Updated 05/02/2025

Sign up

Kotlin Coroutines training

1 day (7 hours)

Presentation

Master the world of Kotlin coroutines, a powerful mechanism for non-blocking concurrency management. Kotlin Coroutines is a crucial feature for improving the performance and fluidity of Kotlin applications, particularly on Android platforms.

During our Kotlin Coroutines training course, we'll explore the basics of non-blocking functions, the importance and implementation of structured concurrency and the integration of Coroutines with different usage contexts.

You'll be introduced to the useful APIs of kotlinx.coroutines, as well as common errors and their consequences, so you can avoid common pitfalls.

We'll also take an in-depth look at the concept of Flow in Kotlin, how it works, how to create it and how to activate it. You'll also learn how to integrate Coroutines and Flow into Compose to optimize the graphical interface.

At the end of this course, you'll have a solid understanding coroutines and flows, and the ability to integrate them effectively into your Kotlin projects for better competition management.

As with all our training courses, this one will introduce you to the latest version of kotlinx.coroutines 1.10.

Objectives

- Understanding the basics and importance of structured competition in Kotlin Coroutines
- Identify and avoid common errors when using Coroutines and Flow
- Master the creation, activation and sharing of a Flow

- Apply Coroutines and Flow in Compose, with hands-on workshops on the graphical interface

Target audience

- Developers
- Kotlin developers
- Software architects
- Graphic interface designers

Prerequisites

- Previous experience in Android development would be a plus
- Test My Knowledge
- Fluency in English (our trainer speaks English)

Technical requirements

- Android Studio installed

Kotlin Coroutines training program

Introduction to coroutines

- What is a coroutine?
- Understanding the coroutine context
- Using suspend functions

Structured competition

- Coroutine lifecycle management
- Cancellation management
- Cancellation management

Flows

- Understanding Coroutine Flows
- Cold vs. hot flows
- State and Shared Flows
- Error management in Flows

Coroutine integration

- Writing reusable functions with coroutines
- Using coroutines in ViewModels
- Using coroutines in Compose

Optimizations

- Monitoring best practices for coroutines
- Optimizing concurrent workflows

Tests

- Unit testing of suspend functions
- Flows unit tests
- Unit testing of coroutines in ViewModels

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.