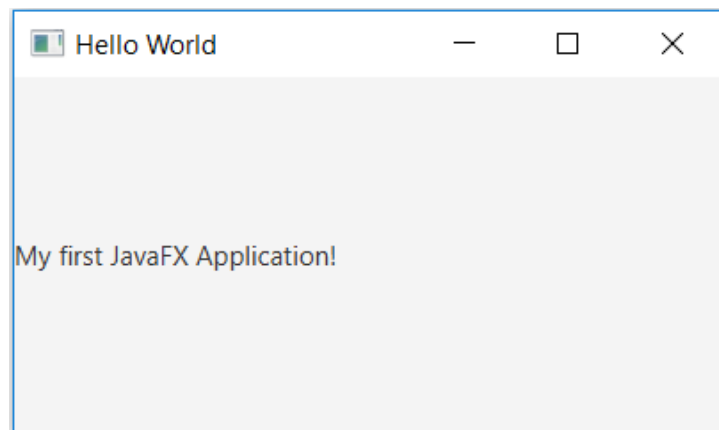


Layouts



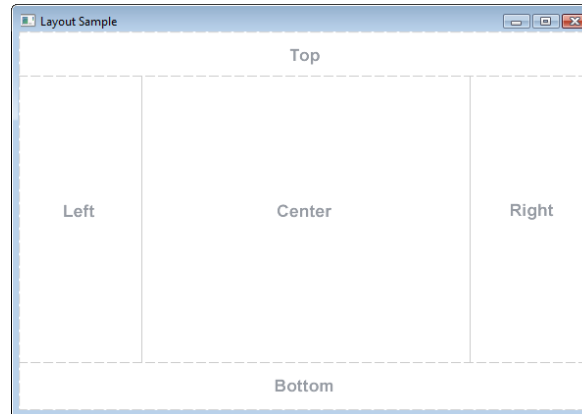
1. Layouts
2. Demo

Layouts



Layout features

- Is a component which contains other components inside them.
- It manages the layout of the components nested inside it.
- It's base class is `javafx.scene.layout.Pane`.
- It must be attached to the scene graph of some Scene object to be visible.

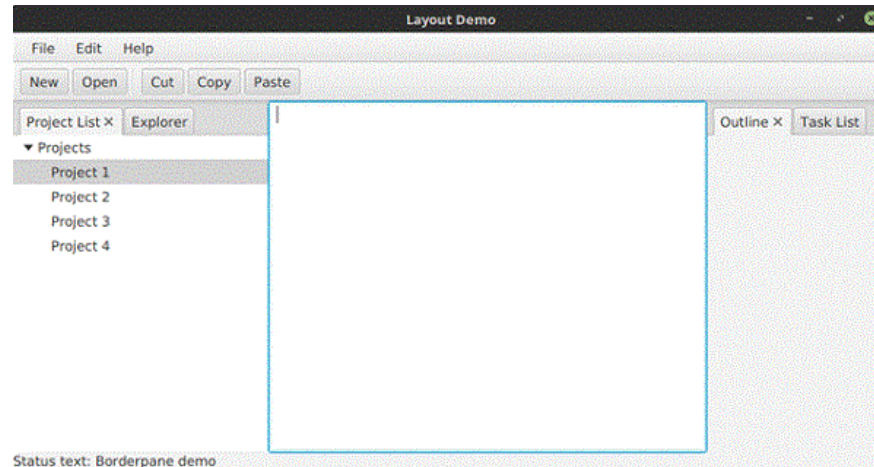




Layouts introduction DEMO

`javafx.scene.layout.BorderPane`

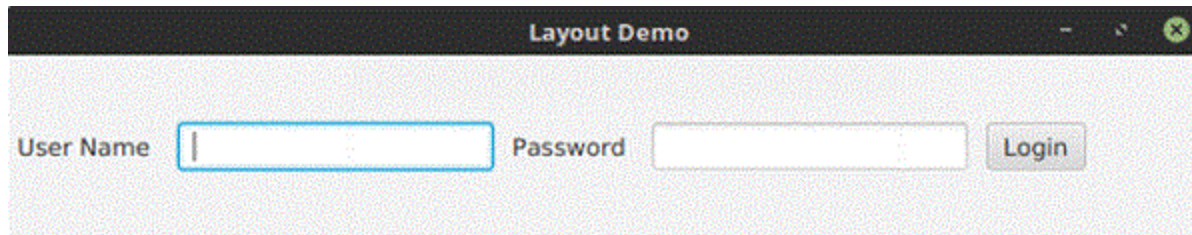
- Organizes nodes in top, left, right, centre and the bottom of the scene.



