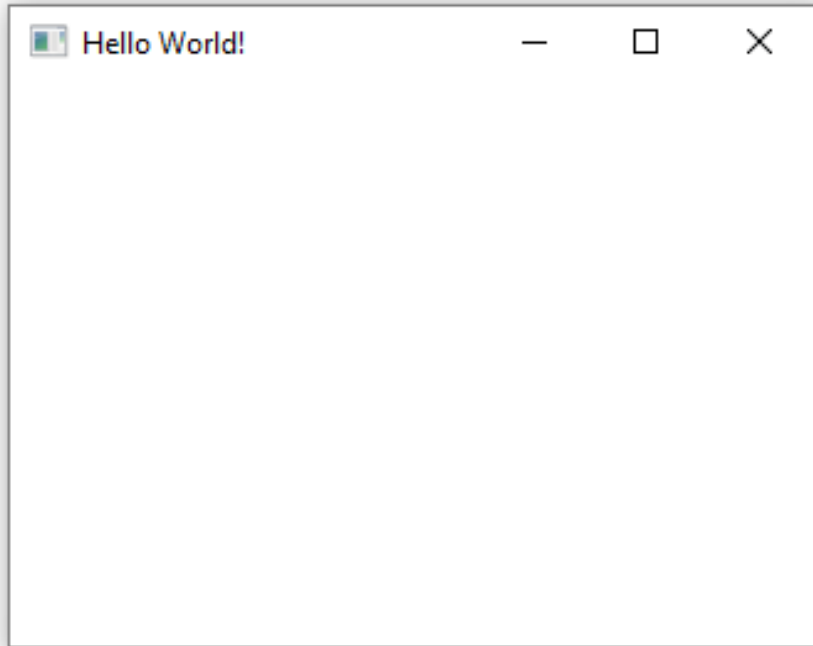
Grundlagen JavaFX

Quellen:

http://docs.oracle.com/javafx/2/get_started/jfxpub-get_started.htm

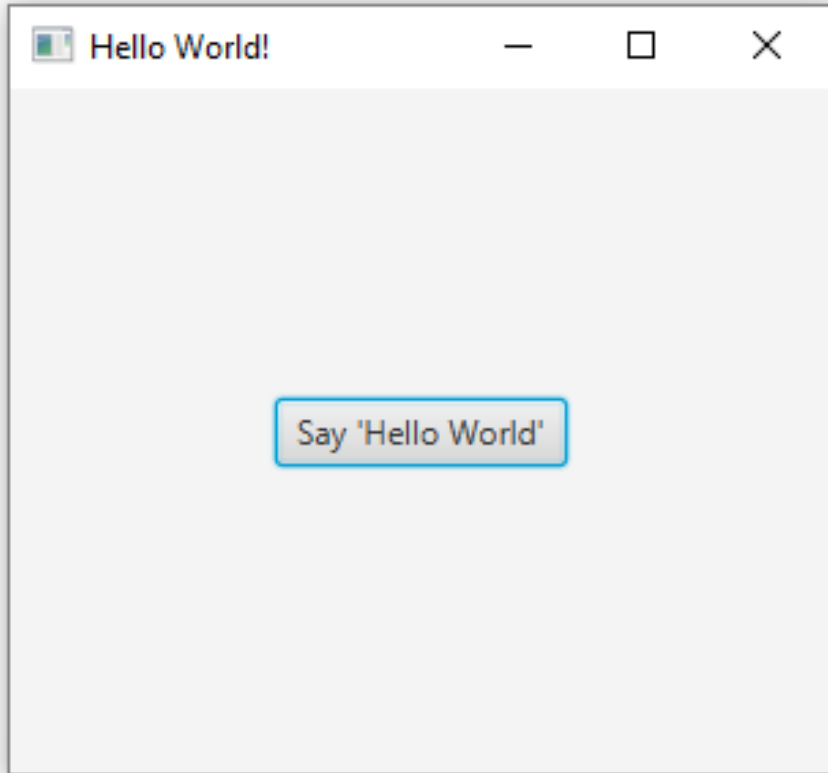
http://docs.oracle.com/javafx/2/layout/builtin_layouts.htm

