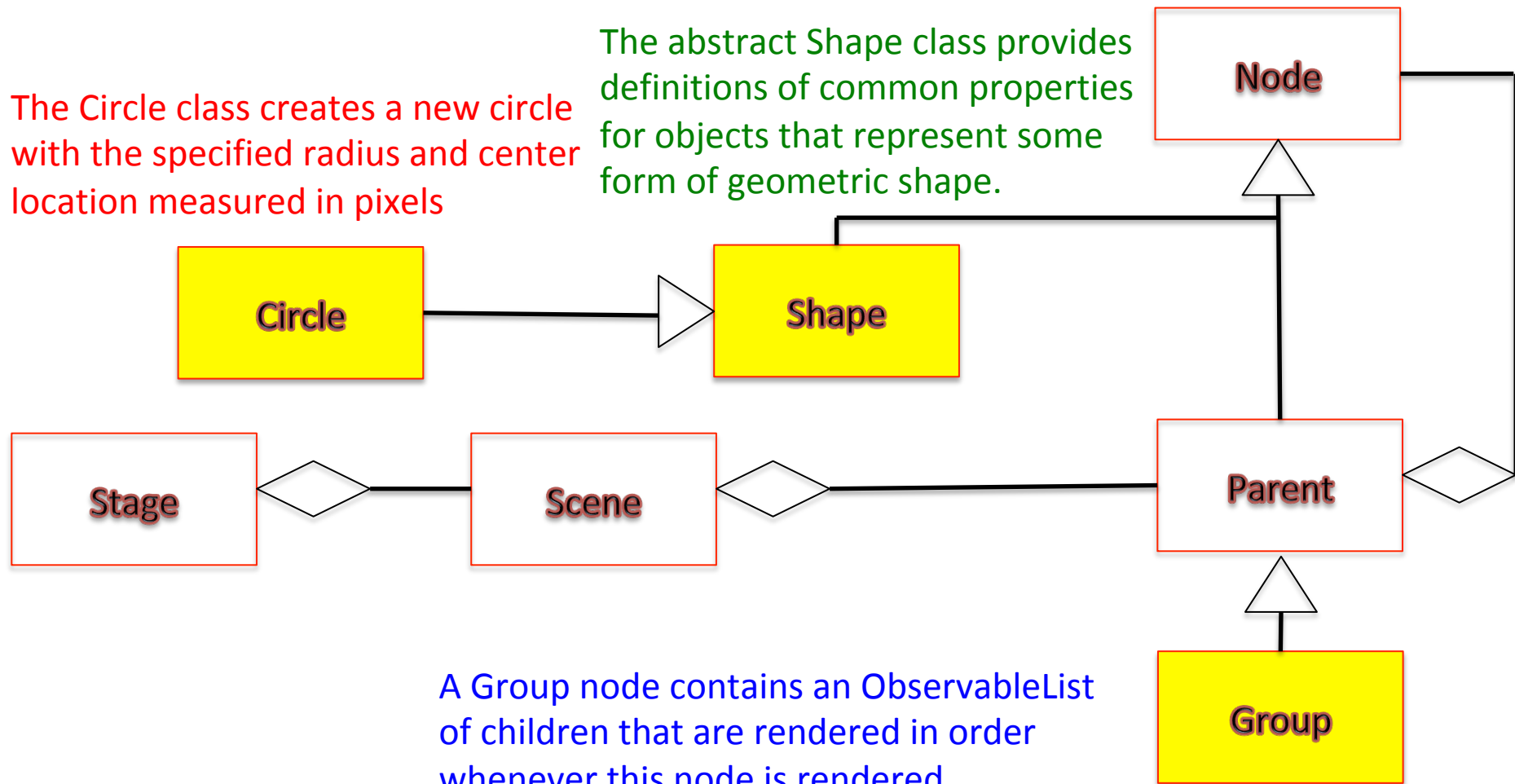


Group – Shape - Circle

The Circle class creates a new circle with the specified radius and center location measured in pixels

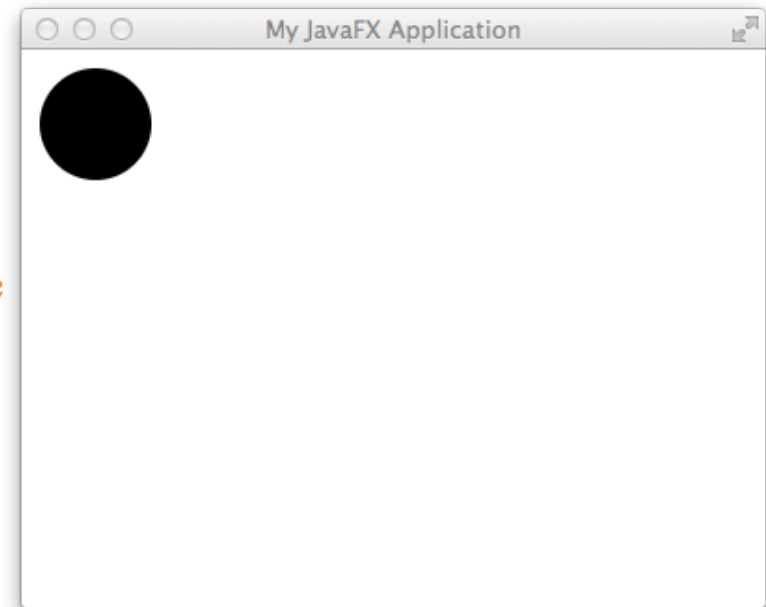
The abstract Shape class provides definitions of common properties for objects that represent some form of geometric shape.



A Group node contains an ObservableList of children that are rendered in order whenever this node is rendered.

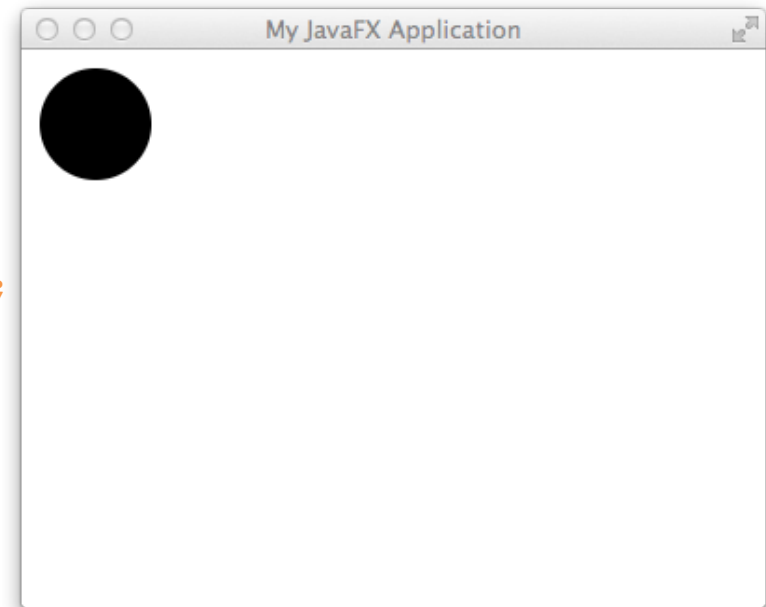
Applicazione minima

```
package it.unitn.disi.javafxapplication;
import javafx.application.Application;
import javafx.scene.Group;
import javafx.scene.Scene;
import javafx.scene.shape.Circle;
import javafx.stage.Stage;
public class MinimalApp extends Application {
    public void start(Stage stage) {
        Node circ = new Circle(40, 40, 30);
        Parent root = new Group(circ);
        Scene scene = new Scene(root, 400, 300);
        stage.setTitle("My JavaFX Application");
        stage.setScene(scene);
        stage.show();
    }
    public static void main(String[] args) {
        Application.launch(args);
    } }
```