<https://docs.oracle.com/javase/8/javafx/api/javafx/scene/layout/BorderPane.html>

`javafx.scene.layout.HBox`

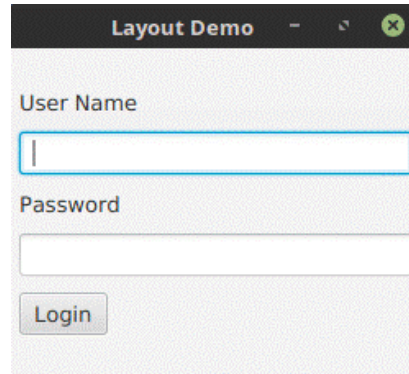
- It lays out its children in a single horizontal row.



<https://docs.oracle.com/javase/8/javafx/api/javafx/scene/layout/HBox.html>

`javafx.scene.layout.VBox`

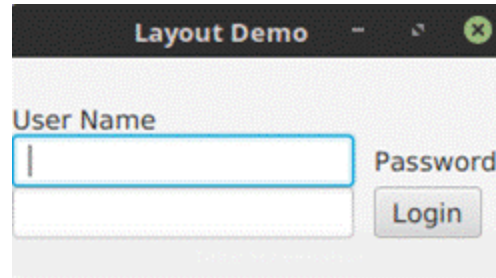
- It lays out its children in a single vertical column.



 <https://docs.oracle.com/javase/8/javafx/api/javafx/scene/layout/VBox.html>

`javafx.scene.layout.FlowPane`

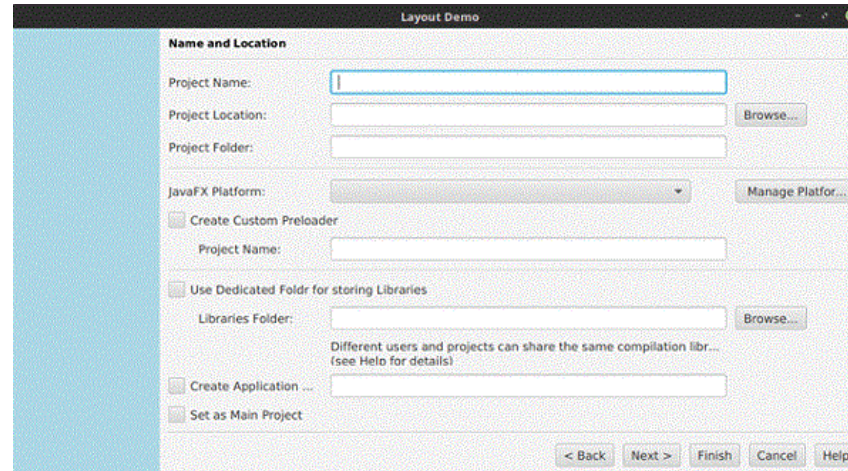
- Lays out its child components either vertically or horizontally
- Wrap the components onto the next row or column if there is not enough space in one row



<https://docs.oracle.com/javase/8/javafx/api/javafx/scene/layout/FlowPane.html>

`javafx.scene.layout.GridPane`

- Lays out its child in a tabular form
- Very used in input forms



 <https://docs.oracle.com/javase/8/javafx/api/javafx/scene/layout/GridPane.html>

myScene.fxml

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<?import javafx.scene.control.Label?>
```

```
<?import javafx.scene.layout.FlowPane?>
```

The container stands as Parent

```
<FlowPane alignment="CENTER">
```

The Parent sets the arrangement
of the nested controls

```
<children>
```

```
<Label text="My first JavaFX Application!" />
```

```
</children>
```

```
</FlowPane>
```

Controls inside containers are Children

myScene.fxml

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<?import javafx.scene
```

```
<?import javafx.scene
```