1.1. Hello World - Application & Stage



```
public class HelloWorldMain extends Application {  
  
    public static void main(String[] args) {  
        launch(args);  
    }  
  
    @Override  
    public void start(Stage stage) {  
        stage.setTitle("Hello World!");  
  
        // Hier weiter Elemente hinzufügen  
  
        stage.show();  
    }  
}
```

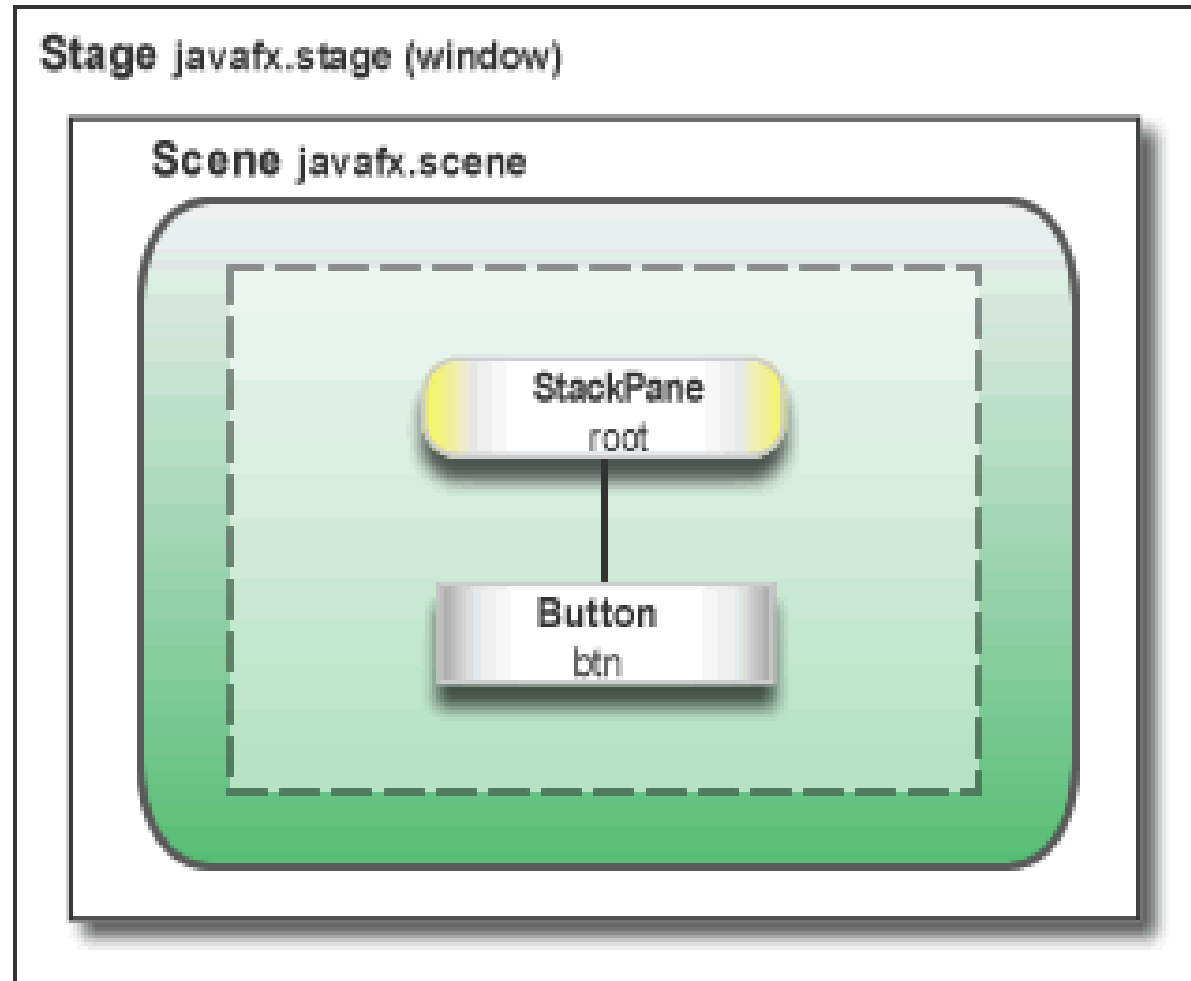
1.2. Hello World - Scene, StackPane & Button



