

## Layout Summary

The layout containers fall into three general categories:

- Ordered layout containers layout their children according to the order in which they are added.

JavaFX has the following ordered layout containers:

- A FlowPane arranges its children in either a horizontal or vertical flow, wrapping if necessary. The layout cells are individually sized according to their contents.
  - A TilePane arranges its children in either a horizontal or vertical flow, wrapping if necessary. The layout cells have uniform size computed from the sizes of the children.
  - A StackPane arranges its children in a single back-to-front stack.
  - A HBox arranges its children horizontally in a single row.
  - A VBox arranges its children vertically in a single column.
- Placed layout containers place each child individually either with special layout methods or according to properties of the child.

JavaFX has the following placed layout containers:

- A Pane positions each child individually according to its `layoutX` and `layoutY` properties.
- An AnchorPane has methods for specifying the location and size of a child relative to the top, bottom, left, or right of the pane.
- A BorderPane has methods for placing a child in its top, bottom, right, left, and center regions. If no child is placed in a region then it takes up no space.
- A GridPane has cells arranged in rows and columns. A child can occupy a rectangular block of these cells.

- Layout controls have their own controls that allow the user to determine layout.

JavaFX has the following layout controls:

- A `TabPane` has tabs, usually at the top, for selecting one of several nodes to be displayed in its display area.
- A `SplitPane` divides its display area either vertically or horizontally into two or more panes. The dividers are controls that can be moved by the user.
- A `ScrollPane` provides a scrollable view of a large node.
- An `Accordion` contains `TitledPane` objects, each of which has a label and a node. Only one of the `TitledPane` objects displays its node at a time. The others just display their label. The user selects a `TitledPane` by clicking on its label.
- A `ToolBar` displays nodes, usually buttons either vertically or horizontally. They can be grouped with `Separator` nodes. If needed, a `ToolBar` has an overflow button for displaying nodes that are not visible.
- A `MenuBar` is a horizontal bar of buttons that are ordered according to conventions of the underlying platform.