



MFE-IT

Reference: 2B/EN/K

Kotlin Training Course

Develop Modern and Reliable Applications for Android, Web
and Server

Duration: 5 Days | Hours: 35 h

Remote · Sessions guaranteed from 1 registrant · 60% hands-on practice

DESCRIPTION

Kotlin, developed by JetBrains and officially supported by Google, has established itself as the language of choice for modern Android applications. But Kotlin is not just for mobile: it is a cross-platform language capable of targeting the backend (Ktor, Spring Boot), the web (Kotlin/JS) and even native (Kotlin/Native and Kotlin Multiplatform).

This Kotlin training course gives you a solid foundation for coding efficiently in Kotlin, whether you are starting an Android app, a microservice or a cross-platform tool, thanks to its concise, safe and expressive syntax.

LEARNING OBJECTIVES

By the end of this training course, participants will be able to:

- Understand the fundamentals of the Kotlin language
- Write code that is more concise, expressive and secure than in Java
- Master null safety, lambdas, extensions and data classes
- Use Kotlin collections and higher-order functions
- Structure an Android or backend application with Kotlin
- Be ready to code for Android, backend or cross-platform projects

PREREQUISITES

- Knowledge of an object-oriented language (Java, C#, Swift)
- Installed development environment (Android Studio or IntelliJ)
- Familiarity with mobile or server programming desirable but not essential

Because each participant is unique, a personalised interview is systematically organised in advance with our expert to design a training programme perfectly aligned with their objectives, level and professional challenges.

TARGET AUDIENCE

Java, Swift, Python or JavaScript developers who want to increase their productivity with a modern and powerful language.

DETAILED PROGRAMME

The training alternates between theoretical input and hands-on practice (approximately 60% of the time). Modules are built around practical exercises based on real-world business use cases.

Module 1 – Introduction to Kotlin

- History, philosophy and JVM compatibility
- Cross-platform Kotlin: JVM, Native, JS, Multiplatform
- IDE and tools: IntelliJ IDEA and Android Studio

Module 2 – Basic Syntax and Structures

- Variables, types, conditions, loops and functions
- Null safety with ?, !! and safe call operators
- Smart operators and string templates

Module 3 – Modern Object-Oriented Programming

- Classes, inheritance and interfaces in Kotlin
- Data classes, sealed classes and enum classes
- object, companion object and visibility modifiers

Module 4 – Advanced Features and Collections

- Lambdas and higher-order functions
- Collections, sequences and map/filter/reduce
- Immutability and destructuring declarations

Module 5 – Extensions, Smart Casts and DSLs

- Extension functions and properties
- Infix functions and operator overloading
- Smart casts and creation of mini DSLs

Module 6 – Coroutines and Asynchronous Programming

- Coroutines fundamentals: suspend, launch, async
- Structured concurrency and CoroutineScope
- Flows for reactive streams

Module 7 – Practical Application (Android or Backend)

- Creating a real project with navigation and business logic
- Network calls and JSON parsing
- HTTP server with Ktor (backend track)

Module 8 – Testing, Compilation and Packaging

- Unit testing with Kotest or JUnit
- Kotlin compilation tools and Gradle
- Integration into Java or multi-platform projects

TEACHING METHODS

Format and Delivery

The training is delivered remotely via an interactive virtual classroom. It can also be delivered on-site, with content customised to match the needs of your professional project. The theory/practice split is approximately 40%/60%.

MFE-IT Ultra-Personalised Format

Each session accommodates between 1 and 3 participants, ensuring highly individualised support. A preliminary interview allows us to tailor the content to each participant's profile. Inter-company sessions are guaranteed from just 1 registrant (except in cases of force majeure).

Skills Assessment

Throughout the training, the trainer assesses participant progress through multiple-choice questions, role-playing exercises and hands-on work. At the end, a certificate of achievement is issued to each participant.

Post-Training Support

For one month following the training, each participant can contact MFE-IT trainers with questions about implementing acquired knowledge. A response is provided by email or telephone within 48 working hours.

Accessibility

MFE-IT is committed to welcoming people with disabilities. Contact: contact@mfe-it.com.

PRACTICAL INFORMATION

Trainer Resources

- Structured demonstrations aligned with the detailed programme
- Exercise briefs and solutions throughout the training
- A ready-to-use technical environment for practical workshops
- Trainer validation of acquired knowledge at the end of each workshop
- Digital reference documents

Certification and Validation

At the end of the training, a certificate is sent by email specifying the objectives, nature, duration and assessment results. A completion certificate can also be provided on request.

Benefits for Participants

- Train from your workplace or home, with no travel required
- Benefit from an expert trainer-consultant on the subject
- Enjoy an ultra-personalised format (1 to 3 participants)
- Continue training even in the event of unforeseen circumstances

Benefits for the Organisation

- Optimise the training budget by reducing travel and accommodation costs
- Offer quality training to all employees, regardless of location
- Reduce absence time linked to travel
- Support team upskilling in all contexts