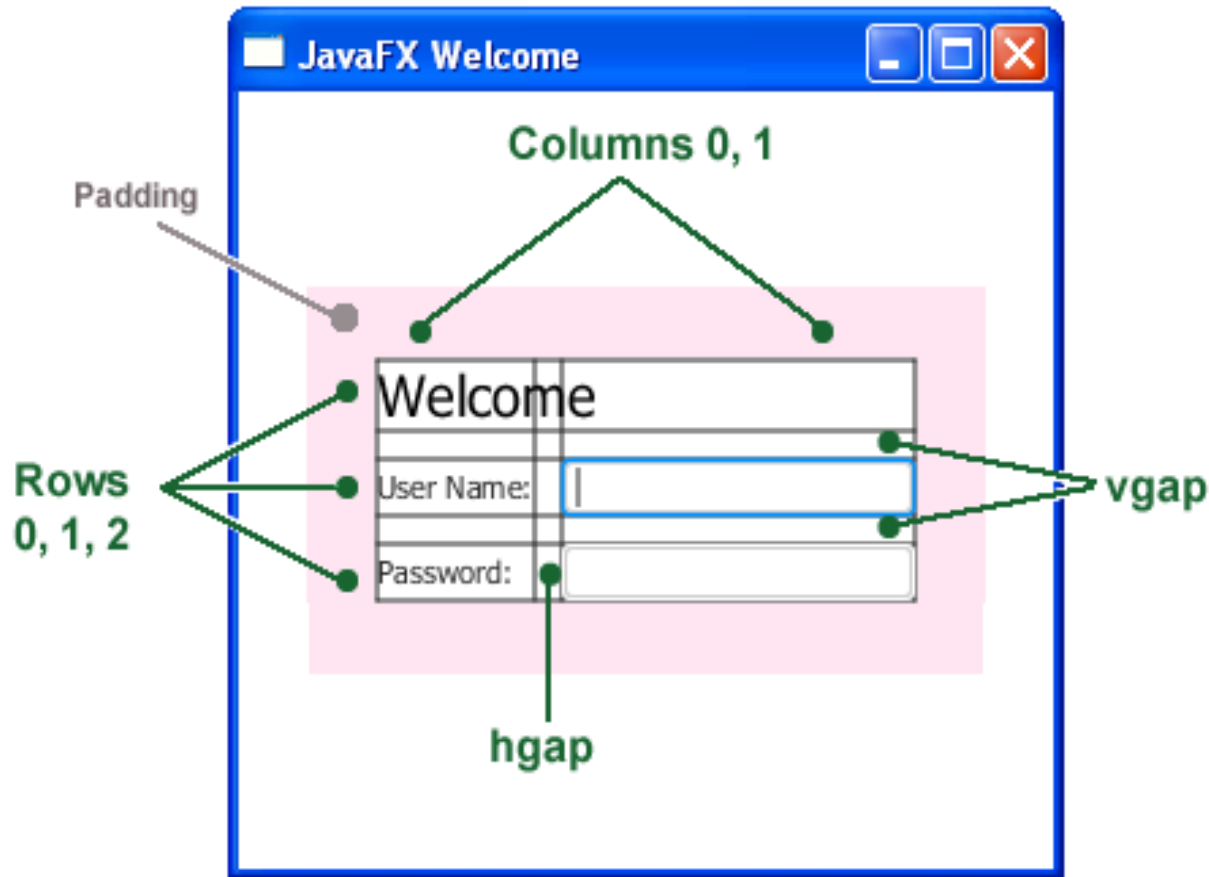
```
Button btn = new Button();  
btn.setText("Say 'Hello World'");  
btn.setOnAction(new EventHandler<ActionEvent>() {  
    @Override  
    public void handle(ActionEvent event) {  
        System.out.println("Hello World!");  
    }  
});
```

```
StackPane root = new StackPane();  
root.getChildren().add(btn);  
stage.setScene(new Scene(root, 300, 250));
```

