Kotlin Programming Cookbook: Explore More Than 100 Recipes That Show How To Build Robust Le And Web Applications With Kotlin, Spring Boot, And Android

Build optimized applications in Kotlin by learning how to make use of the standard library features the smart way Key Features Get the most out of the Kotlin library to develop high-quality portable applications Explore the powerful support for data processing and I/O operations Discover ways to enhance your Android application development Book Description Given the verbosity of Java, developers have turned to Kotlin for effective software development. The Kotlin standard library provides vital tools that make day-to-day Kotlin programming easier. This library features the core attributes of the language, such as algorithmic problems, design patterns, data processing, and working with files and data streams. The recipes in this book offer coding solutions that can be readily executed. The book covers various topics related to data processing, I/O operations, and collections transformation. We'll walk through effective design patterns in Kotlin and you'll understand how coroutines add new features to JavaScript. As you make your way through the chapters, you'll learn how to implement clean, reusable functions and scalable interfaces containing default implementations. In the concluding chapters, we'll provide recipes on functional programming concepts, such as lambdas, monads, functors, and Kotlin scoping functions. By the end of the book, you'll be able to address a range of problems that Kotlin developers face by implementing easy-to-follow solutions. What you will learn Work with ranges, progressions, and sequences in use cases Add new functionalities to current classes with Kotlin extensions Understand elements such as lambdas, closures, and monads Build a REST API consumer with Retrofit and a coroutine adapter Discover useful tips and solutions for making your Android projects Explore the benefits of standard library features Who this book is for This book is for software developers who are familiar with Kotlin's basics and want to discover more advanced features and concepts, especially those provided by the Kotlin standard library. It's also ideal for experienced software developers who are familiar with the functional programming paradigm and other programming languages who want to switch to Kotlin. It will also help Java developers switch to Kotlin and integrate it into existing Java Virtual Machine (JVM) projects.

Discover Android programming and web development by understanding the concepts of Kotlin Programming Key Features Practical solutions to your common programming problems with Kotlin 1.1 Leverage the functional power of Kotlin to ease your Android application development Learn to use Java code in conjunction with Kotlin Book Description The Android team has announced first-class support for Kotlin 1.1. This acts as an added boost to the language and more and more developers are now looking at Kotlin for their application development. This recipe-based book will be your guide to learning the Kotlin programming language. The recipes in this book build from simple language concepts to more complex applications of the language. After the fundamentals of the language, you will learn how to apply the object-oriented programming features of Kotlin 1.1. Programming with Lambdas will show you how to use the functional power of Kotlin. This book has recipes that will get you started with Android programming with Kotlin 1.1, providing quick solutions to common problems encountered during Android app development. You will also be taken through recipes that will teach you microservice and concurrent programming with Kotlin. Going forward, you will learn to test and secure your applications with Kotlin. Finally, this book supplies recipes that will help you migrate your Java code to Kotlin and will help ensure that it's interoperable with Java. What you will learn Understand the basics and object-oriented concepts of Kotlin Programming Explore the full potential of collection frameworks in Kotlin Work with SQLite databases in Android, make network calls, and fetch data over a network Use Kotlin's Anko library for efficient and quick Android development Uncover some of the best features of Kotlin: Lambdas and Delegates Set up web service development environments, write servlets, and build RESTful services with Kotlin Learn how to write unit tests, integration tests, and instrumentation/acceptance tests. Who this book is for This book will appeal to Kotlin developers keen to find solutions for their common programming problems. Java programming knowledge would be an added advantage.