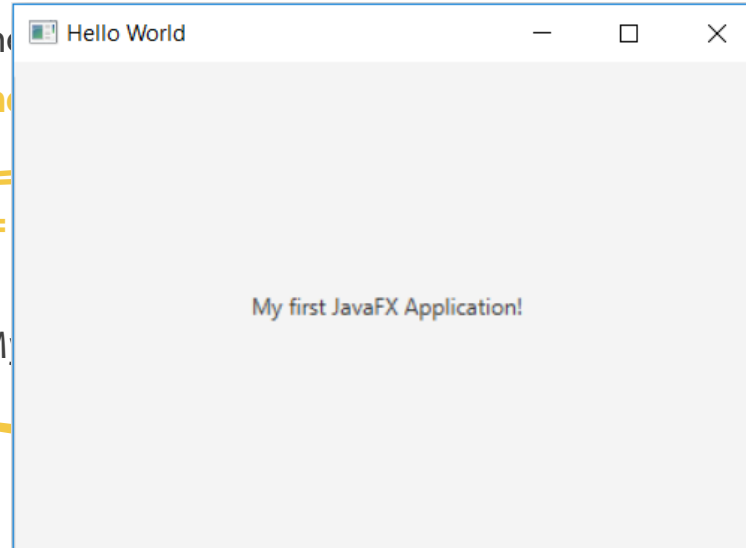
```
<FlowPane alignment=
```

```
<children>
```

```
<Label text="M
```

```
</children>
```

```
</FlowPane>
```



Container stands as Parent

Arrangement
controls

Controls inside containers are Children

```
<BorderPane nodeOrientation="LEFT_TO_RIGHT" prefHeight="400.0" prefWidth="600.0" xmlns:fx="http://javafx.com/fxml/1">
  <center>
    <FlowPane alignment="CENTER" prefHeight="200.0" prefWidth="200.0" BorderPane.alignment="CENTER">
      <children>
        <Polygon fill="DODGERBLUE" stroke="BLACK" strokeType="INSIDE">
          <points...>
        </Polygon>
        <Circle fill="DODGERBLUE" radius="86.0" stroke="BLACK" strokeType="INSIDE" />
      </children>
    </FlowPane>
  </center>
  <left>
    <VBox alignment="CENTER" prefHeight="317.0" prefWidth="149.0" spacing="20.0" BorderPane.alignment="CENTER">
      <children>
        <Button lineSpacing="10.0" mnemonicParsing="false" prefHeight="25.0" prefWidth="92.0" text="Button" />
        <Button lineSpacing="40.0" mnemonicParsing="false" prefHeight="25.0" prefWidth="92.0" text="Button" />
      </children>
    </VBox>
  </left>
  <top>
    <HBox alignment="CENTER" prefHeight="47.0" prefWidth="600.0" BorderPane.alignment="CENTER">
      <children>
        <Label text="My First JavaFX Application!" />
      </children>
    </HBox>
  </top>
</BorderPane>
```

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      <children>
        <Label text="My First JavaFX Application!" />
      </children>
    </HBox>
  </top>
</BorderPane>
```

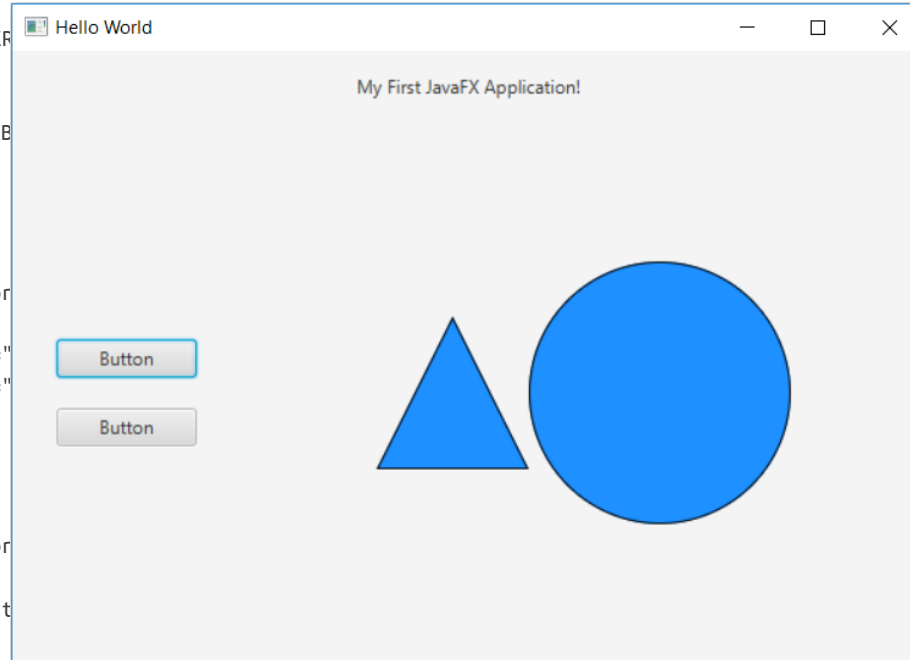
myScene.fxml

