What is Swing?

Java Swing is part of Java Foundation Classes. It is used to create window-based applications which makes it suitable for developing lightweight desktop applications. Java Swing is built on top of an abstract windowing toolkit API purely written in Java programming language. Java Swing provides lightweight and platform-independent components, making it suitable and efficient in designing and developing desktop-based applications (systems).

Features of Swing

1. Platform Independent: It is platform-independent; the swing components used to build the program are not platform-specific. It can be used on any platform and anywhere.

2. Lightweight: Swing components are lightweight, which helps in creating the UI lighter. The swings component allows it to plug into the operating system user interface framework, including the mappings for screens or devices and other user interactions like keypress and mouse movements.

3. Plugging: It offers a robust component framework that developers can extend to support the user interface, contributing to an appealing and consistent look and feel for the application. It refers to the highly modular-based architecture that allows it to plug into other customized implementations and frameworks for user interfaces. Its components are imported through a package called Javax. Swing.

4. Manageable: It is easy to manage and configure. Its mechanism and composition pattern also allows changing the settings at run time. The user interface can receive uniform changes without modifying the application code.

5. MVC: They mainly follow the concept of MVC, which is the Model View Controller. With the help of this, we can make changes in one component without impacting or touching other components. Swing earns its reputation as a loosely coupled architecture.

6. Customizable: Swing controls can be easily customized. It can be changed, and the visual appearance of the component application is independent of its internal representation.

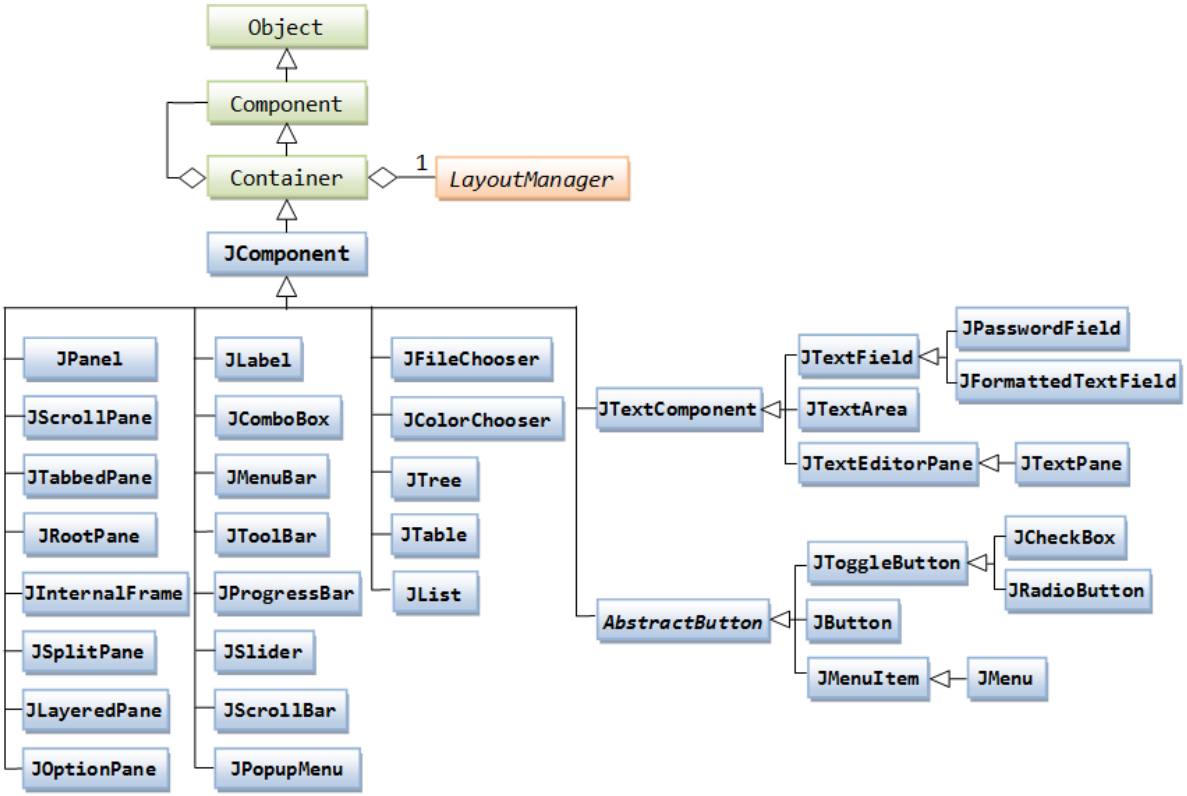
What is JFC

The Java Foundation Classes (JFC) are a set of GUI components which simplify the development of desktop applications.

Difference between AWT and Java Swing

Java AWT	Java Swing
AWT components are platform-dependent.	Java swing components are platform-independent.
AWT components are heavyweight.	Swing components are lightweight.
AWT doesn't support pluggable look and feel.	Swing supports pluggable look and feel.
AWT provides less components than Swing.	Swing provides more powerful components such as tables, lists, scrollpanes, colorchooser, tabbedpane etc.
AWT doesn't follows MVC(Model View Controller) where model represents data, view represents presentation and controller acts as an interface between model and view.	Swing follows MVC.

Hierarchy of java swing classes



Commonly used Methods of Component class

Method	Description
public void add(Component c)	add a component on another component.
public void setSize(int width,int height)	sets size of the component.
public void setLayout(LayoutManager m)	sets the layout manager for the component.
public void setVisible(boolean b)	sets the visibility of the component. It is by default false.