Familiarize yourself with all of Kotlin's features with this in-depth guide About This Book Get a thorough introduction to Kotlin Learn to use Java code alongside Kotlin without any hiccups Get a complete overview of null safety, Generics, and many more interesting features Who This Book Is For The book is for existing Java developers who want to learn more about an alternative JVM language. If you want to see what Kotlin has to offer, this book is ideal for you. What You Will Learn Use new features to write structured and readable object-oriented code Find out how to use lambdas and higher order functions to write clean, reusable, and simple code Write unit tests and integrate Kotlin tests with Java code in a transitioning code base Write real-world production code in Kotlin in the style of microservices Leverage Kotlin's extensions to the Java collections library Use destructuring expressions and find out how to write your own Write code that avoids null pointer errors and see how Java-nullable code can integrate with features in a Kotlin codebase Discover how to write functions in Kotlin, see the new features available, and extend existing libraries Learn to write an algebraic data types and figure out when they should be used In Detail Kotlin has been making waves ever since it was open sourced by JetBrains in 2011; it has been praised by developers across the world and is already being adopted by companies. This book provides a detailed introduction to Kotlin that shows you all its features and will enable you to write Kotlin code to production. We start with the basics: get you familiar with running Kotlin code, setting up, tools, and instructions that you can use to write basic programs. Next, we cover object oriented code: functions, lambdas, and properties - all while using Kotlin's new features. Then, we move on to null safety aspects and type parameterization. We show you how to destructure expressions and even write your own. We also take you through important topics like testing, concurrency, microservices, and a whole lot more. By the end of this book you will be able to compose different services and build your own applications. Style and approach An easy to follow guide that covers the full set of features in Kotlin programming.

Kotlin has raised the bar for programming languages on the Java Virtual Machine with its compatibility, readability, efficiency, and tool support. But adopting a new language can be daunting, especially when you're working with business-critical Java code that must meet changing requirements. This book takes a novel approach to introducing Kotlin to Java programmers: showing you how to gradually refactor Java code to idiomatic Kotlin while continuing to evolve its functionality. But converting Java to Kotlin is just the starting point. Kotlin has many features beyond Java. Using worked examples, authors Duncan McGregor and Nat Pryce guide you through honing the converted code to make it simpler, more efficient, more expressive, and easier to change. You'll learn how to take advantage of functional constructs to improve program structure, reliability, and error handling. Once you finish this book, you'll be confident writing Kotlin from scratch, converting your existing Java when appropriate, and managing a mixed Java-Kotlin codebase as it evolves over time.

Practical solutions to building serverless applications using Java and AWS

Build real-world Android and web applications the Kotlin way

Serverless Programming Cookbook

Mastering High Performance with Kotlin

Learn Kotlin the Easy Way While Developing an Android App

Java SOA Cookbook

Android Programming

Summary Maintaining poor legacy code, interpreting cryptic comments, and writing the same boilerplate over and over can suck the joy out of your life as a Java developer. Fear not! There's hope! Kotlin is an elegant JVM language with modern features and easy integration with Java. The Joy of Kotlin teaches you practical techniques to improve abstraction and design, to write comprehensible code, and to build maintainable bug-free applications. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Your programming language should be expressive, safe, flexible, and intuitive, and Kotlin checks all the boxes! This elegant JVM language integrates seamlessly with Java, and makes it a breeze to switch between OO and functional styles of programming. It's also fully supported by Google as a first-class Android language. Master the powerful techniques in this unique book, and you'll be able to take on new challenges with increased confidence and skill. About the Book The Joy of Kotlin teaches you to write comprehensible, easy-to-maintain, safe programs with Kotlin. In this expert guide, seasoned engineer Pierre-Yves Saumont teaches you to approach common programming challenges with a fresh, FP-inspired perspective. As you work through the many examples, you'll dive deep into handling errors and data properly, managing state, and taking advantage of laziness. The author's down-to-earth examples and experience-driven insights will make you a better—and more joyful—developer! What's inside Programming with functions Dealing with optional data Safe handling of errors and exceptions Handling and sharing state mutation About the Reader Written for intermediate Java or Kotlin developers. About the Author Pierre-Yves Saumont is a senior software engineer at Alcatel-Submarine Networks. He's the author of Functional Programming in Java (Manning, 2017). Table of Contents Making programs safer Functional programming in Kotlin: An overview Programming with functions Recursion, corecursion, and memoization Data handling with lists Dealing with optional data Handling errors and exceptions Advanced list handling Working with laziness More data handling with trees Solving problems with advanced trees Functional input/output Sharing mutable states with actors Solving common problems functionally