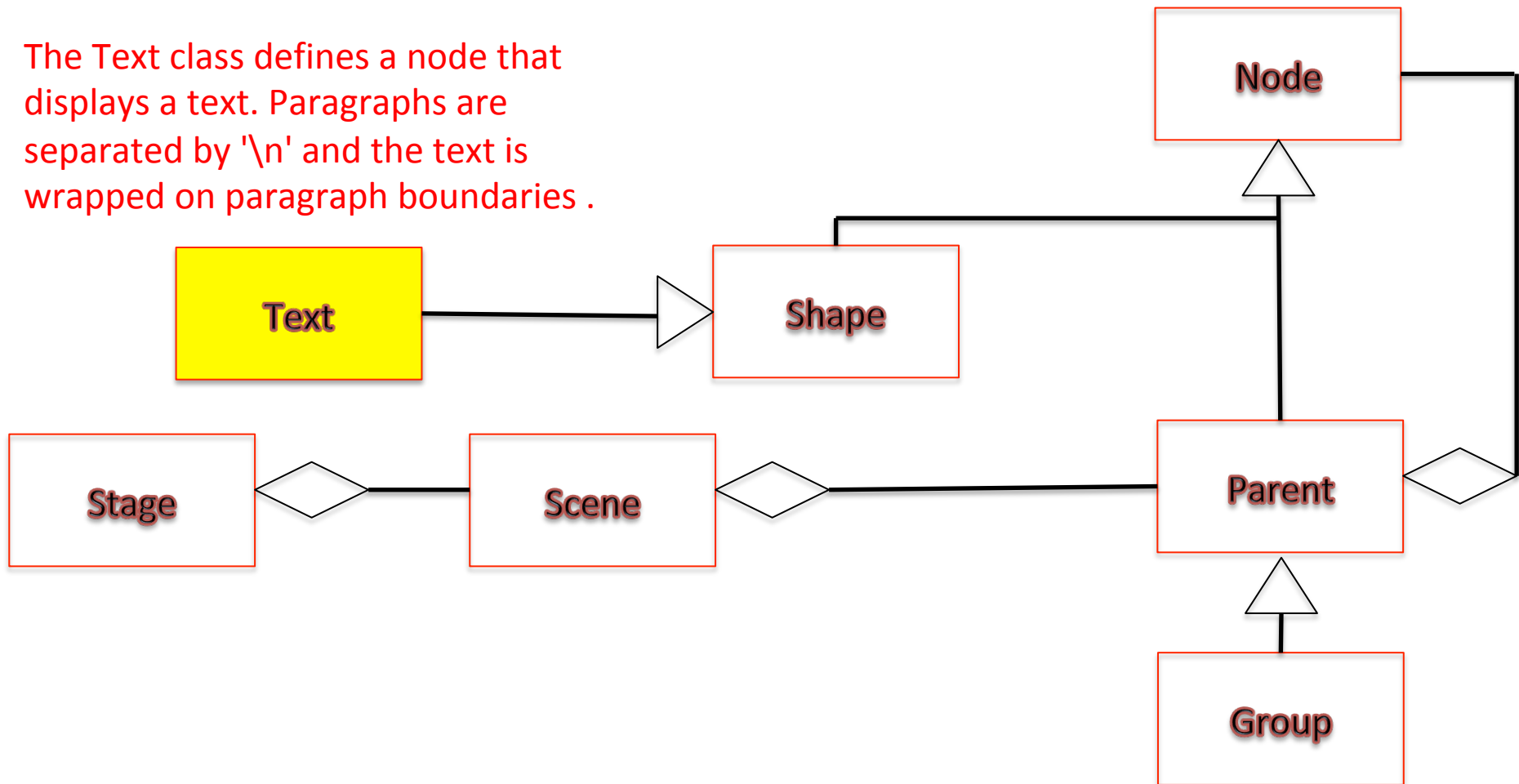
Applicazione minima

```
package it.unitn.disi.javafxapplication;
import javafx.application.Application;
import javafx.scene.Group;
import javafx.scene.Scene;
import javafx.scene.shape.Circle;
import javafx.stage.Stage;
public class MinimalApp extends Application {
    public void start(Stage stage) {
        Circle circ = new Circle(40, 40, 30);
        Group root = new Group(circ);
        Scene scene = new Scene(root, 400, 300);
        stage.setTitle("My JavaFX Application");
        stage.setScene(scene);
        stage.show();
    }
    public static void main(String[] args) {
        Application.launch(args);
    } }
```



Group – Shape - Circle

The Text class defines a node that displays a text. Paragraphs are separated by '\n' and the text is wrapped on paragraph boundaries .

