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Programming DSLs in Kotlin

Design Expressive and Robust Special Purpose Code

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The Pragmatic Bookshelf

Raleigh, North Carolina

The
Pragmatic
Programmers

Programming DSLs in Kotlin

Design Expressive
and Robust Special
Purpose Code



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ISBN-13: 978-1-68050-793-5

Encoded using the finest acid-free high-entropy binary digits.

Book version: P1.0—March 2021

Preface

Fluent, concise, expressive code, and low ceremony are some the traits of good domain-specific languages (DSLs). Creating a DSL is twice the joy—we can write elegant code, which in turn can help our domain experts work with ease and convenience.

In this book you'll learn how to design and implement your own DSLs using Kotlin. I've kept it really short so we can cut to the chase and get to implementing DSLs. Multiple examples will guide you through the essentials. Make sure to key in and execute each one of them to gain practice. Thank you for joining me on this journey.

Who Is This Book For?

This book assumes you are familiar with Kotlin and have some reasonable understanding of DSLs. It's intended to quickly guide you through the steps necessary to build DSLs using Kotlin for JVM or Android applications.

If you're a programmer interested in using Kotlin to build DSLs, you picked the right book. You'll also find this book useful if you're a lead developer, architect, or a technical manager who is involved in the development of applications that make use of DSLs.

You may also use this book to train your developers to become proficient with using Kotlin for programming DSLs.

What's in This Book?

We've intentionally kept this book short to help you to quickly pick up key tips and tricks to create DSLs using Kotlin.

This book will not serve as an introduction to Kotlin nor to DSLs, as it assumes some knowledge of both. For an introduction to Kotlin refer to [Programming Kotlin \[Sub19\]](#), and for an introduction to DSLs refer to [Domain-Specific Languages \[Fow10\]](#).

After a quick introduction of the steps to create DSLs with Kotlin, we'll dive straight into each of the steps. We'll first focus on making the syntax fluent by exploiting the flexibilities of Kotlin. Then we'll look at ways to bring domain-specific vocabulary into your DSLs. Following that we'll devise ways to bring multiple contexts into the execution environments. We'll then walk through the steps to make DSLs robust and resilient. Finally, we'll wrap with a few more examples of designing DSLs.

Each step of the way, we'll look at a number of code examples for you to practice along with. Take the time to key in each example, compile it, and execute it. Pause to make changes, break it, put it back together, try some variations, and then walk along to the next tip or trick to design your DSLs.

Online Resources

This book has an official page¹ at the Pragmatic Bookshelf website. From there you can download all the example source code for the book. You can also provide feedback by submitting errata entries and join in the discussions on the forum.

If you're reading the book in PDF form, you can click on the link above a code listing to view or download the specific examples.

Turn the page and let's get started with programming DSLs in Kotlin.

1. <http://www.pragprog.com/titles/vsds/>