Learn how to make Android development much faster using a variety of Kotlin features, from basics to advanced, to write better quality code. About This Book Leverage specific features of Kotlin to ease Android application development Write code based on both object oriented and functional programming to build robust applications Filled with various practical examples so you can easily apply your knowledge to real world scenarios Identify the improved way of dealing with common Java patterns Who This Book Is For This book is for developers who have a basic understanding of Java language and have 6-12 months of experience with Android development and developers who feel comfortable with OOP concepts. What You Will Learn Run a Kotlin application and understand the integration with Android Studio Incorporate Kotlin into new/existing Android Java based project Learn about Kotlin type system to deal with null safety and immutability Define various types of classes and deal with properties Define collections and transform them in functional way Define extensions, new behaviours to existing libraries and Android framework classes Use generic type variance modifiers to define subtyping relationship between generic types Build a sample application In Detail Nowadays, improved application development does not just mean building better performing applications. It has become crucial to find improved ways of writing code. Kotlin is a language that helps developers build amazing Android applications easily and effectively. This book discusses Kotlin features in context of Android development. It demonstrates how common examples that are typical for Android development, can be simplified using Kotlin. It also shows all the benefits, improvements and new possibilities provided by this language. The book is divided in three modules that show the power of Kotlin and teach you how to use it properly. Each module present features in different levels of advancement. The first module covers Kotlin basics. This module will lay a firm foundation for the rest of the chapters so you are able to read and understand most of the Kotlin code. The next module dives deeper into the building blocks of Kotlin, such as functions, classes, and function types. You will learn how Kotlin brings many improvements to the table by improving common Java concepts and decreasing code verbosity. The last module presents features that are not present in Java. You will learn how certain tasks can be achieved in simpler ways thanks to Kotlin. Through the book, you will learn how to use Kotlin for Android development. You will get to know and understand most important Kotlin features, and how they can be used. You will be ready to start your own adventure with Android development with Kotlin.

Kotlin is a powerful and pragmatic language, but it's not enough to know about its features. We also need to know when they should be used and in what way. This book is a guide for Kotlin developers on how to become excellent Kotlin developers. It presents and explains in-depth the best practices for Kotlin development. Each item is presented as a clear rule of thumb, supported by detailed explanations and practical examples.

This book helps you use the open-source Flutter framework for building native mobile apps using Dart. You'll learn about Dart programming and add functionalities to your Android and iOS apps for truly native performance. The book also covers recipes for solving almost any issue that you may face while developing multi-platform applications.

Programming Kotlin Applications

Android 9 Development Cookbook

A hands-on guide to developing, testing, and publishing your first apps with Android

Explore More Than 100 Recipes That Show How to Build Robust Mobile and Web Applications with Kotlin, Spring Boot, and Android

SOA Implementation Recipes, Tips, and Techniques

Kotlin Programming By Example

Android Development Patterns

If you're just learning how to program, Julia is an excellent JIT-compiled, dynamically-typed language with a clean syntax. This hands-on guide uses Julia (version 1.0) to walk you through programming one step at a time, beginning with basic programming concepts before moving on to more advanced capabilities, such as creating new types and multiple dispatch. Designed from the beginning for high performance, Julia is a general-purpose language not only ideal for numerical analysis and computational science, but also for web programming or scripting. Through exercises in each chapter, you'll try out programming concepts as you learn them. Think Julia is ideal for students at the high school or college level, as well as self-learners, home-schooled students, and professionals who need to learn programming basics. Start with the basics, including language syntax and semantics Get a clear definition of each programming concept Learn about values, variables, statements, functions, and data structures in a logical progression Discover how to work with files and databases Understand types, methods, and multiple dispatch Use debugging techniques to fix syntax, runtime, and semantic errors Explore interface design and data structures through case studies

Google has officially announced Kotlin as a supported language to write Android Apps.These are amazing news for Android developers, which now have the ability to use a modern and powerful language to make their job easier and funnier.But this comes with other responsibilities. If you want to be a good candidate for new Android opportunities, Kotlin is becoming a new need most companies will ask for. So it's your time to start learning about it!And "Kotlin for Android Developers" is the best tool. Recommended by both Google and Jetbrains, this book will guide through the process of learning all the new features that Java was missing, in an easy and fun way.You'll be creating an Android app from ground using Kotlin as the main language. The idea is to learn the language by example, instead of following a typical structure. I'll be stopping to explain the most interesting concepts and ideas about Kotlin, comparing it with Java 7. This way, you can see what the differences are and which parts of the language will help you speed up your work.This book is not meant to be a language reference, but a tool for Android developers to learn Kotlin and be able to continue with their own projects by themselves. I'll be solving many of the typical problems we have to face in our daily lives by making use of the language expressiveness and some other really interesting tools and libraries.The book is very practical, so it is recommended to follow the examples and the code in front of a computer and try everything it's suggested. You could, however, take a first read to get a broad idea and then dive into practice.