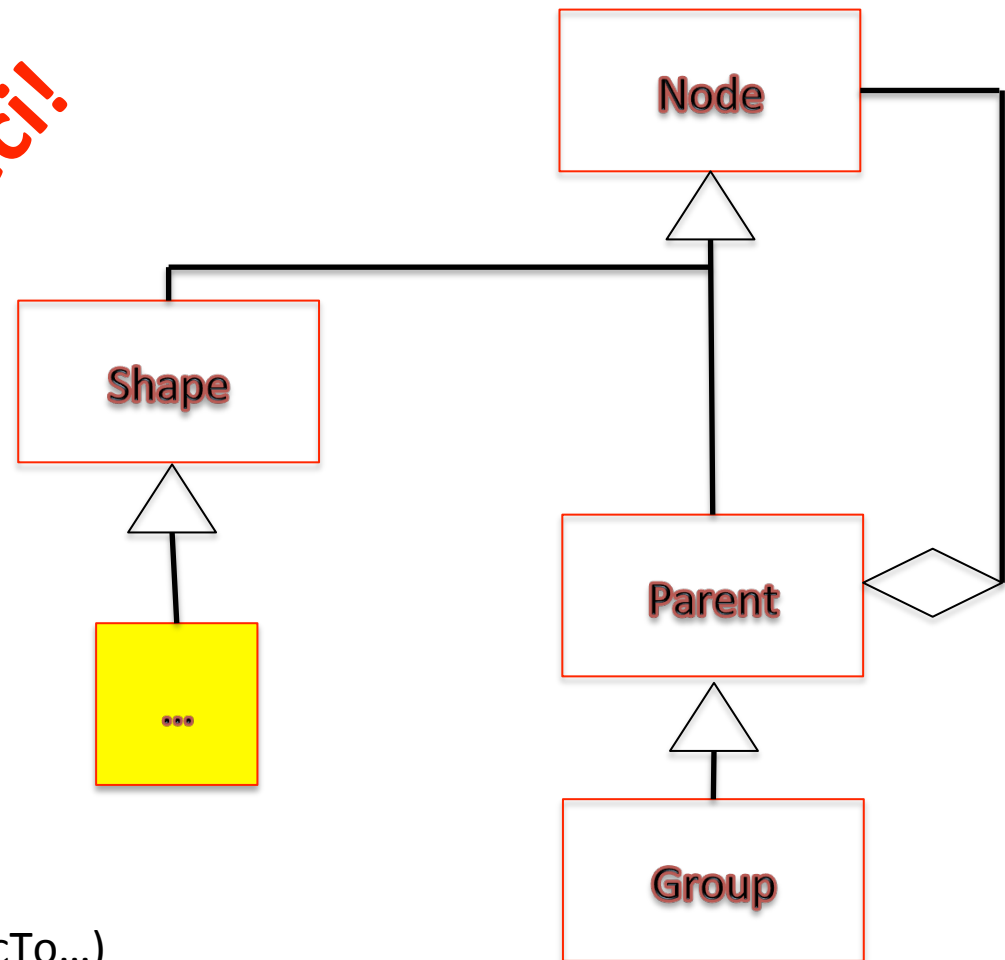


Shape hierarchy

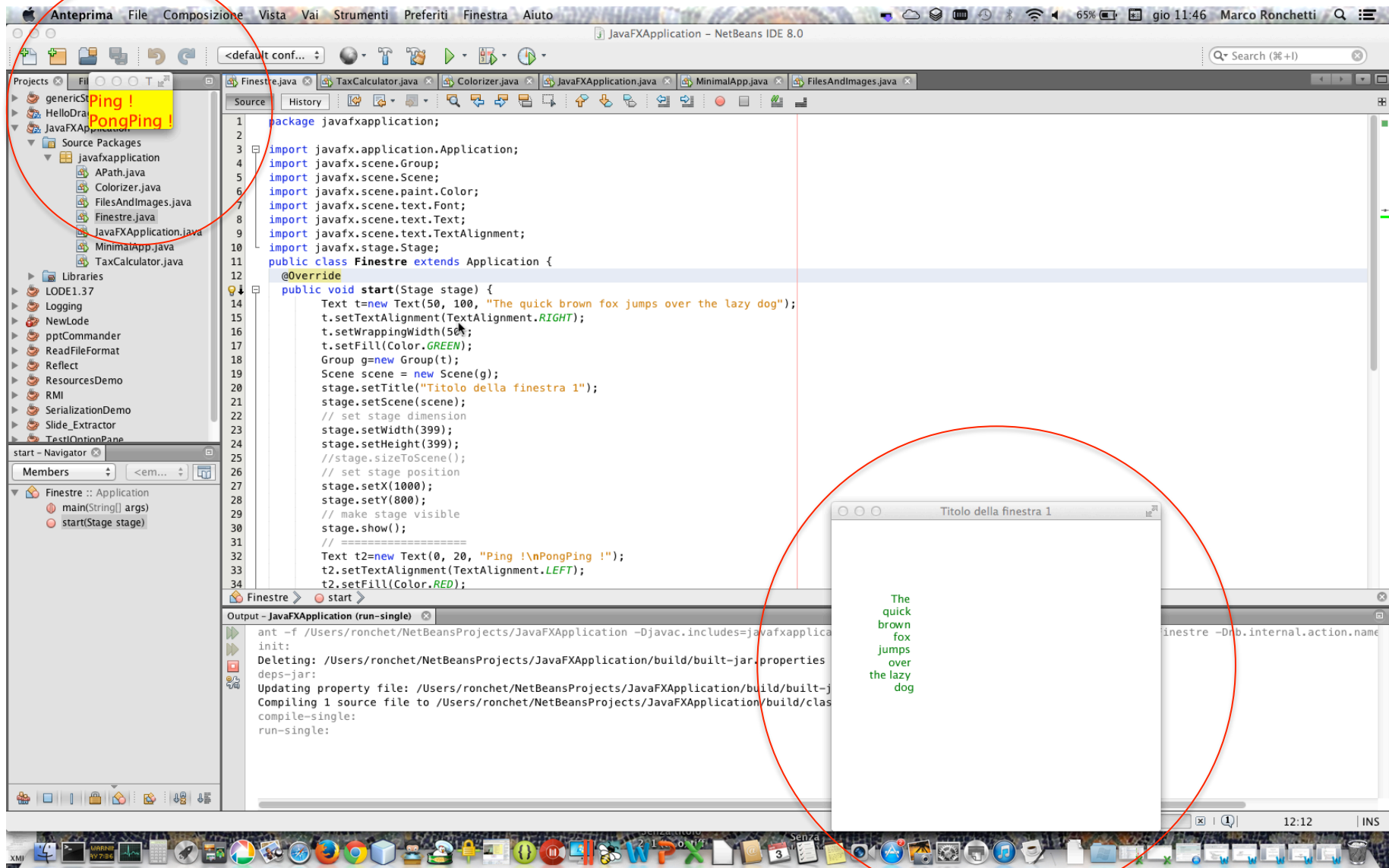
Shape

- Line
- Polyline
- Polygon
- Rectangle
- Arc
- Circle
- Ellipse
- QuadCurve
- CubicCurve
- Text
- SVGPath
- Path composto di PathElement (ArcTo...)

Giocateci!



Esempio: Finestre multiple



Finestre multiple: Prima finestra

```
public class Finestre extends Application {  
    public void start(Stage stage) {  
        Text t=new Text(50, 100, "The quick brown fox jumps over  
            the lazy dog");  
        t.setTextAlignment(TextAlignment.RIGHT);  
        t.setWrappingWidth(50);  
        t.setFill(Paint.valueOf("GREEN"));  
        Group g=new Group(t);  
        Scene scene = new Scene(g);  
        stage.setTitle("Titolo della finestra 1");  
        stage.setScene(scene);  
        // set stage dimension  
        stage.setWidth(399);  
        stage.setHeight(399);  
        // set stage position  
        stage.setX(1000);  
        stage.setY(800);  
        // make stage visible  
        stage.show();  
    }  
}
```



Finestre multiple: Seconda finestra

```
Text t2=new Text(0, 20, "Ping !\nPongPing !");
t2.setTextAlignment(TextAlignment.LEFT);
t2.setFill(Paint.valueOf("RED"));
t2.setFont(new Font(20));
Group g2=new Group(t2);
Scene scene2 = new Scene(g2);
scene2.setFill(Paint.valueOf("YELLOW"));
Stage stage2=new Stage();
stage2.setTitle("Titolo della finestra 2");
stage2.setScene(scene2);
stage2.setX(100);
stage2.setY(80);
stage2.sizeToScene();
stage2.show();
}
public static void main(String[] args) {
    launch(args);
} }
```



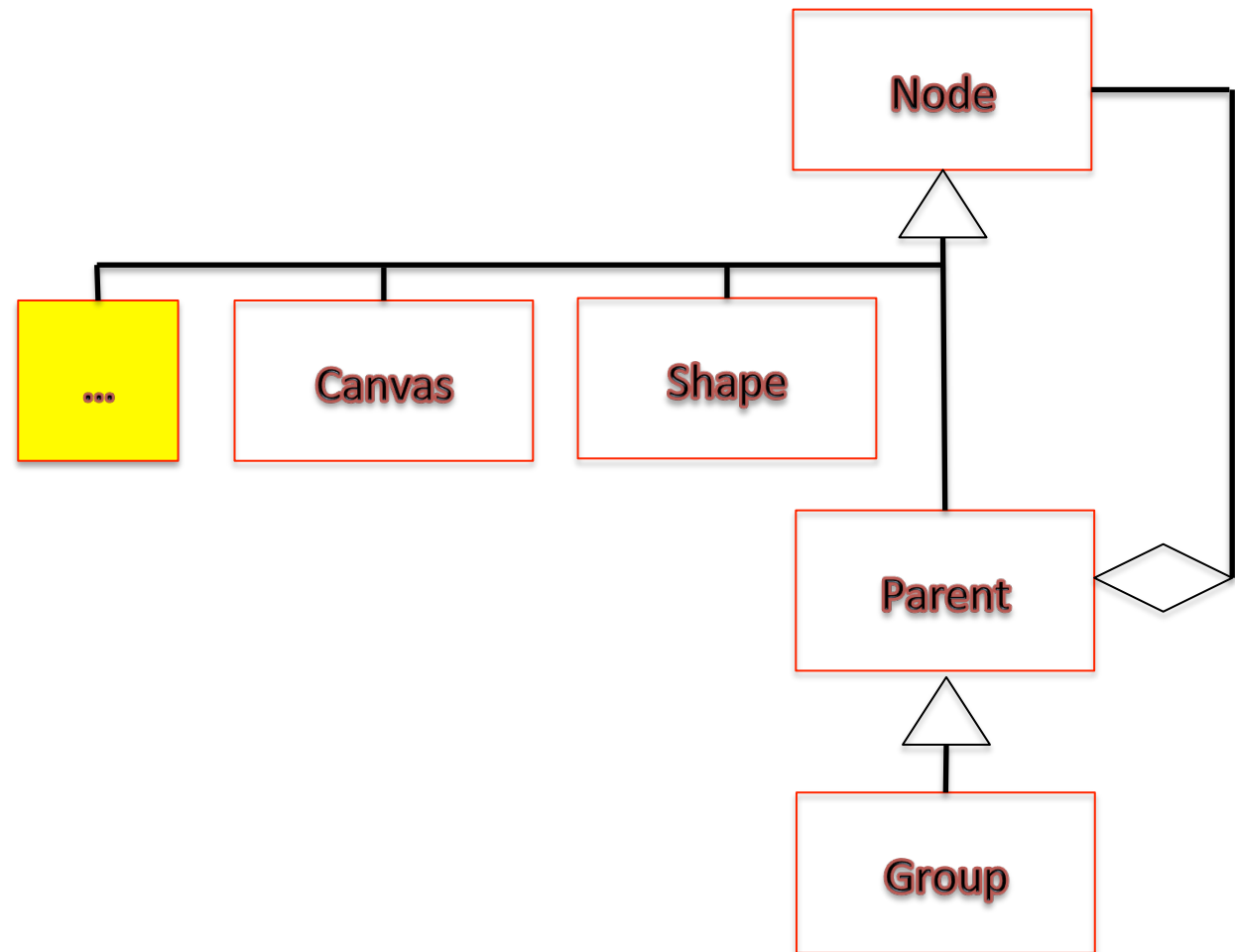
Altri esempi e approfondimenti

- Da guardare in autonomia a casa!