```
<BorderPane nodeOrientation="LEFT_TO_RIGHT" prefHeight="400.0" prefWidth="600.0" xmlns:fx="http://javafx.com/fxml/1">
  <center>
    <FlowPane alignment="CENTER" prefHeight="200.0" prefWidth="200.0" BorderPane.alignment="CENTER">
      <children>
        <Polygon fill="DODGERBLUE" stroke="BLACK" strokeType="INSIDE">
          <points...>
        </Polygon>
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  </left>
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    <HBox alignment="CENTER" prefHeight="47.0" prefWidth="600.0" BorderPane.alignment="CENTER">
      <children>
        <Label text="My First JavaFX Application!" />
      </children>
    </HBox>
  </top>
</BorderPane>
```

myScene.fxml

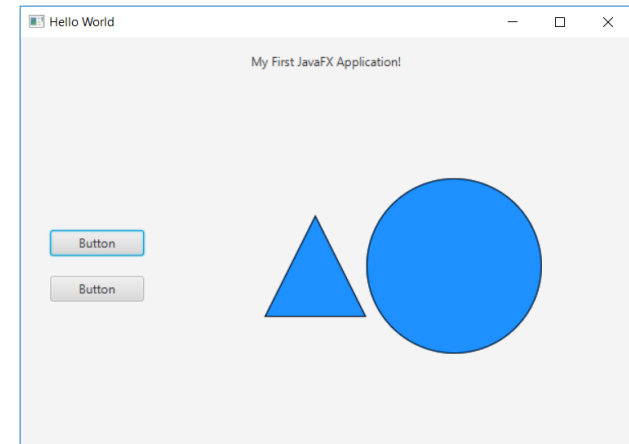
```
<BorderPane nodeOrientation="LEFT_TO_RIGHT" prefHeight="400.0" prefWidth="600.0" xmlns:fx="http://javafx.com/fxml/1">
  <center>
    <FlowPane alignment="CENTER" prefHeight="200.0" prefWidth="200.0" BorderPane.alignment="CENTER">
      <children>
        <Polygon fill="DODGERBLUE" points="50,100,200,100,200,0,50,0"/>
        </Polygon>
        <Circle fill="DODGERBLUE" radius="100" center="200,100"/>
      </children>
    </FlowPane>
  </center>
  <left>
    <VBox alignment="CENTER" prefHeight="200.0" prefWidth="100.0" BorderPane.alignment="CENTER">
      <children>
        <Button lineSpacing="4" text="Hello World" />
        <Button lineSpacing="4" text="My First JavaFX Application!" />
      </children>
    </VBox>
  </left>
  <top>
    <HBox alignment="CENTER" prefHeight="100.0" prefWidth="600.0" BorderPane.alignment="CENTER">
      <children>
        <Label text="My First JavaFX Application!" />
      </children>
    </HBox>
  </top>
</BorderPane>
```

myScene.fxml



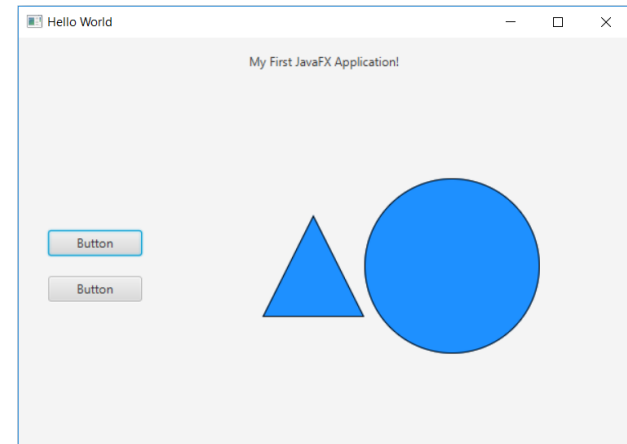
Main.java