1.3. Hello World – Die Hierarchie der Elemente



2.1. JavaFX Welcome – Das Grid-Layout

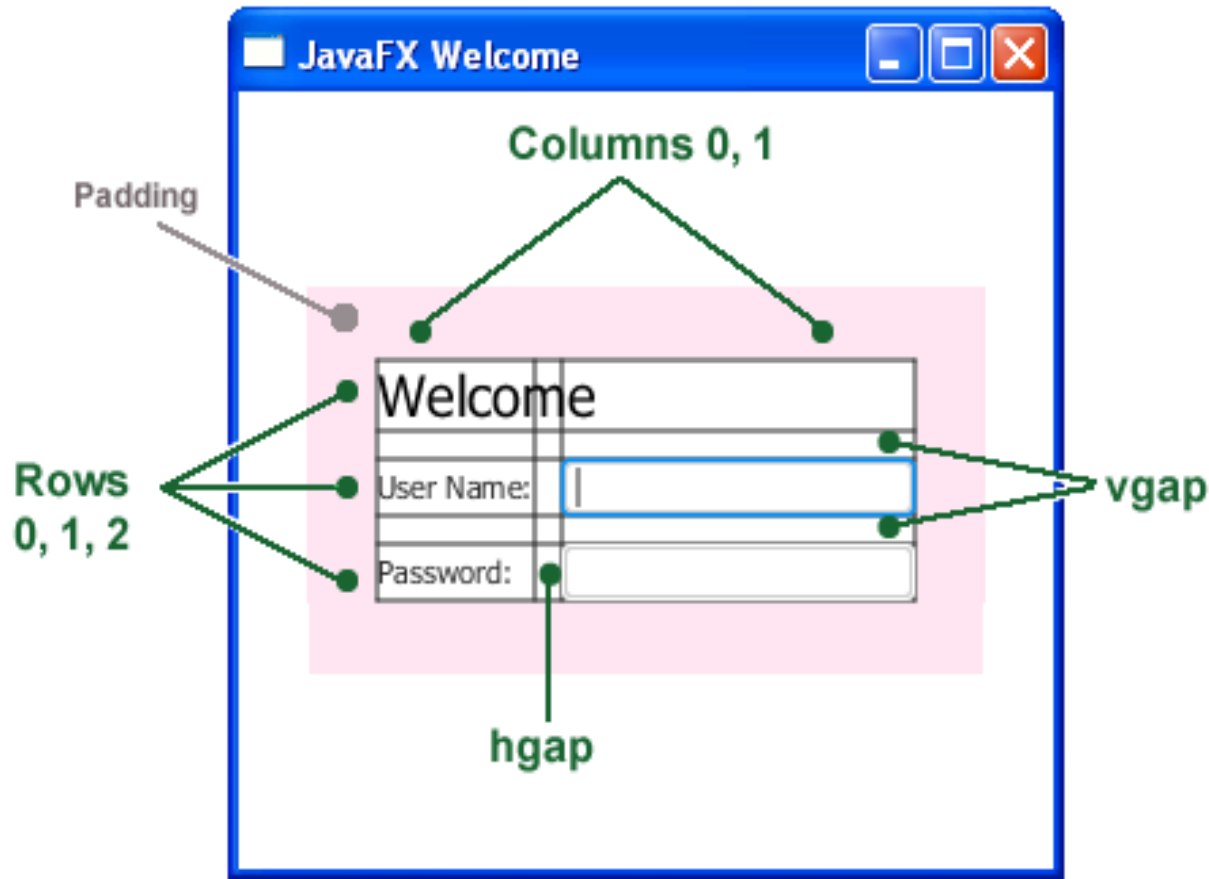


```
GridPane grid = new GridPane();  
grid.setAlignment(Pos.CENTER);  
grid.setHgap(10);  
grid.setVgap(10);  
grid.setPadding(new Insets(25, 25, 25, 25));
```

```
// hier das Formular ins Grid einfügen  
// (nächste Folie)
```

```
// und sichtbar machen:  
Scene scene = new Scene(grid, 300, 275);  
primaryStage.setScene(scene);
```