Node hierarchy

Node

- Parent
- Shape
- Canvas



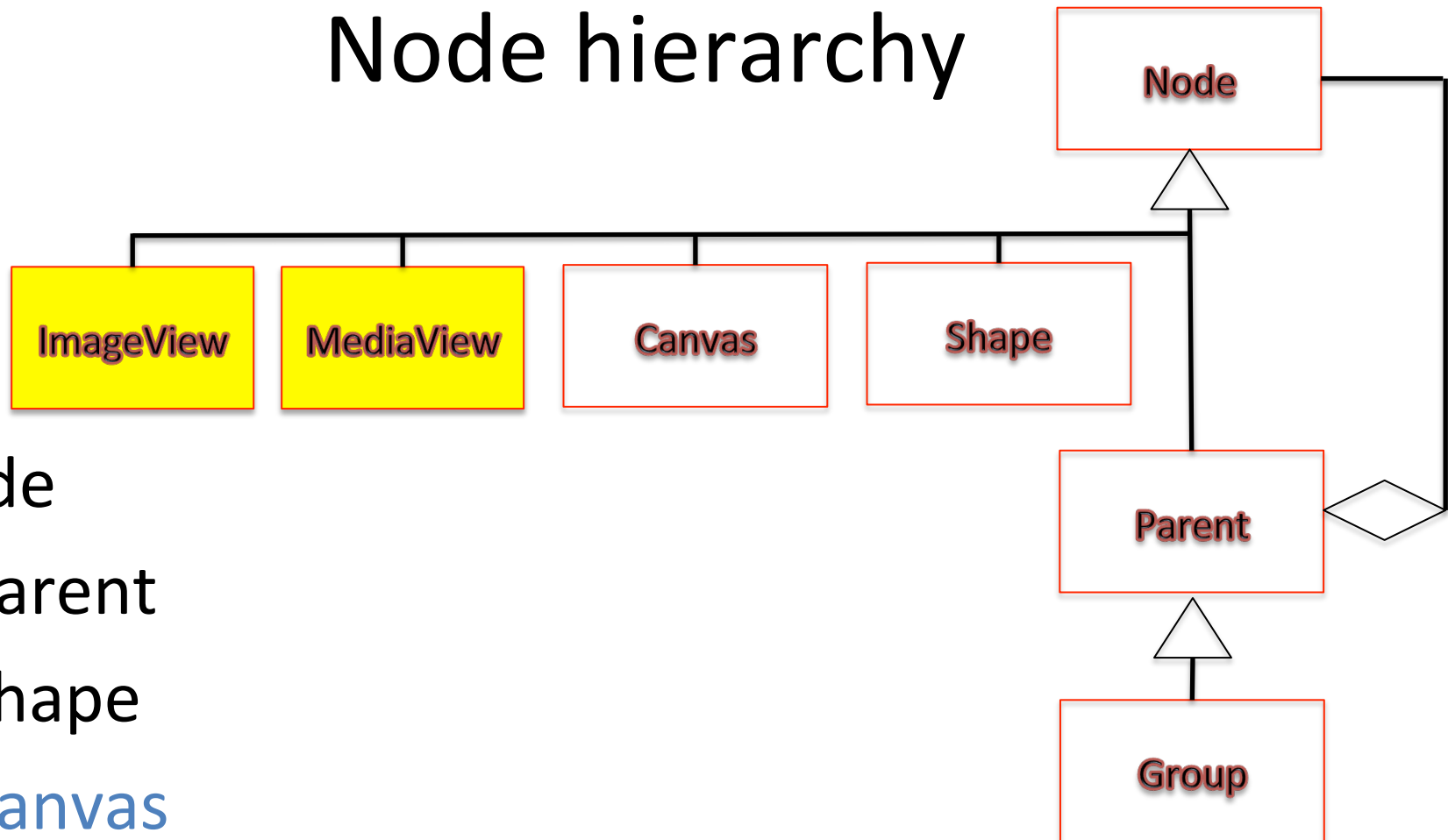
Canvas

Una "tela del pittore" con un metodo per ottenere il suo **GraphicsContext** che ha varie primitive per disegnarci sopra:

- fillArc()
- fillRect()
- drawImage()
- ...

<http://docs.oracle.com/javafx/2/canvas/jfxpub-canvas.htm>

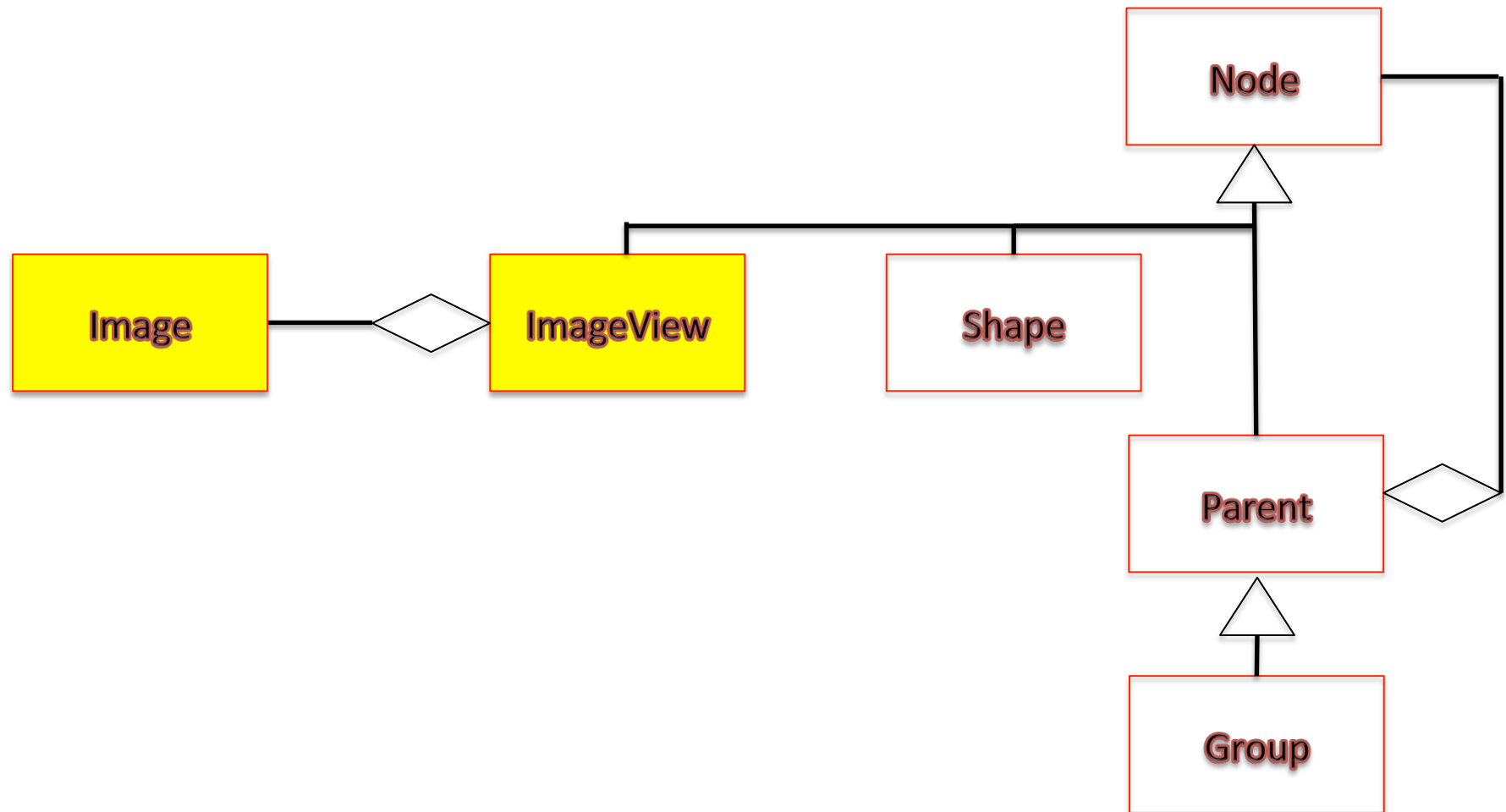
Node hierarchy



Node

- Parent
- Shape
- Canvas
- **ImageView**
- **MediaView**

ImageView - Image



Parent hierarchy (partial)

Parent

- **Control**
 - superclasse di vari widget,
tra cui **FileChooser**

• ...