```
public void start(Stage primaryStage) throws Exception {  
    Label label = new Label("My First JAVAFX Application");  
    Circle circle = new Circle();  
    circle.setStroke(Color.BLACK);  
    circle.setStrokeType(StrokeType.INSIDE);  
    circle.setFill(Color.DODGERBLUE);  
    circle.setRadius(100);  
    Polygon triangle = new Polygon();  
    triangle.setStroke(Color.BLACK);  
    triangle.setStrokeType(StrokeType.INSIDE);  
    triangle.setFill(Color.DODGERBLUE);  
    triangle.getPoints().addAll(new Double[] { -50.0, 40.0, 50.0, 40.0, 0.0, -60.0 });  
    Button button1 = new Button("Button");  
    Button button2 = new Button("Button");  
    ...  
}
```



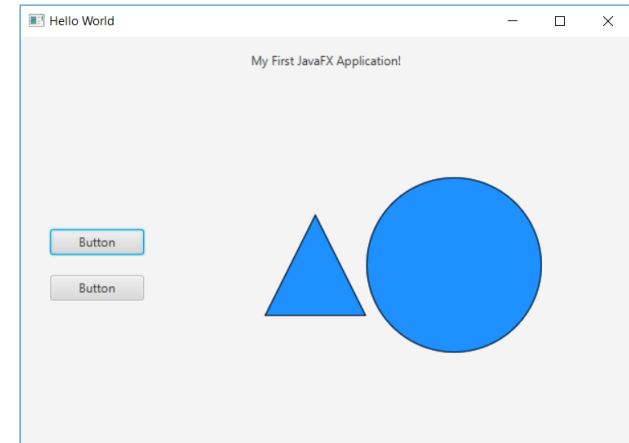
```
...  
FlowPane flowpane = new FlowPane();  
flowpane.setAlignment(Pos.CENTER);  
flowpane.setPrefHeight(200);  
flowpane.setPrefWidth(200);  
flowpane.getChildren().addAll(triangle,circle);  
HBox hbox = new HBox();  
hbox.setAlignment(Pos.CENTER);  
hbox.setPrefHeight(100);  
hbox.setPrefWidth(200);  
hbox.getChildren().addAll(label);  
VBox vbox = new VBox();  
vbox.setAlignment(Pos.CENTER);  
vbox.setPrefHeight(200);  
vbox.setPrefWidth(100);  
vbox.setSpacing(40);  
vbox.getChildren().addAll(button1,button2);  
...
```

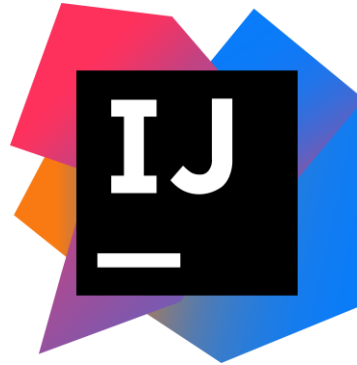
Main.java



Main.java

```
...  
BorderPane borderPane = new BorderPane();  
borderPane.setPrefHeight(400);  
borderPane.setPrefWidth(600);  
borderPane.setTop(hbox);  
borderPane.setLeft(vbox);  
borderPane.setCenter(flowpane);  
Scene scene = new Scene(borderPane);  
primaryStage.setTitle("Hello world");  
primaryStage.setScene(scene);  
primaryStage.show();  
}
```





Layouts DEMO

"Everything is designed.
Few things are designed well."

Brian Reed, front-end developer and musician