Android Programming Unleashed is the most comprehensive and technically sophisticated guide to best-practice Android development with today's powerful new versions of Android: 4.1 (Jelly Bean) and 4.0.3 (Ice Cream Sandwich). Offering the exceptional breadth and depth developers have come to expect from the Unleashed series, it covers everything programmers need to know to develop robust, high-performance Android apps that deliver a superior user experience. Leading developer trainer Bintu Harwani begins with basic UI controls, then progresses to more advanced topics, finally covering how to develop feature rich Android applications that can access Internet-based services and store data. He illuminates each important SDK component through complete, self-contained code examples that show developers the most effective ways to build production-ready code. Coverage includes: understanding the modern Android platform from the developer's standpoint… using widgets, containers, resources, selection widgets, dialogs, and fragments… supporting actions and persistence… incorporating menus, ActionBars, content providers, and databases… integrating media and animations… using web, map, and other services… supporting communication via messaging, contacts, and emails… publishing Android apps, and much more.

Learn Reactive Programming in Kotlin with RxJava!The popularity of reactive programming continues to grow on an ever-increasing number of platforms and languages. Rx lets developers easily and quickly build apps with code that can be understood by other Rx developers-even over different platforms.Not only will you learn how to use RxJava to create complex reactive applications on Android, you'll also see how to solve common application design issues by using RxJava. Finally, you'll discover how to exercise full control over the library and leverage the full power of reactive programming in your apps.Who This Book Is ForThis book is for Android developers who already feel comfortable with the Android SDK and Kotlin, and want to dive deep into development with RxJava, RxKotlin, and RxAndroid.Topics Covered in Reactive Programming with Kotlin:Getting Started: Get an introduction to the reactive programming paradigm, learn the terminology involved, and see how to begin using RxJava in your projects.Event Management: Learn how to handle asynchronous event sequences via two key concepts in Rx-Observables and Observers.Being Selective: See how to work with various events using tools such as filtering, transforming, combining, and timing operators.UI Development: RxJava and companion libraries make it easy to work with the UI of your apps, providing a reactive approach to handling user events.Intermediate Topics: Level up your RxJava knowledge with chapters on reactive networking, error handling, and schedulers.Advanced Topics: Round out your RxJava education by learning about app architecture, repositories, and integrating RxJava with Android Jetpack.And much, much more!By the end of the book, you'll have hands-on experience solving common issues in a reactive paradigm-and you'll be well on your way to coming up with your own Rx patterns and solutions!

Core features to get you ready for developing applications

The Android Developer's Cookbook

Best Practices for Professional Developers

Hands-On Design Patterns with Kotlin

Kotlin Cookbook

How to Build Android Apps with Kotlin

Build Android apps starting from zero programming experience with the new Kotlin programming language

Explore popular language features, Java to Kotlin interoperability, advanced topics, and practical applications by building a variety of sample projects Key Features Understand and leverage the syntax, tools, and patterns by writing code in Kotlin Explore practical topics such as Java interop, concurrency with coroutines, and functional programming Discover how to use Kotlin for build targets like Android, iOS, JavaScript, and backend service Book Description Using Kotlin without taking advantage of its power and interoperability is like owning a sports car and never taking it out of the garage. While documentation and introductory resources can help you learn the basics of Kotlin, the fact that it's a new language means that there are limited learning resources and code bases available in comparison to Java and other established languages. This Kotlin book will show you how to leverage software designs and concepts that have made Java the most dominant enterprise programming language. You'll understand how Kotlin is a modern approach to object-oriented programming (OOP). This book will take you through the vast array of features that Kotlin provides over other languages. These features include seamless interoperability with Java, efficient syntax, built-in functional programming constructs, and support for creating your own DSL. Finally, you will gain an understanding of implementing practical design patterns and best practices to help you master the Kotlin language. By the end of the book, you'll have obtained an advanced understanding of Kotlin in order to be able to build production-grade applications. What you will learn Model data using interfaces, classes, and data classes Grapple with practical interoperability challenges and solutions with Java Build parallel apps using concurrency solutions such as coroutines Explore functional, reactive, and imperative programming to build flexible apps Discover how to build your own domain-specific language Embrace functional programming using the standard library and Arrow Delve into the use of Kotlin for frontend JavaScript development Build server-side services using Kotlin and Ktor Who this book is for If you're a Kotlin developer looking to further their skills or a professional Java developer looking for better or professional resources in order to make a switch to Kotlin, this book is for you. Familiarity with Kotlin programming will assist with understanding key concepts covered in the book.