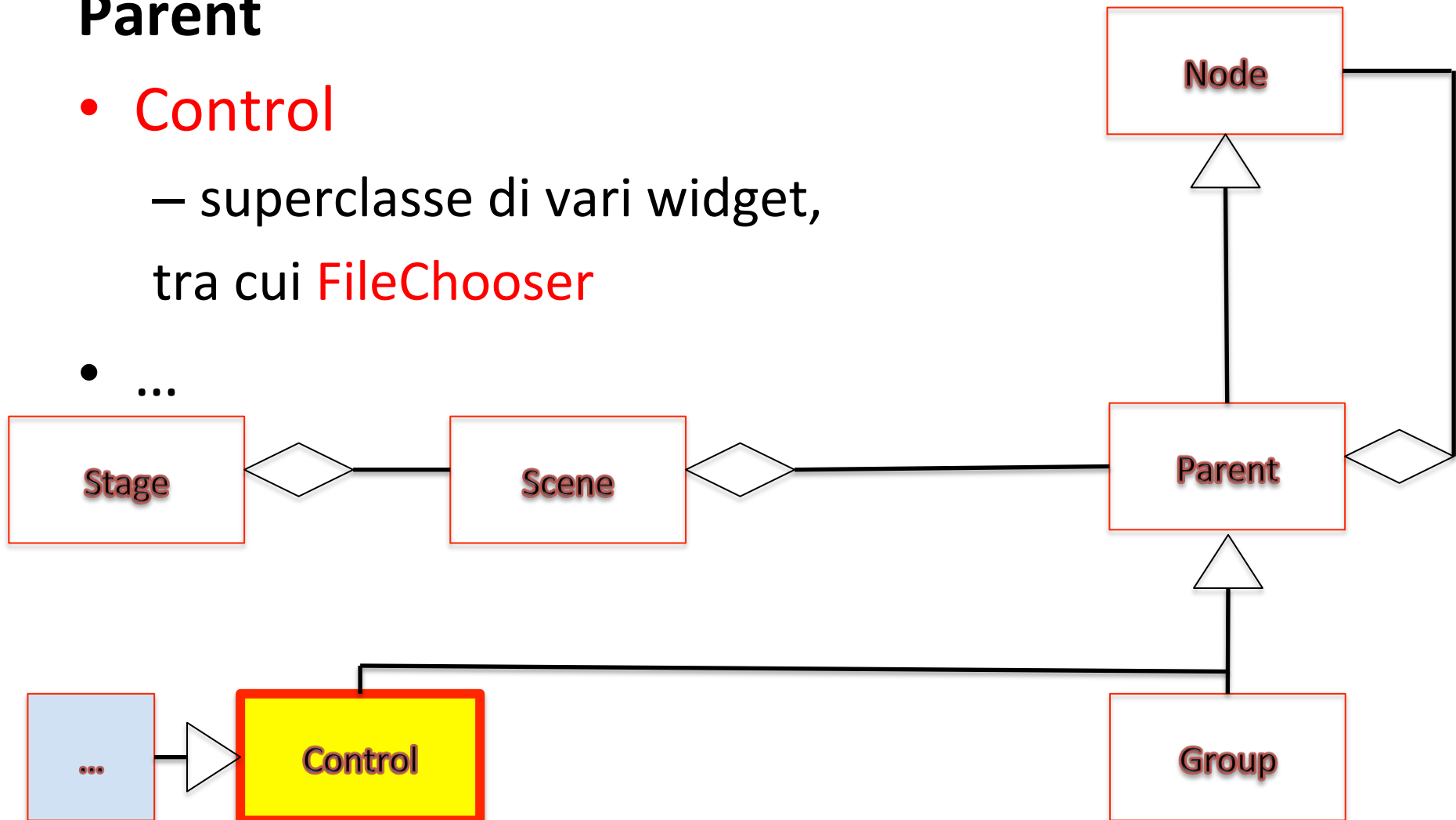
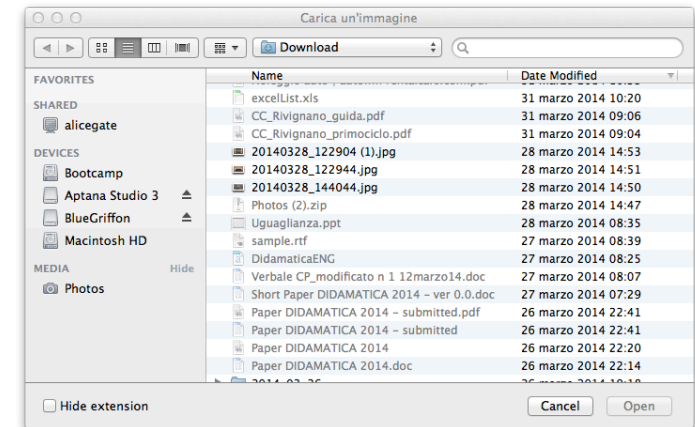


Image and File



```
public class FilesAndImages extends Application {  
    public void start(Stage stage) {  
        FileChooser fileChooser = new FileChooser();  
        fileChooser.setTitle("Carica un'immagine");  
        fileChooser.getExtensionFilters().addAll(  
            new FileChooser.ExtensionFilter("JPG", "*.jpg"),  
            new FileChooser.ExtensionFilter("PNG", "*.png")  
        );  
        String url = System.getProperty("user.home");  
        File f=new File(url);  
        fileChooser.setInitialDirectory(f); // bugged on MacOSX  
        File file = fileChooser.showOpenDialog(stage);  
        if (file == null) {  
            System.out.println("No file chosen");  
            System.exit(1);  
        }  
    }  
}
```

Image and File

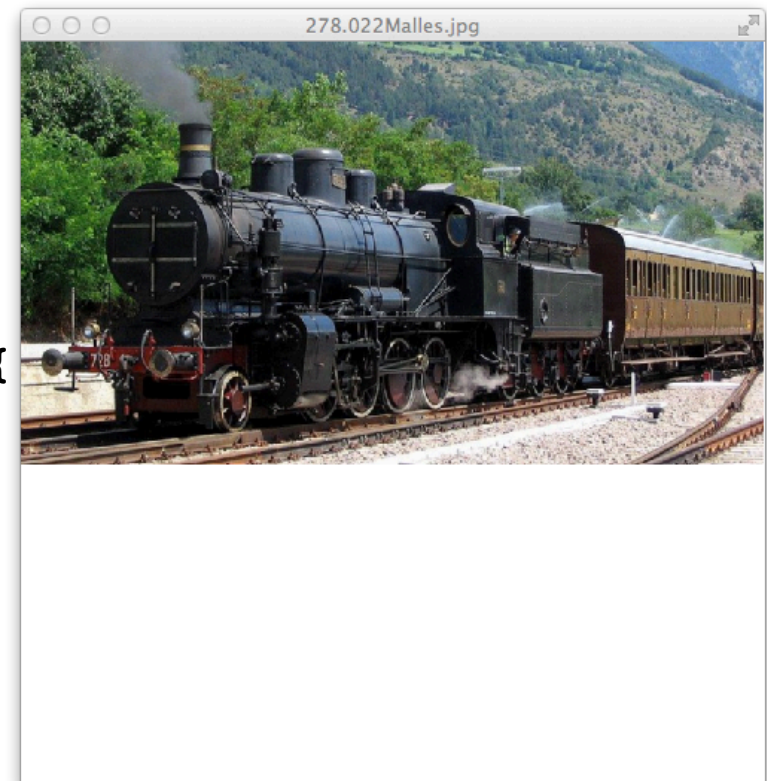
```
Image image = new Image("file://" +  
    file.getAbsolutePath(), 500, 500, true, true);  
ImageView iw = new ImageView(image);  
Group root = new Group(iw);  
Scene scene = new Scene(root, 500,500);  
stage.setTitle(file.getName());  
stage.setScene(scene);  
stage.sizeToScene();  
stage.show();
```

```
}
```