2.2. JavaFX Welcome – Ein Formular



```
Text scenetitle = new Text("Welcome");
scenetitle.setFont(Font.font("Tahoma",
                             FontWeight.NORMAL, 20));
grid.add(scenetitle, 0, 0, 2, 1);
```

```
Label userName = new Label("User Name:");
grid.add(userName, 0, 1);
```

```
TextField userTextField = new TextField();
grid.add(userTextField, 1, 1);
```

```
Label pw = new Label("Password:");
grid.add(pw, 0, 2);
```

```
PasswordField pwBox = new PasswordField();
grid.add(pwBox, 1, 2);
```

2.3. JavaFX Welcome – Das Grid befüllen?

Beim Hinzufügen von Elementen gibt es (unter anderen) folgende Methoden:

- Am einfachsten: Methode zum Einfügen eines Elements

```
public void add(Node child, int columnIndex, int rowIndex)
```

- Ein Eintrag über mehrer Spalten oder/und Reihen

```
public void add(Node child, int columnIndex, int rowIndex,  
                int colspan,      int rowspan)
```

Statt eine eigene Schleife zu bauen, kann man folgende Hilfsmethoden nutzen:

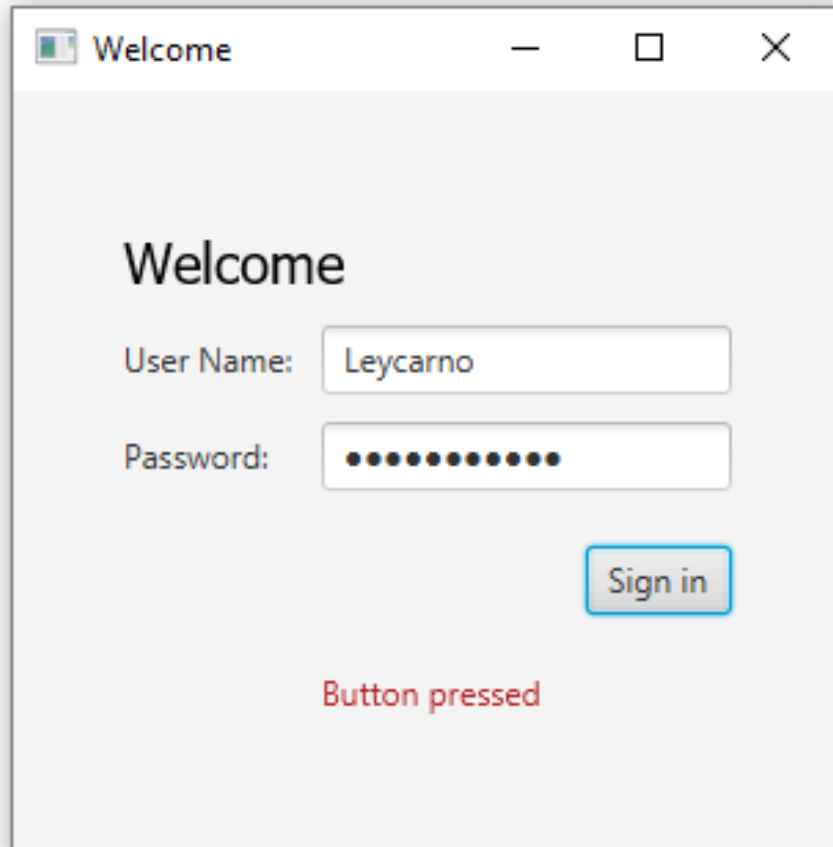
- Eintragen von mehreren Einträgen in einer Reihe

```
public void addRow(int rowIndex, Node... children)
```