Take advantage of Kotlin's concurrency primitives to write efficient multithreaded applications Key Features Learn Kotlin's unique approach to multithreading Work through practical examples that will help you write concurrent non-blocking code Improve the overall execution speed in multiprocessor and multicore systems Book Description The primary requirements of modern-day applications are scalability, speed, and making the most use of hardware. Kotlin meets these requirements with its immense support for concurrency. Many concurrent primitives of Kotlin, such as channels and suspending functions, are designed to be non-blocking and efficient. This allows for new approaches to concurrency and creates unique challenges for the design and implementation of concurrent code. Learning Concurrency in Kotlin addresses those challenges with real-life examples and exercises that take advantage of Kotlin's primitives. Beginning with an introduction to Kotlin's coroutines, you will learn how to write concurrent code and understand the fundamental concepts needed to be able to write multithreaded software in Kotlin. You'll explore how to communicate between and synchronize your threads and coroutines to write asynchronous applications that are collaborative. You'll also learn how to handle errors and exceptions, as well as how to leverage multi-core processing. In addition to this, you'll delve into how coroutines work internally, allowing you to see the bigger picture. Throughout the book you'll build an Android application – an RSS reader – designed and implemented according to the different topics covered in the book What you will learn Understand Kotlin's approach to concurrency Implement sequential and asynchronous suspending functions Create suspending data sources that are resumed on demand Explore the best practices for error handling Use channels to communicate between coroutines Uncover how coroutines work under the hood Who this book is for If you're a Kotlin or Android developer interested in learning how to program concurrently to enhance the performance of your applications, this is the book for you.

Functional Programming in Kotlin is a serious tutorial for programmers looking to learn FP and apply it to the everyday business of coding. Based on the bestselling Functional Programming in Scala, this book guides intermediate Java and Kotlin programmers from basic techniques to advanced topics in a logical, concise, and clear progression. In this authoritative guide, you'll take on the challenge of learning functional programming from first principles, and start writing Kotlin code that's easier to read, easier to reuse, better for concurrency, and less prone to bugs and errors. Functional Programming in Kotlin is a serious tutorial for programmers looking to learn FP and apply it to the everyday business of coding. Based on the bestselling Functional Programming in Scala, this book guides intermediate Java and Kotlin programmers from basic techniques to advanced topics in a logical, concise, and clear progression. In it, you'll find concrete examples and exercises that open up the world of functional programming. The book will deliver practical mastery of FP using Kotlin and a valuable perspective on program design that you can apply to other languages. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Enhance your Kotlin programming skills by building 3 real-world applications Key Features Build three full-fledged, engaging applications from scratch and learn to deploy them Enhance your app development and programming activities with Kotlin's powerful and intuitive tools and utilities. Experience the gentle learning curve, expressiveness, and intuitiveness of Kotlin, as you develop your own applications Book Description Kotlin greatly reduces the verbosity of source code. With Google having announced their support for Kotlin as a first-class language for writing Android apps, now's the time learn how to create apps from scratch with Kotlin Kotlin Programming By Example takes you through the building blocks of Kotlin, such as functions and classes. You'll explore various features of Kotlin by building three applications of varying complexity. For a quick start to Android development, we look at building a classic game, Tetris, and elaborate on object-oriented programming in Kotlin. Our next application will be a messenger app, a level up in terms of complexity. Before moving onto the third app, we take a look at data persistent methods, helping us learn about the storage and retrieval of useful applications. Our final app is a place reviewer: a web application that will make use of the Google Maps API and Place Picker. By the end of this book, you will have gained experience of of creating and deploying Android applications using Kotlin. What you will learn Learn the building blocks of the Kotlin programming language Develop powerful RESTful microservices for Android applications Create reactive Android applications efficiently Implement an MVC architecture pattern and dependency management using Kotlin Centralize, transform, and stash data with Logstash Secure applications using Spring Security Deploy Kotlin microservices to AWS and Android applications to the Play Store Who this book is for This book is for those who are new to Kotlin or are familiar with the basics, having dabbled with Java until now. Basic programming knowledge is mandatory.