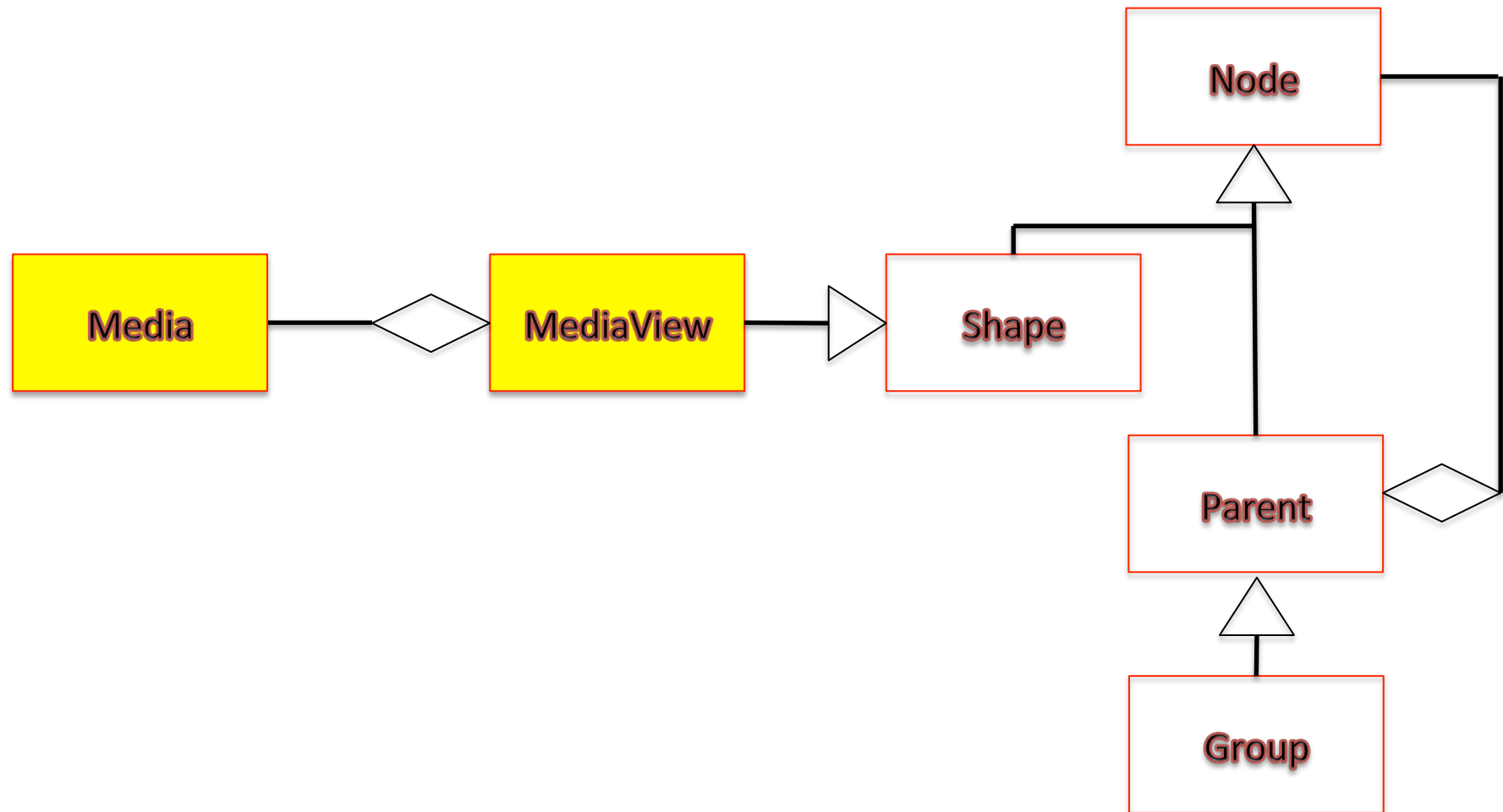
```
public static void main(String[] args) {  
    Application.launch(args);
```

```
}
```

```
}
```

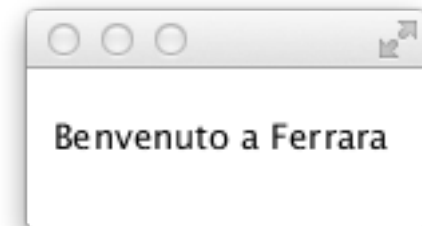


MediaView - Media



MediaView

```
public class Sounds extends Application{  
    public void start(Stage stage) {  
        Media media = new Media("http://www.ferraraterraeacqua.it/  
it/audioguide/audioguide-di-ferrara-citta-del-rinascimento/  
01_benvenuto-a-ferrara.mp3");  
        MediaPlayer mediaPlayer = new MediaPlayer(media);  
        mediaPlayer.setAutoPlay(true);  
        // create mediaView and add media player to the viewer  
        MediaView mediaView = new MediaView(mediaPlayer);  
        Group root = new Group(mediaView);  
        root.getChildren().add(  
            new Text(10, 30, "Benvenuto a Ferrara"));  
        Scene scene = new Scene(root, 150, 60);  
        stage.setScene(scene);  
        stage.sizeToScene();  
        stage.show();  
    }  
    public static void main(String[] args) {  
        Application.launch(args);  
    }  
}
```



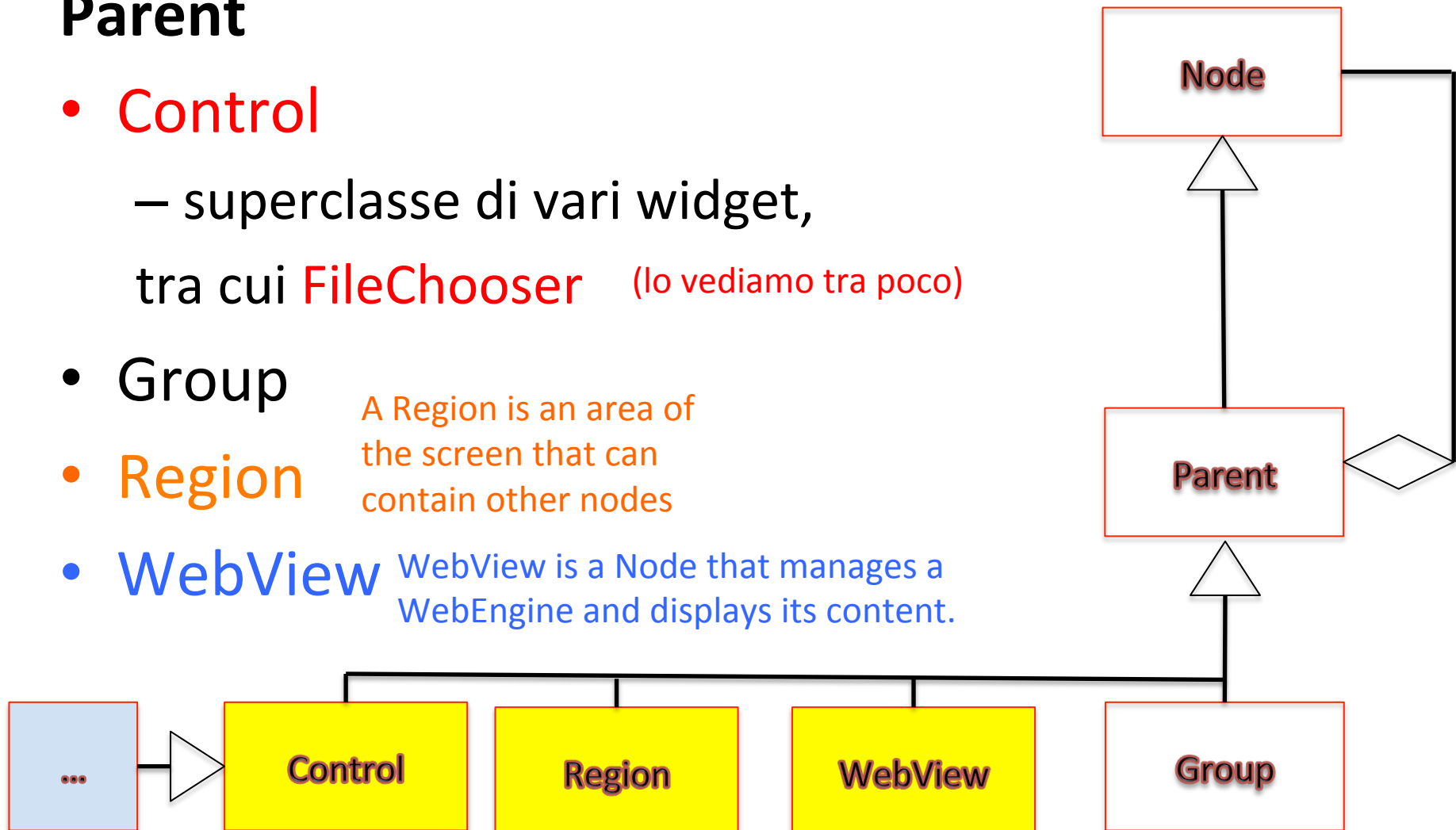
<http://docs.oracle.com/javafx/2/media/overview.htm>

