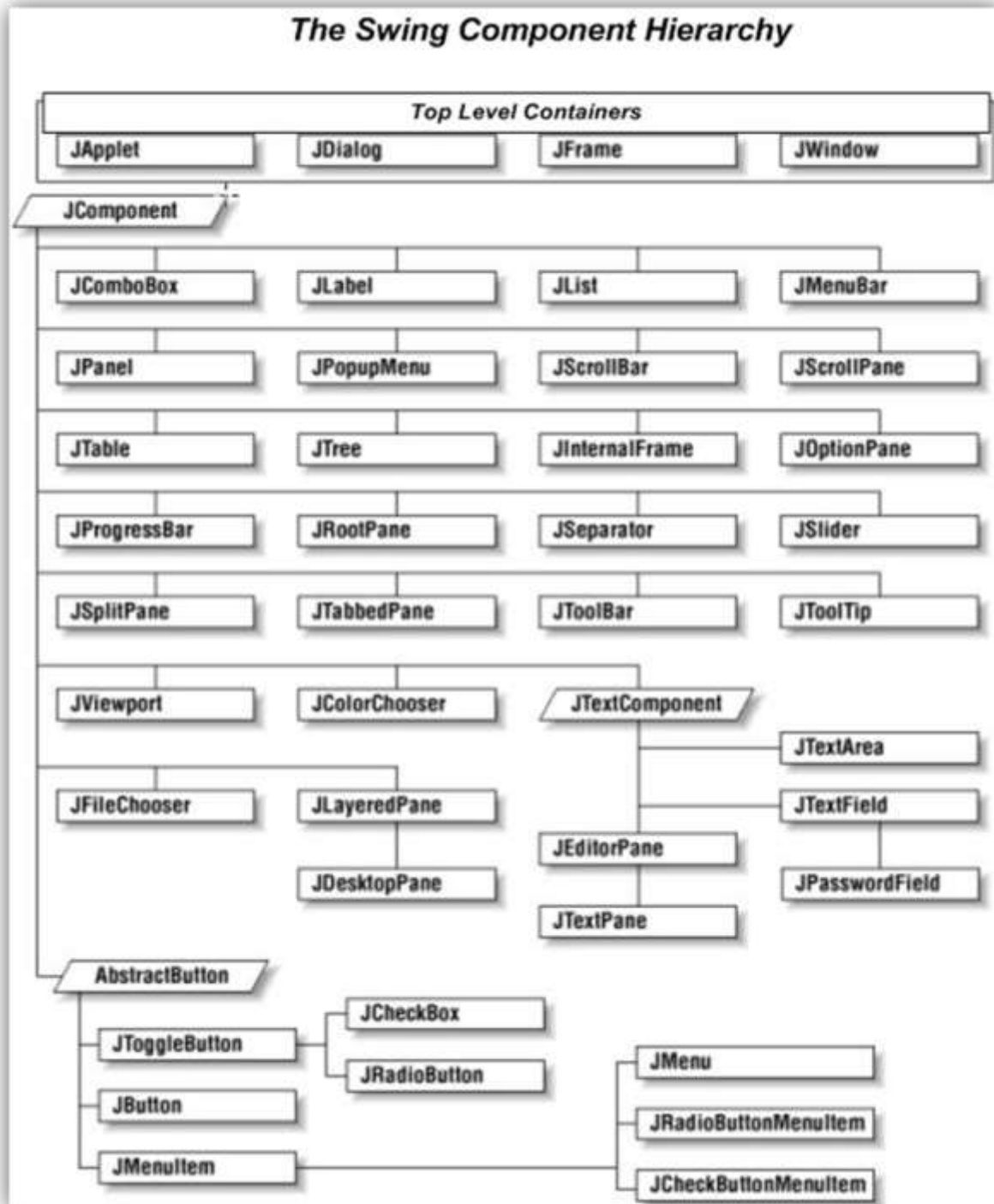


# CST8221 – Java Application Programming

## Unit 2 - Swing Component Hierarchy

The component hierarchy of most of the Swing components is presented in the figure below.



The class diagrams in the figure above follow the following conventions:

- Solid lines indicate inheritance relationships;
- Rectangles represent concrete classes;
- Rhombuses represent abstract classes.

As you can see most of the components inherit from *JComponent* class, which means that they are lightweight components. It also means that most of the properties and many of the methods of those classes are defined in *JComponent*. There is an important exception: the top-level containers do not inherit from *JComponent*. They inherit from the corresponding AWT classes.

JavaFX provides similar components but they are called controls or widgets. Here is the list of controls currently provided by Java 8:

*Button, Checkbox, ChoiceBox, ColorPicker, ComboBox, DatePicker, FileChooser, HTML editor, Hyperlink, Label, ListView, Menu, PaginationControl, PasswordField, ProgressBar, ProgressIndicator, RadioButton, ScrollBar, ScrollPane, Separator, Slider, TableView, TextField, TextArea, TitledPane, Accordion, ToggleButton, Tooltip, TreeTableView, Tree View.*

All JavaFX controls inherit from the *Node* class.

As you can see the JavaFX controls names are similar to the Swing components but are missing the “J”. They also have similar behavior but they provide much more enhanced features and flexibility.

Visit the link below to find out more detailed information and code samples:

[https://docs.oracle.com/javase/8/javafx/user-interface-tutorial/ui\\_controls.htm](https://docs.oracle.com/javase/8/javafx/user-interface-tutorial/ui_controls.htm)

Oracle website provides a few applications which demonstrate how different components work and how they display on the screen. For Swing the name of the applications are *SwingSet2*. There was another one called *SwingSet3* which unfortunately is not anymore included in the standards demos and samples. You can still find it on the Internet. For Java FX the name of the application is *Ensemble8*. Since they are accompanied with a source code those applications provide a great learning experience.

You can download the complete set of “JDK 8 Demos and Samples” from:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

and find the *SwingsSet2* and *SwingSet3* demos and the JavaFX *Ensemble8* demo.

You can run the JavaFX *Ensemble8* in a java enabled browser from this link:

<http://www.oracle.com/technetwork/java/javase/overview/javafx-samples-2158687.html>