



Kotlin Fundamentals

HRDC Reg No - 10001301491

HRDC Fully Claimable Training

DESIGNED FOR

Software Developers, Kotlin Developers, Kotlin
Enthusiasts and Students

Who are looking to enhance their understanding of
Kotlin Fundamentals



28 – 30 August



09 AM – 5 PM



AC hotel, Marriott,
Penang, Malaysia

Mastering Kotlin Fundamentals : Kick Start Your Journey in Kotlin

Who is this course for?


This course is designed for software developers aiming to master the fundamentals of Kotlin. Whether you're an experienced developer learning a new language or a beginner diving into Kotlin, this training is for you. It's ideal for Java developers, mobile application developers, and Kotlin enthusiasts seeking to build robust applications.


Why you should join?


Kotlin is a modern, concise, and safe programming language that is gaining popularity, especially for Android development. By mastering Kotlin, developers can significantly improve the efficiency, readability, and maintainability of their code.

What We Offer:

In our Kotlin Fundamentals course, you'll receive:

 **Comprehensive Coverage:** Explore Kotlin's core concepts, including syntax, data types, object-oriented and functional programming, coroutines, and Java interoperability.

 **Practical Implementation:** Learn to write clean, efficient, and maintainable Kotlin code, using Kotlin's features to solve common programming challenges.

 **Solid Understanding:** Understand best practices for using Kotlin in various contexts, from Android development to backend programming, and master Kotlin's unique features and idioms.

By the end of this course, you'll be equipped to use Kotlin in your projects, enhancing your coding skills and career opportunities.

Course Outline

Module 1: Introduction to IntelliJ IDE

- Setting up Kotlin in IntelliJ

Module 2: Getting Started with Kotlin

- Constants, Variables, and Data Types
- Operators
- Strings
- Control Flow
 - Logical Operators
 - if and when expressions
- Nullable Types
 - Effectively handling Nullable Types
 - Nullability
- Loops in Kotlin
- Control structures

Module 3: Functions

- Single Expression functions
- Functions and Parameters
- Functions and Return Values
- Varargs
- Default Values for Parameters
- Named Parameters

Module 4: Classes

- Classes and Inheritance
- Constructors
- Properties and Fields
- Methods
- Visibility Modifiers
- Data Classes
- Nested Classes
- Enum Classes
- Type Checks and Casts
- this expressions
- Abstract class
- Sealed class

Module 5: Interface

- Creating an Interface
- Interface Oriented Programming
- Delegation in Kotlin

Module 6: Objects

- Object Declaration
- Object Expression
- Using object to implement interfaces
- Object as Singleton
- Companion Object

Module 7: Collections

- Arrays
- Collections
- Filter and map

Module 8: Error Handling

- Exceptions in Kotlin

Course Outline

Module 9: Generics

- Generic Type Parameters
- Generic functions and classes
- Type erasure and reified type parameters
- Declaration-site and use-site variance

Module 10: High Order Functions

- Functions as parameters
- Functions as return
- Lambdas
- Anonymous classes vs Lambda Expressions
- Inline Functions
- Extension Functions

Module 11: Delegation in Kotlin

Module 12: Kotlin Way

- Kotlin Idioms
- Kotlin Standard Library
 - Collections and Collection Functions
 - Scope Functions
- Porting Java code to Kotlin
- Writing Extension functions

Module 13: Interop

- Calling Java from Kotlin
- Calling Kotlin from Java



Pre-Requisites:

- Java Language Programming Knowledge
- Basic Android SDK Knowledge



Duration : 2 Days



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By the end of this course!

YOU WILL GAIN:

- 🔧 Mastery of Kotlin fundamentals, including syntax, data types, object-oriented and functional programming, coroutines, and Java interoperability.
- 🔧 Advanced troubleshooting techniques for efficient identification and resolution of Kotlin-related issues.
- 🔧 Strategies to enhance code robustness, scalability, and maintainability through effective Kotlin programming practices.
- 🔧 Best practices for incorporating cutting-edge Kotlin features and industry trends into your development process.