Uno sguardo ai parent

Parent hierarchy

Parent

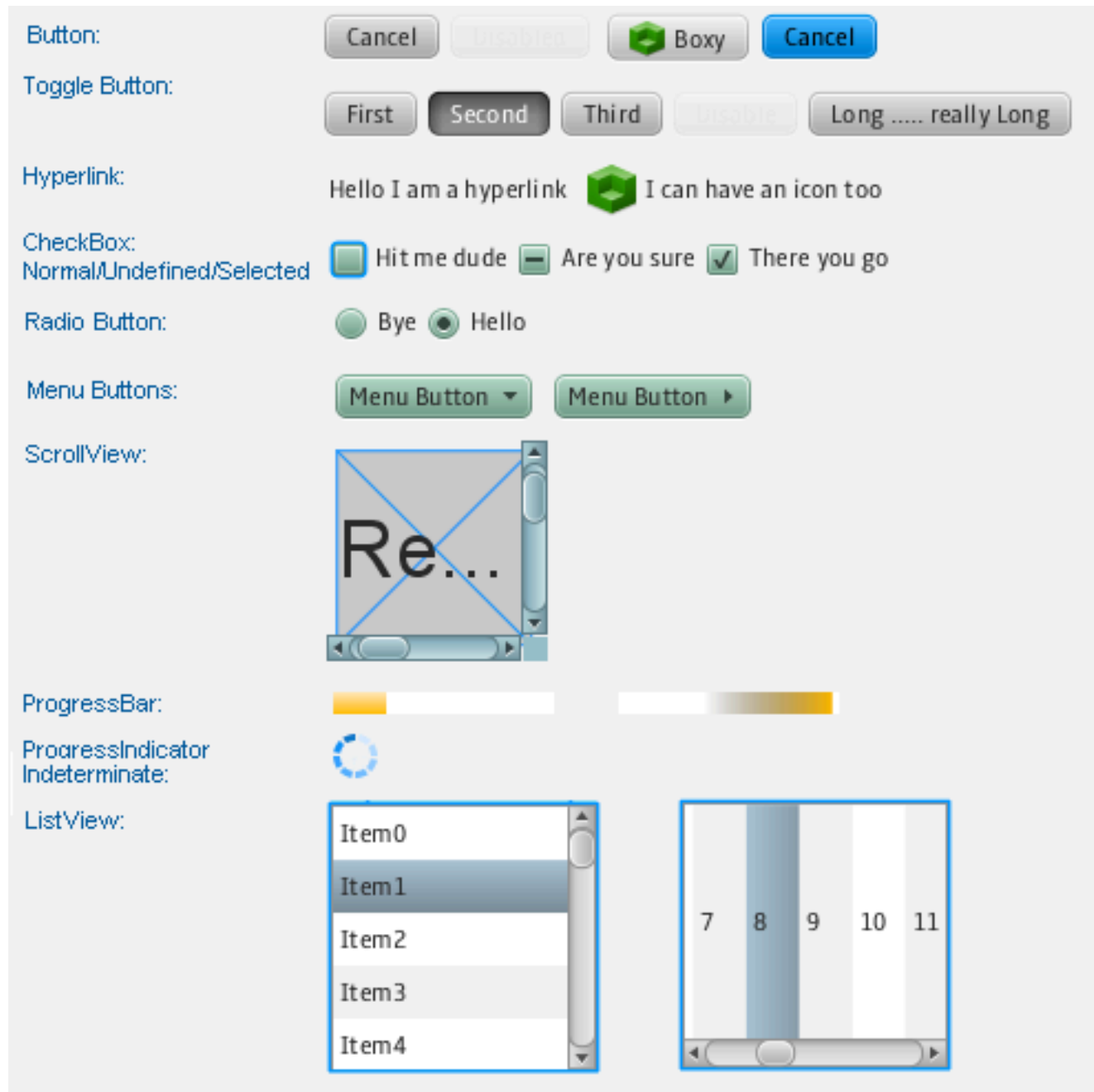
- **Control**
 - superclasse di vari widget,
tra cui **FileChooser** (lo vediamo tra poco)
- **Group**
- **Region** A Region is an area of the screen that can contain other nodes
- **WebView** WebView is a Node that manages a WebEngine and displays its content.



JavaFX UI Controls



Controls



Tricks of the trade

Attenzione agli import!

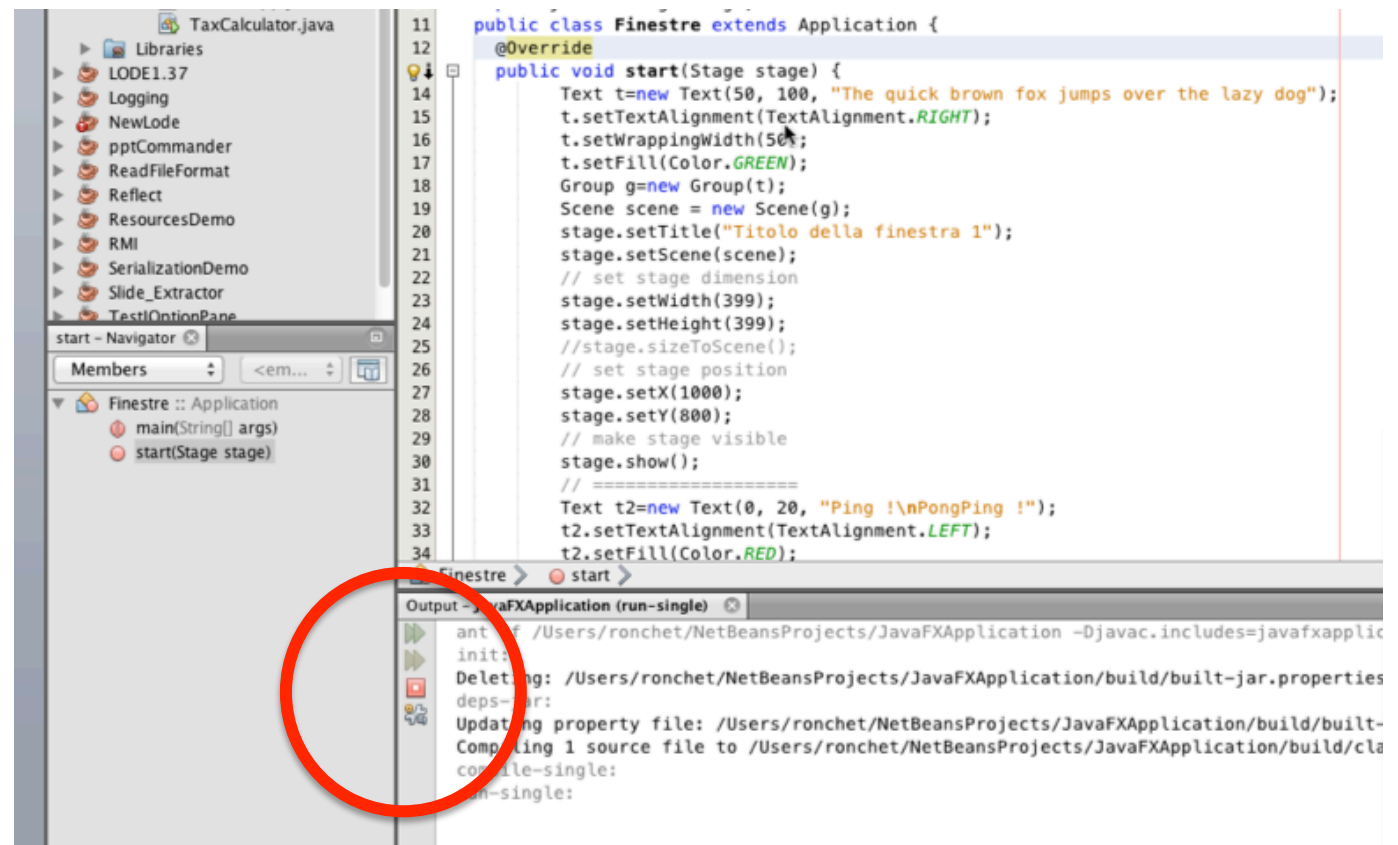
```
t2.setFill(  
    Paint.valueOf("RED"));  
t2.setFont(new Font(20));
```

- 💡 Add import for java.awt.Font
- 💡 Add import for javafx.scene.text.Font
- 💡 Create class "Font" with constructor "Font(int)" in package javafx_001
- 💡 Create class "Font" in javafx_001.JavaFX_001

```
Paint.valueOf(  
    "YELLOW"));  
Stage stage2 = new Stage();
```