- Eintragen einer ganzen Spalte – sinnvoll für einfache Auflistungen oder Tabellen

```
public void addColumn(int columnIndex, Node... children)
```

2.4. JavaFX Welcome – Noch ein Button!

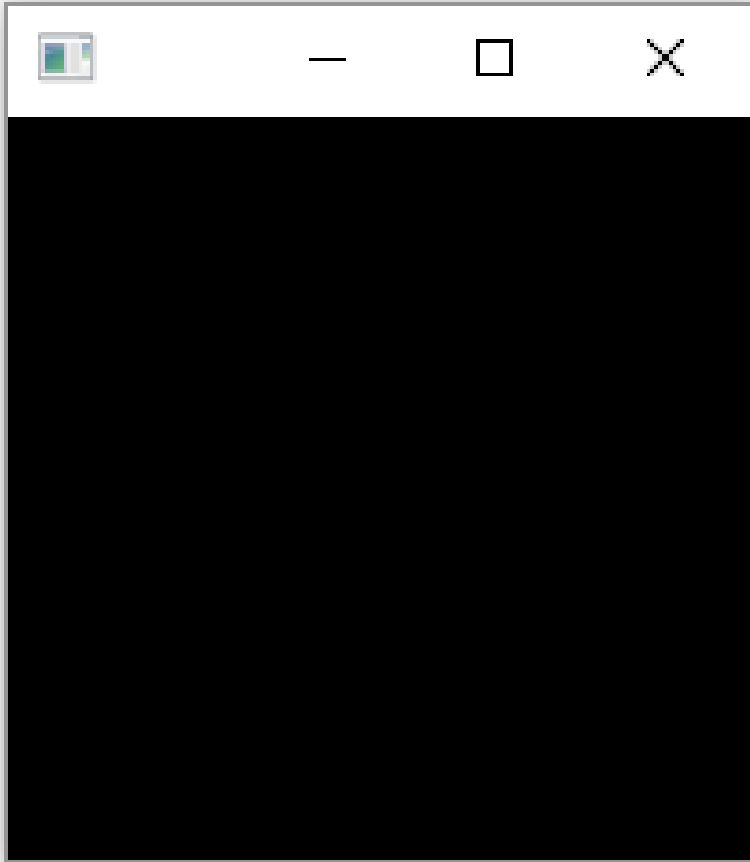


```
Button btn = new Button("Sign in");
HBox hbBtn = new HBox(10);
hbBtn.setAlignment(Pos.BOTTOM_RIGHT);
hbBtn.getChildren().add(btn);
grid.add(hbBtn, 1, 4);
```

```
final Text actiontarget = new Text();
grid.add(actiontarget, 1, 6);
```

```
btn.setOnAction(new EventHandler<ActionEvent>() {
    @Override
    public void handle(ActionEvent e) {
        actiontarget.setFill(Color.FIREBRICK);
        actiontarget.setText("Button pressed");
    }
});
```


