

**Introduction to JavaFX Programming**

**Course Number:** JFX-424
**Duration:** 4 days

**Overview**

Accelebrate's Introduction to JavaFX Programming training course teaches attendees how to create desktop applications and rich web applications with high-performance, hardware-accelerated graphics. Participants learn how to use JavaFX to build attractive interfaces that incorporate graphics and animation, as well as multithreading for a more responsive user experience.

**Prerequisites**

All attendees must have basic Java programming knowledge.

**Materials**

All JavaFX training students receive comprehensive courseware.

**Software Needed on Each Student PC**

* Recent version of macOS, Windows, or Linux
* Related lab files that Accelebrate provides
* JDK 8 or later required; JDK 11 or later preferred
* Java IDE installed (IntelliJ IDEA, Eclipse, or NetBeans)

**Objectives**

* Understand the structure of a JavaFX program
* Use CSS to style JavaFX programs
* Use FXML with JavaFX
* Create shapes in JavaFX applications
* Apply drop shadow and reflection effects
* Use JavaFX layout components
* Use properties
* Create listeners
* Use simple binding and bidirectional binding
* Use factory methods and the Fluent API for binding
* Apply custom binding
* Design graphical user interfaces (GUIs)
* Create event handlers
* Apply UI Controls
* Create Menus and Toolbars
* Use graphics and animation
* Use sequential and parallel transitions
* Work with background tasks and threads

**Outline**

* Introduction
	+ Why JavaFX?
	+ JavaFX Architecture
	+ JavaFX Scene Graph
	+ Root, Branch, Leaf Nodes
	+ Stage and Scenes
	+ JavaFX Program Structure
	+ JavaFX Program Example
	+ Using FXML
* Shapes and Effects
	+ Colors, Text ,Fonts
	+ CSS Styling
	+ Lines
	+ Circles, Rectangles
	+ Paths
	+ Linear Gradients
	+ Radial Gradients
	+ Creating Effects
	+ DropShadow
	+ InnerShadow
	+ Reflection
	+ Chaining Effects
* Layout Components
	+ Layout Panes
	+ Region and Pane
	+ HBox, VBox
	+ FlowPane, TilePane
	+ GridPane, StackPane
	+ BorderPane, AnchorPane
* Properties and Bindings
	+ JavaFX Properties
	+ Property Listeners
	+ Unidirectional Binding
	+ Bidirectional Binding
	+ Factory Method Binding
	+ Fluent API Binding
	+ Custom Binding
* Basic UI Controls
	+ Event Handlers
	+ Label, Button
	+ RadioButton, ToggleButton
	+ ComboBox, CheckBox, ChoiceBox
	+ ScrollBar and Slider
	+ TextField, PasswordField
	+ ProgressBar, ProgressIndicator
	+ TextArea
* Composite UI Controls
	+ Menu
	+ MenuBar
	+ MenuItem
	+ ContextMenu, Tooltip
	+ ColorPicker, DatePicker
	+ ListView, TableView
	+ TreeView, TreeTableView
	+ TabPane
	+ Accordion
* Graphics and Animation
	+ Animation Hierarchy
	+ Animation, Transition
	+ FadeTransition
	+ FillTransition
	+ StrokeTransition
	+ ScaleTransition
	+ TranslateTransition
	+ RotateTransition
	+ PathTransition
	+ PauseTransition
	+ SequentialTransition
	+ ParallelTransition
* Background Tasks and Threads
	+ JavaFX Thread Model
	+ JavaFX Background Tasks
	+ Observable Properties and Thread Safety
	+ Monitoring Background Tasks
	+ Safe UI Updates
	+ UI updates from Background Tasks
* Conclusion