Terminazione

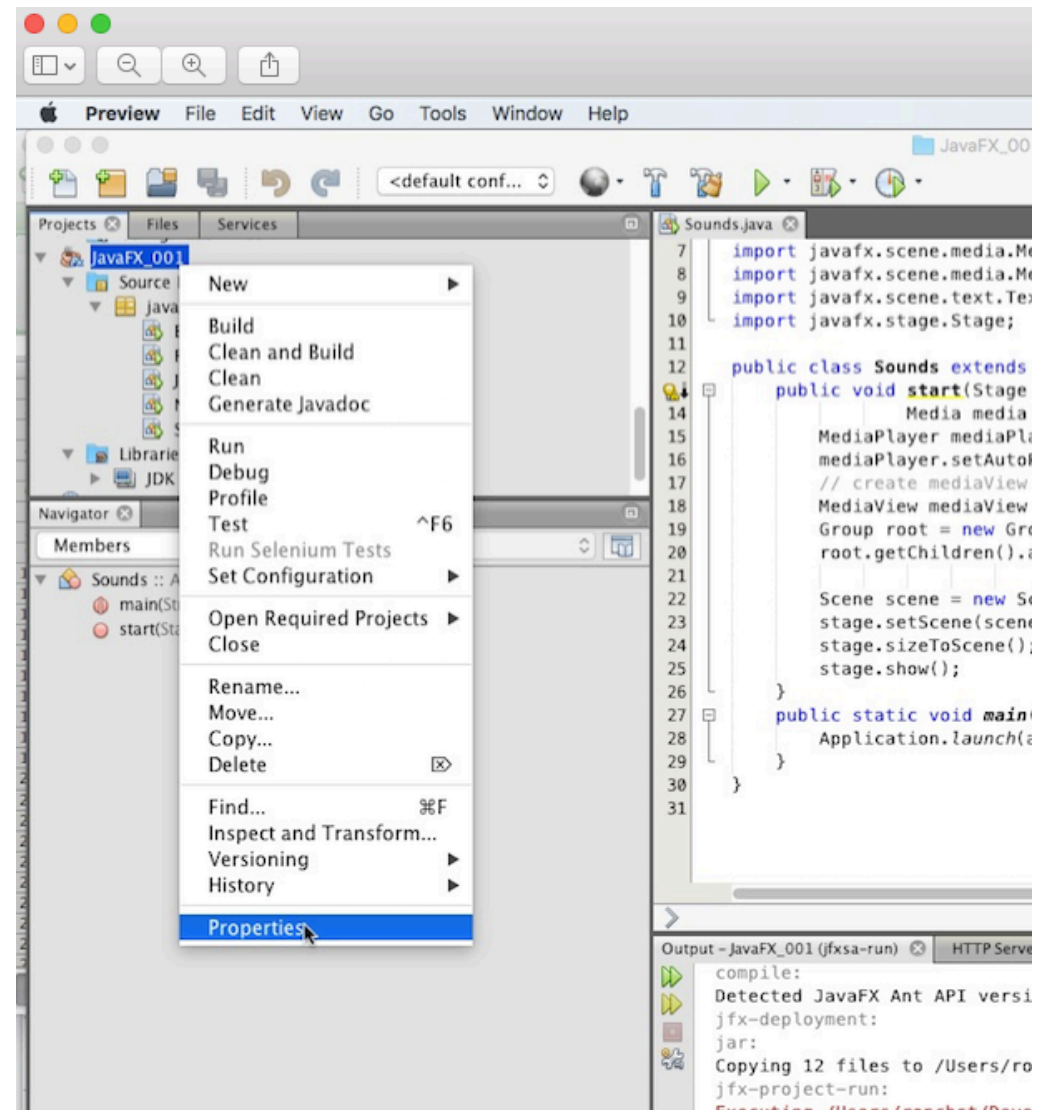
- Quando termina il processo?
(Un Processo é un Programma in esecuzione)



Crea un programma distribuibile - 1

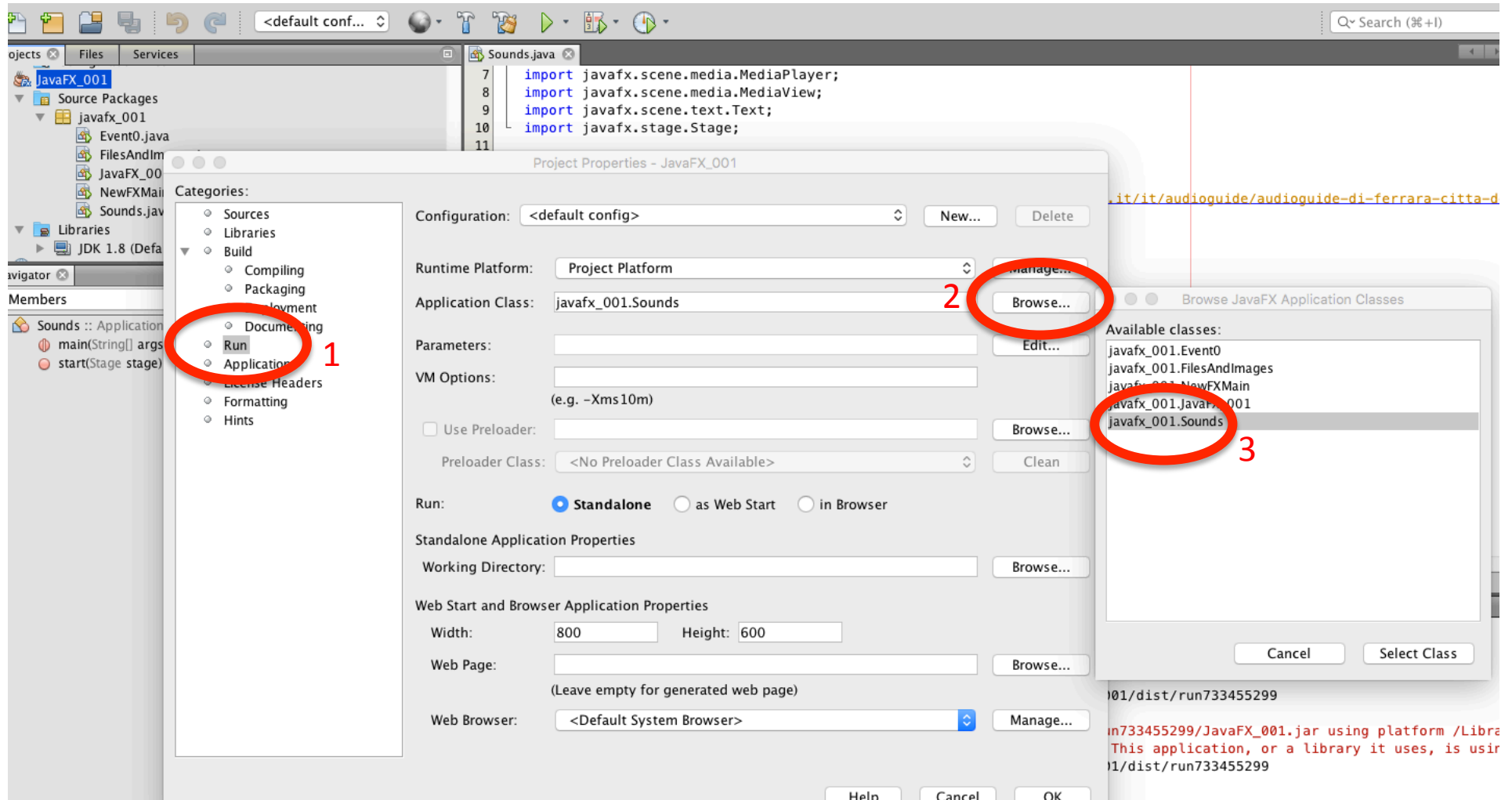
Go to Project Properties

(right click on the project)



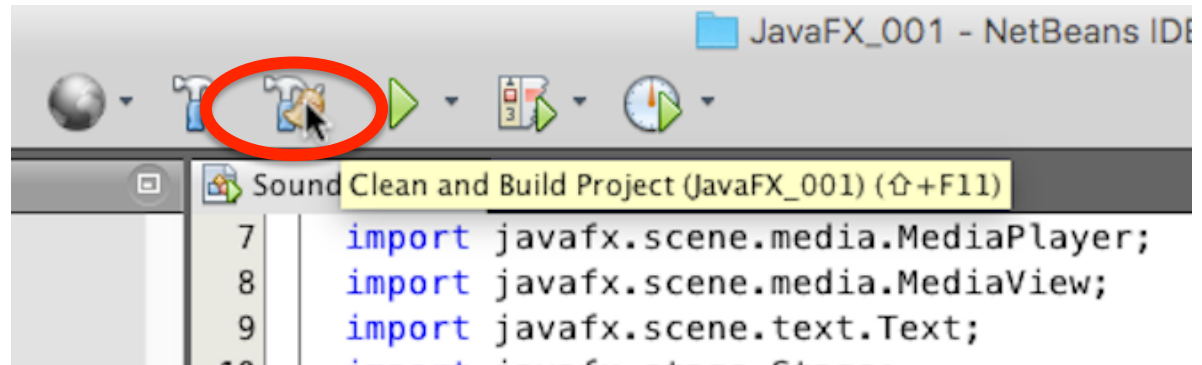
Crea un programma distribuibile – 2

Scegli “run” e seleziona la classe con il main che ti interessa



Crea un programma distribuibile - 3

Clean and build project



Go to the Files Tab,
Select the .jar file,
Right click on it,
Choose Tools -> Show in Finder.

Double clicking on the file
You will start the process.

