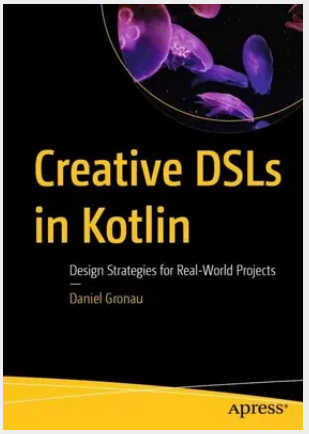
Gronau

Creative DSLs in Kotlin

Design Strategies for Real-World Projects



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Design and implement domain-specific languages (DSLs) in Kotlin. This book goes beyond toy examples and provides real-world insights into writing DSLs in practice.

You will learn a structured approach to DSL design, including defining goals, understanding constraints, and avoiding common pitfalls. You will explore essential Kotlin language features for DSL development, as well as the interoperability issues that arise when a Kotlin DSL needs to be called from Java code. You will also review major DSL patterns, including algebraic DSLs, builder-style DSLs, and idiomatic approaches like the Loan Pattern. Finally, the book addresses advanced topics such as modeling state transitions, creating hybrid DSLs, parsing strings, leveraging annotations, and using code generation to reduce boilerplate.

This book combines theory, patterns, and real-world applications to help you build DSLs that are robust, maintainable, and effective. In the end, you will not only be able to write DSLs in Kotlin but also understand the “why” behind important design decisions throughout the entire process.

What You Will Learn:

- Start, manage, and maintain DSL projects effectively.
- Understand the different DSLs that can be expressed in Kotlin.
- Choose the right DSL for your needs, understanding the trade-offs of different patterns.
- Leverage Kotlin’s language features for DSL design.
- Address interoperability challenges between Kotlin and Java.

Who This Book Is for:
Experienced Kotlin and Java developers. Readers should have a solid foundation in their primary programming language before diving into DSLs.

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