

**Kotlin for JavaScript**

**Course Number:** MBL-234
**Duration:** 2 days

**Overview**

This private, online Kotlin for JavaScript training teaches attendees how to how to use Kotlin to leverage JavaScript libraries and frameworks as well as Kotlin multi-platform libraries. In addition, participants learn how to write Kotlin wrappers around existing JavaScript code as well as auto-generate library wrappers from TypeScript type definition files.

**Prerequisites**

All attendees must already be comfortable with both Kotlin and React development. If your team is not up to speed on these technologies, Accelebrate's [Kotlin](file:////training/kotlin-introduction) and [React](file:////training/react) courses can be incorporated to create a customized Kotin with JavaScript course.

**Materials**

All attendees receive comprehensive courseware.

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**Software Needed on Each Student PC**

* Windows or Mac minimum 8 GB RAM
* Android Studio installed
* Provided lab files from Accelebrate

**Objectives**

* Understand where Kotlin/JS fits in the ecosystem
* Use Kotlin to create front-end apps via React
* Simultaneously leverage JavaScript (NPM) and Kotlin libraries
* Interoperate with native JavaScript
* Write Kotlin wrappers

**Outline**

* Introduction to Kotlin for JavaScript
	+ Expanding Kotlin beyond the JVM
	+ Differentiating the Legacy Compiler vs IR Backend
	+ Supported platform templates in IntelliJ
	+ JVM functionality not available in Kotlin/JS
	+ Deconstructing a simple Kotlin/JS project
* Interoperating with JavaScript
	+ Working with the provided platform libraries
	+ Interacting with the DOM and Browser APIs
	+ Consuming Promise based APIs from Kotlin
	+ Writing JavaScript module wrappers manually
	+ Understanding the external keyword
	+ Using the Any and dynamic types
	+ The limitations of Kotlin wrapping JavaScript types
	+ Auto-generating wrappers using dukat
* React in Kotlin/JS
	+ Examining the React DOM DSL
	+ Attaching standard and custom attributes to elements
	+ Writing class and functional components
	+ Naming components for debugging
	+ Use React Hooks and write custom hooks
	+ Using delegation patterns for state
	+ Writing DSL extensions
	+ Understanding RProps for React props
	+ The difference in functional components and extensions
* Going Deeper with Kotlin/JS
	+ Leveraging coroutines for simpler code
	+ Understanding as and unsafeCast
	+ When to apply jsObject
	+ When to apply json
	+ Writing inline JavaScript with js
	+ Customizing Webpack
	+ Testing Kotlin/JS code
* Conclusion