3.1. Grafik – Ein Schwarzes Fenster

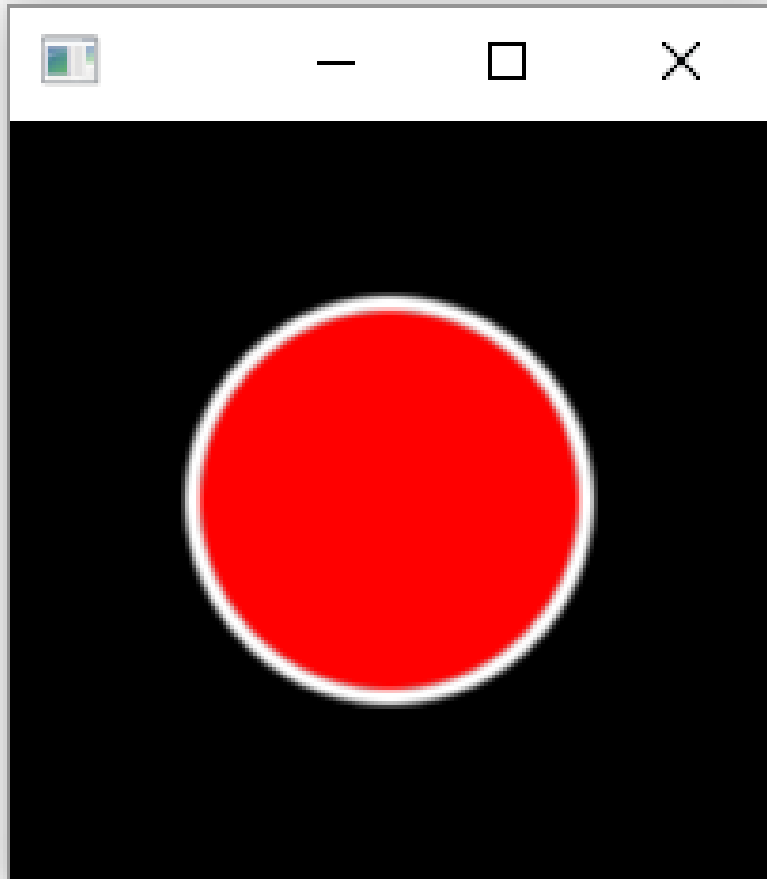


```
StackPane root = new StackPane();  
Scene scene = new Scene(root, 200, 200, Color.BLACK);
```

```
// Hier die Grafiken erstellen  
// und anschließend an die „root“ anbinden
```

```
stage.setScene(scene);  
stage.show();
```

3.2. Grafik – Einen Kreis malen



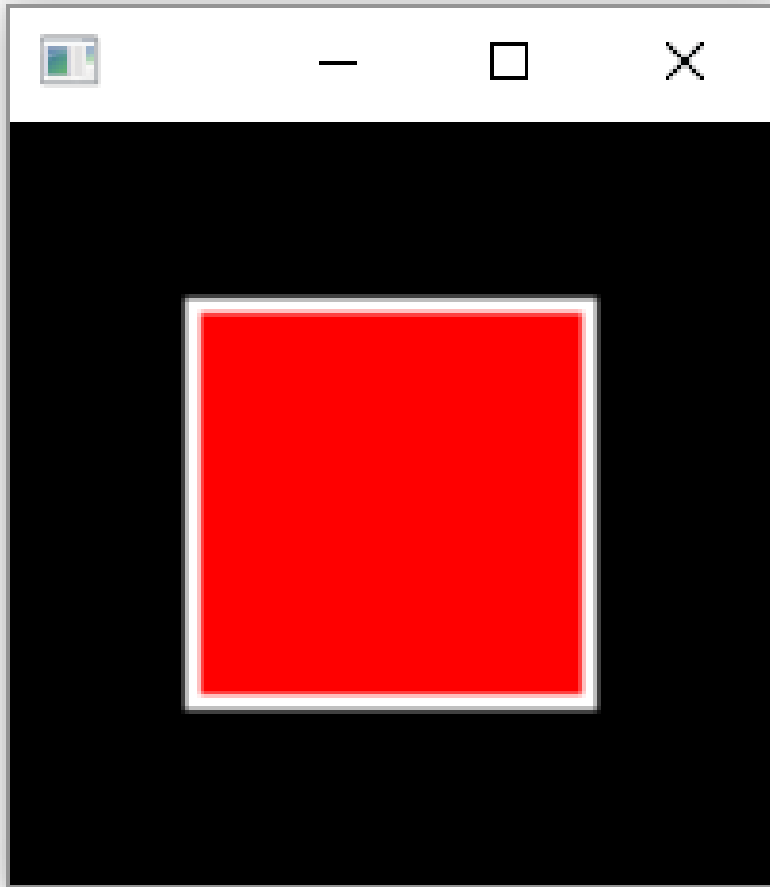
Parameter für Circle: Mittelpunkt x , y und Radius

```
Circle circle = new Circle(100, 100, 50,  
                           Color.web("red"));
```

```
circle.setStrokeType(StrokeType.OUTSIDE);  
circle.setStroke(Color.web("white"));  
circle.setStrokeWidth(4);  
circle.setEffect(new BoxBlur(2, 2, 1));
```

```
root.getChildren().add(circle);
```

