

# Ultimate Swing



## Abstract

Swing is a very powerful GUI framework. You can practically implement any desired GUI using Swing. Although simple tasks are easy to implement using Swing, it is very hard to implement sophisticated high-performance UI. The Achilles heel of Swing is its complexity. This course will cover the design principles behind Swing and the “under the hood” stuff that will make you “dance” Swing. As a Swing dancer, you will find Swing a very powerful tool.

## Target Audience

Swing Developers.

## Prerequisites

Familiarity with the Swing and the Java language.

## Content:

### Swing Recap (1 hours):

- History.
- The Swing Composite pattern.
- Lightweight vs. Heavyweight components.
- Layout Managers.

### The Swing MVC (4 hours):

- Introduction to Model View Controller (MVC).
- The Swing MVC.
- Understanding Swing Model.
- Decorating the Model.
- The Swing View.
- Introduction to pluggable look & feel

### Swing and Multi-Threading (3 hours)

- What’s the problem?
- The Swing Threading Model.
- The Event Dispatcher Thread and Event Queue.



Swing Workers.  
Overview of Foxtrot.

**Understanding Swing Components (5 hours):**

Overview of the Swing Components.  
Location, Size and Layout Managers.  
Component Painting Model.  
Writing your own components.  
Renderers.  
Editors.

**Text Components (2 hours):**

Text Components Hierarchy.  
Documents - The text model.  
Text components and multi-threading.

**Images and Java2D (2 hours)**

Working with Images.  
Image Loading.  
Volatile Images and Graphics Accelerator.  
Icons.  
Painting with Graphics2D.

**Internationalization and Localization (2 hours)**

Character Encodings.  
Resource Bundles.  
Native to ASCII.  
BiDi.  
i18n and LayoutManagers.

**Pluggable Look & Feel (2 hours):**

What is plaf.  
The UIManager.  
Working with UIDefaults.



The UI Delegates.  
Implementing your own L&F.

**Swing Performance** (3 hours):  
Common Misconceptions.  
Pitfalls.  
Best Practices.  
Tuning.

**Duration:** 3 days