If you struggle with:

- ⚙️ Understanding and effectively using Kotlin syntax and features in your projects.
- ⚙️ Addressing common programming challenges and ensuring code compatibility across different components.
- ⚙️ Keeping pace with the evolving landscape of Kotlin language features and best practices.
- ⚙️ Ensuring scalability and flexibility in your software architecture and design decisions.
- ⚙️ Maximizing the effectiveness of your Kotlin implementations in real-world projects.

Implementing our Kotlin Fundamentals course will lead to:

- ✓ Streamlined development processes and quicker adoption of Kotlin in your projects.
- ✓ Enhanced code quality, reliability, and maintainability, resulting in improved project outcomes.
- ✓ Improved efficiency and resource utilization in Kotlin software development and maintenance.
- ✓ Access to specialized expertise and guidance from experienced Kotlin professionals.
- ✓ Increased competitiveness and innovation in your software solutions built with Kotlin.

Timmins Training Consulting

Timmins Training is a leading provider of training services in Malaysia, offering HRDC Claimable Trainings, Corporate Trainings, Corporate Onboarding Training, and Consulting services.

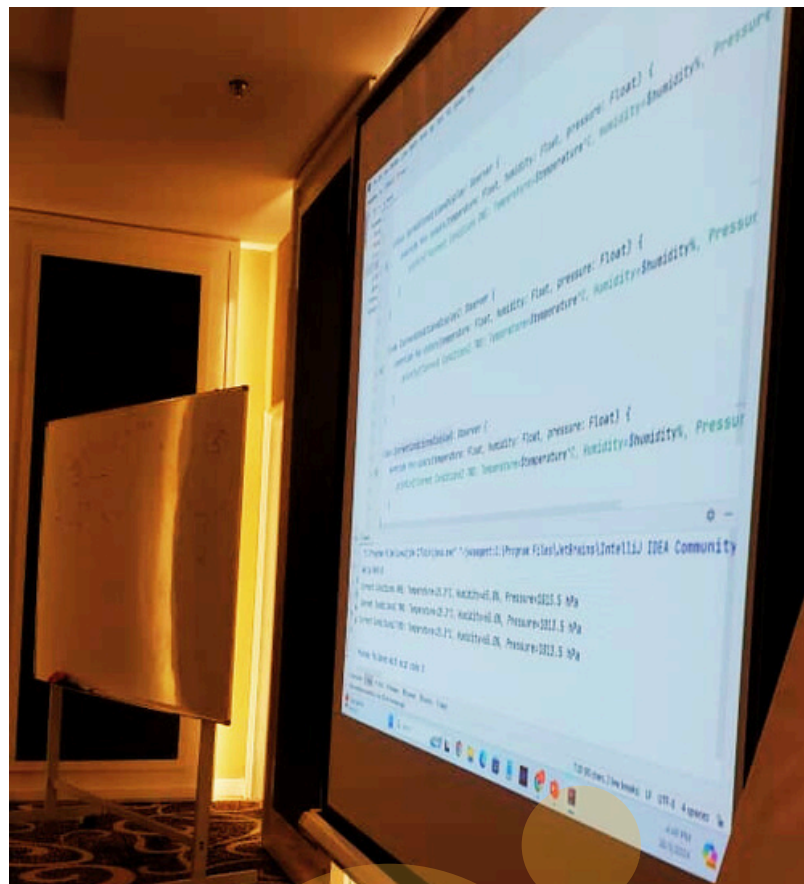
With over 8 years of experience, we serve various domains including Embedded Software Development, Full Stack Development, Mobile App Development, 5G, Business Intelligence, and more.

Our trainers are subject-matter experts with years of hands-on experience in their specialized areas. They bring practical insights to help you excel in your journey.

Empower yourself with Timmins Training Consulting and elevate your Kotlin skills to new heights!

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