3.3. Grafik – Ein Rechteck malen



Parameter für Rectangle: Links, Oben, Breite, Höhe

```
Rectangle rect = new Rectangle(50, 50, 100, 100);
```

```
rect.setFill(Color.web("red"));
```

```
rect.setStrokeType(StrokeType.OUTSIDE);
```

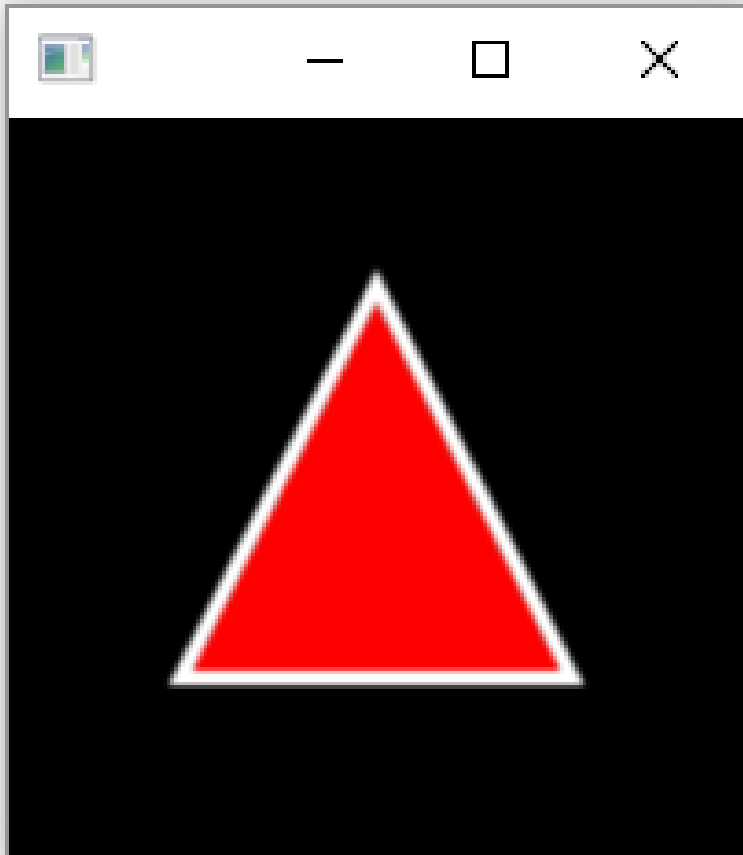
```
rect.setStroke(Color.web("white"));
```

```
rect.setStrokeWidth(4);
```

```
rect.setEffect(new BoxBlur(2, 2, 1));
```

```
root.getChildren().add(rect);
```

3.4. Grafik – Ein Dreieck malen



```
Polygon polygon = new Polygon();  
polygon.getPoints().addAll(new Double[]{  
    100.0, 50.0,  
    50.0, 150.0,  
    150.0, 150.0 }));
```

```
polygon.setFill(Color.web("red"));
```

```
polygon.setStrokeType(StrokeType.OUTSIDE);  
polygon.setStroke(Color.web("white"));  
polygon.setStrokeWidth(4);  
polygon.setEffect(new BoxBlur(2, 2, 1));
```

```
root.getChildren().add(polygon);
```

4. BorderPane – Ein nettes „Root“-Layout

