

SCROLL PANE

A scroll pane holds a UI element and provides a scrollable view of it. In JavaFX, you can create a scroll pane by instantiating the *javafx.scene.control.ScrollPane* class. You can set content to the scroll pane using the **setContent()** method.

- To add a scroll pane to a node –
- Instantiate the ScrollPane class.
- Create the desired node.
- Set the node to the scroll pane using the **setContent()** method.
- Set the dimensions of the scroll pane using the setter methods.
- Add the scroll pane to the layout pane or group.

Example

```
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.InputStream;
import javafx.application.Application;
import javafx.scene.Group;
import javafx.scene.Scene;
import javafx.scene.control.ScrollPane;
import javafx.scene.image.Image;
import javafx.scene.image.ImageView;
import javafx.scene.paint.Color;
import javafx.stage.Stage;

public class ScrollPaneActionExample extends Application {
    public void start(Stage stage) throws FileNotFoundException {
        //creating the image object
        InputStream stream = new FileInputStream("D:\images\elephant.jpg");
        Image image = new Image(stream);
```

```
//Creating the image view
ImageView imageView = new ImageView();

//Setting image to the image view
imageView.setImage(image);

//Setting the image view parameters
imageView.setX(5);
imageView.setY(0);
imageView.setFitWidth(595);
imageView.setPreserveRatio(true);

//Creating the scroll pane
ScrollPane scroll = new ScrollPane();
scroll.setPrefSize(595, 200);

//Setting content to the scroll pane
scroll.setContent(imageView);

//Setting the stage
Group root = new Group();
root.getChildren().addAll(scroll);
Scene scene = new Scene(root, 595, 200, Color.BEIGE);
stage.setTitle("Scroll Pane Example");
stage.setScene(scene);
stage.show();
}

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

Create a ScrollPane

To use a JavaFX ScrollPane you must first create a ScrollPane instance. Here is an example of creating a JavaFX ScrollPane instance:

```
ScrollPane scrollPane = new ScrollPane();
```

Set ScrollPane Content

Once you have created a JavaFX ScrollPane instance you can set the content you want it to display via its setContent() method. Here is an example that sets a JavaFX ImageView as content of a JavaFX ScrollPane:

```
ScrollPane scrollPane = new ScrollPane();

String imagePath = "images/aerial-beverage-caffeine-972533.jpg";
ImageView imageView = new ImageView(new Image(new FileInputStream(imagePath)));

scrollPane.setContent(imageView);
```

ScrollPane Viewport

The visible part of a JavaFX ScrollPane is called the *ScrollPane viewport*. As you scroll around the content displayed inside the ScrollPane using the scrollbars, the viewport is moved around the content too, making different parts of the content visible.

Content With Effects or Transforms

If the content (JavaFX control) you want to display inside the JavaFX ScrollPane uses effects or transforms, you must first wrap these controls in a **JavaFX Group**. Otherwise the content won't be displayed correctly.

Pannable ScrollPane

By default the user can only navigate around the content displayed in a JavaFX ScrollPane using its scrollbars. However, it is possible to make a JavaFX ScrollPane *pannable*. A pannable ScrollPane enables the user to navigate its content

by holding down the left mouse button and move the mouse around. This will have the same effect as using the scrollbars. However, using panning you can move the content along both X and Y axis simultaneously. This is not possible using the scrollbars, where the user can only operate one scrollbar at a time.

To switch a JavaFX ScrollPane into pannable mode you must set its pannableProperty to the value true. Here is an example of switching a JavaFX ScrollPane into pannable mode:

```
scrollPane.pannableProperty().set(true);
```

Fit To Width

The JavaFX ScrollPane fitToWidth property can make the ScrollPane fit its content to the width of the ScrollPane viewport. To do so, the fitToWidth property must be set to the value true. This property is ignored if the content node is not resizable. Here is an example of setting the JavaFX ScrollPane fitToWidth property to true:

```
scrollPane.fitToWidthProperty().set(true);
```

Fit To Height

The JavaFX ScrollPane fitToHeight property can make the ScrollPane fit its content to the height of the ScrollPane viewport. To do so, the fitToHeight property must be set to the value true. This property is ignored if the content node is not resizable. Here is an example of setting the JavaFX ScrollPane fitToHeight property to true:

```
scrollPane.fitToHeightProperty().set(true);
```

Showing and Hiding Scrollbars via ScrollBar Policies

It is possible to specify when the JavaFX ScrollPane is to show the vertical and horizontal scrollbars. You do so via the ScrollPane hbarPolicyProperty and vbarPolicyProperty properties. These properties can be set to one of the ScrollPane.ScrollBarPolicy enum values. You can choose from the values ALWAYS, AS_NEEDED and NEVER. Here is an example of setting the hbarPolicyProperty and vbarPolicyProperty to ScrollBarPolicy.NEVER:

```
scrollPane.hbarPolicyProperty().setValue(ScrollPane.ScrollBarPolicy.NEVER);  
scrollPane.vbarPolicyProperty().setValue(ScrollPane.ScrollBarPolicy.NEVER);
```

