

## From 0 to 1: JavaFX and Swing for Awesome Java UIs

Modality: Self-Paced Learning

Duration: 10 Hours

### About this course:

- Hundreds of lines of source code with hundreds of lines of code - just download and open in your IDE

***A definitive guide to JavaFX, and a comprehensive guide to Swing are packed into this intensely practical, quirky guide to building awesome UIs in Java***

Let's parse that.

- This course is a **definitive guide to JavaFX**: every important part of the framework is covered in great detail, with sophisticated examples and context
- The course is a **comprehensive guide to Swing**: you will be able to build sophisticated, clean Swing apps, and employ every important technique.
- The course is **intensely practical**, packed with dozens of examples and hundreds of lines of included source code.
- The course is also **quirky**. The examples are irreverent. Lots of little touches: repetition, zooming out so we remember the big picture, active learning with plenty of quizzes. There's also a peppy soundtrack, and art - all shown by studies to improve cognition and recall.

The average salary for a Java Developer skills is **\$69,722** per year.

### Course Objective:

- **JavaFX**: JavaFX as the evolutionary successor of Swing; Javascript and CSS support; FXML and SceneBuilder; how FXML and Dependency Injection work; zippy synching with Properties and Bindings; 3D Animations; 2D Animations (Transitions and Timelines); Charting - for the first time in Java; Media support, and building a real Media Player; Image handling and animated GIF construction; multi-threading in JavaFX; plus all the standard stuff: menus, trees, browser controls;
- **Swing**: Framework basics; JFrames, JPanels and JComponents; Menus and menu handling; Trees and their nuances; File choosers, buttons, browser controls
- **Design**: The MVC Paradigm, Observer and Command Design Patterns; Dependency Injection via FXML

### Programming Drills (*code-alongs, with source code included*)

- **A News Curation app** to summarise newspaper articles into a concise email snippet
- **Animated GIF** generation, using Java Image libraries as well multi-threading support
- **A fully fledged Media Player** to play MP3 and MP4 files; complex wiring up of UI elements to make sure the little details (volume control, position sliders) work right

- **2D Animations** to rival those available in Powerpoint and other presentation software
- **3D Animations** including moving cameras, rotation and transition of 3D shapes
- **Bubble Charts and Tables** to represent revenue, market valuation and growth of a set of companies - a business app as good as Excel
- **Javascript and CSS** examples that show how these incredibly powerful tools can be used inside a Java UI app
- **SceneBuilder and FXML** support, so that design and implementation can be divvied up between designers and software engineers

## Audience:

- Yep! UI engineers looking for a definitive resource on JavaFX, the future of Java UI programming
- Yep! UI engineers looking for a comprehensive first-principles guide to Swing, the most popular UI programming framework right now
- Yep! Back-end engineers seeking a one-stop-shop course for building awesome front-ends
- Nope! This course is not right for you if you are looking for a Programming 101 course. You should have a good grasp of programming, ideally in Java, to benefit from this course
- Nope! This course is probably not right for you if you are a product manager or tech investor - this course is pretty much exclusively focused on the "how", not the "what"

## Prerequisite:

- Basic understanding of Java
- Programming expertise at the level of a Programming 101 Class, preferably in Java.

## Suggested Prerequisite Course:

[Object Oriented Programming in C#](#)

[Object Oriented Programming in Java](#)

## Career Path:

[App Development...](#)

## Course Outline:

### Why learn JavaFX and Swing?

- Introduction

### Swing

- The Basic Idea of Swing
- Resource Materials
- The Mechanics of Swing I

- Resource Material
- The Mechanics of Swing-II
- Resource Material

## JavaFX Introduced

- Contrasting JavaFX and Swing - I
- Resource Material
- Contrasting JavaFX and Swing-II
- Resource Material
- The Mechanics of JavaFX
- Resource Material
- Properties and Bindings Introduced
- Resource Material
- We are in sync : Properties and Bindings in action
- Resource Material

## Properties And Bindings

- Properties and Bindings: Digging Deeper
- Resource Material
- Properties and Bindings: Observables, ChangeListeners and Other Interfaces
- Resource Material
- JavaFX: Modeling Properties and Bindings
- Resource Material
- JavaFX : Digging into Bindings
- Resource Material
- The trick to JavaFX properties: Lazy Instantiation
- Resource Material

## FXML and SceneBuilder

- Complex UIs via FXML and SceneBuilder
- Resource Material
- FXML Behind the Scenes : Linking to the controller
- Resource Material
- FXML Behind the Scenes : Dependency Injection
- Resource Material
- The Full Possibilities of FXML - I
- Resource Material
- The Full Possibilities of FXML - II
- Resource Material
- The Full Possibilities of FXML - III

## Shapes and Drawing

- Drawing: Shapes and Nodes
- Resource Material

- Drawing: Fonts and a Segue into Animated GIFs
- Resource Material

## Animation

- Animation: Timelines and Transitions
- Resource Material
- Transitions Explored
- Resource Material

## Media

- JavaFX Media Support: Part-Lame, Part-Awesome
- Resource Material
- JavaFX Media Support: Getting started with common operations
- Resource Material
- Build your own Media Player - I
- Resource Material
- Build your own Media Player - II

## Charts and Tables

- JavaFX Charts and Tables - I
- Resource Material
- JavaFX Charts and Tables - II
- Resource Material
- Charts and Tables : An example - I
- Resource Material
- Charts and Tables : An example - II

## 3D

- 3D Rendering : Introduction to 3D Rendering: Segue to Drawing in 2D
- Resource Material
- Introduction to 3D Rendering
- Resource Material
- 3D Rendering: Getting our feet wet
- Resource Material
- 3D Animations: Timelines and Moving Cameras

## Swing Practical Exercise

- A Serious Swing App: News Curation Browser - I
- Resource Material
- A Serious Swing App: News Curation Browser - II
- A Serious Swing App: News Curation Browser - III
- A Serious Swing App: News Curation Browser - IV

## **JavaFX Practical Exercise**

- A Serious JavaFX App: The News Curator - I
- Resource Material
- A Serious JavaFX App: The News Curator - II
- Resource Material

## **FXML Practical Exercise**

- Building a Serious UI App with FXML and SceneBuilder: Snippet Browser - I
- Resource Material
- Building a Serious UI App with FXML and SceneBuilder: Snippet Browser - II
- Building a Serious UI App with FXML and SceneBuilder: Snippet Browser - III

## **Properties and Bindings Practical Exercise**

- Properties and Bindings: Coding examples
- Resource Material