Build highly efficient and robust applications

Think Julia

Learn Kotlin Programming

Kotlin Quick Start Guide

Simple, Lean, and Powerful Web Applications

Explore more than 100 recipes that show how to build robust mobile and web applications with Kotlin, Spring Boot, and Android

A comprehensive guide to OOP, functions, concurrency, and coroutines in Kotlin 1.3, 2nd Edition

Programmers don't just use Kotlin, they love it. Even Google has adopted it as a first-class language for Android development. With Kotlin, you can intermix imperative, functional, and object-oriented styles of programming and benefit from the approach that's most suitable for the problem at hand. Learn to use the many features of this highly concise, fluent, elegant, and expressive statically typed language with easy-to-understand examples. Learn to write easy-to-maintain, high-performing JVM and Android applications, create DSLs, program asynchrony, and much more. Kotlin is a highly concise, elegant, fluent, and expressive statically typed multi-paradigm language. It is one of the few languages that compiles down to both Java bytecode and JavaScript. You can use it to build server-side, front-end, and Android applications. With Kotlin, you need less code to accomplish your tasks, while keeping the code type-safe and less prone to error. If you want to learn the essentials of Kotlin, from the fundamentals to more advanced concepts, you've picked the right book. Fire up your favorite IDE and practice hundreds of examples and exercises to sharpen your Kotlin skills. Learn to build standalone small programs to run as scripts, create type safe code, and then carry that knowledge forward to create fully object-oriented and functional style code that's easier to extend. Learn how to program with elegance but without compromising efficiency or performance, and how to use metaprogramming to build highly expressive code and create internal DSLs that exploit the fluency of the language. Explore coroutines, program asynchrony, run automated tests, and intermix Kotlin with Java in your enterprise applications. This book will help you master one of the few languages that you can use for the entire full stack - from the server to mobile devices - to create performant, concise, and easy to maintain applications. What You Need: To try out the examples in the book you'll need a computer with Kotlin SDK, JDK, and a text editor or a Kotlin IDE installed in it.

Android Programming: The Big Nerd Ranch Guide is an introductory Android book for programmers with Java experience. Based on Big Nerd Ranch's popular Android Bootcamp course, this guide will lead you through the wilderness using hands-on example apps combined with clear explanations of key concepts and APIs. This book focuses on practical techniques for developing apps compatible with Android 4.1 (Jelly Bean) and up, including coverage of Lollipop and material design. Write and run code every step of the way, creating apps that integrate with other Android apps, download and display pictures from the web, play sounds, and more. Each chapter and app has been designed and tested to provide the knowledge and experience you need to get started in Android development. Big Nerd Ranch specializes in developing and designing innovative applications for clients around the world. Our experts teach others through our books, bootcamps, and onsite training. Whether it's Android, iOS, Ruby and Ruby on Rails, Cocoa, Mac OS X, JavaScript, HTML5 or UX/UI, we've got you covered. The Android team is constantly improving and updating Android Studio and other tools. As a result, some of the instructions we provide in the book are no longer correct. You can find an addendum addressing breaking changes at: https://github.com/bignerdranch/AndroidCourseResources/raw/master/2ndEdition/Errata/2eAddendum.pdf.

Use Kotlin to build Android apps, web applications, and more—while you learn the nuances of this popular language. With this unique cookbook, developers will learn how to apply thisJava-based language to their own projects. Both experienced programmers and those new to Kotlin will benefit from the practical recipes in this book. Author Ken Kousen (Modern Java Recipes) shows you how to solve problems with Kotlin by concentrating on your own use cases rather than on basic syntax. You provide the contextand this book supplies the answers. Already big in Android development, Kotlin can be used anywhere Java is applied, as well as for iOS development, native applications, JavaScriptgeneration, and more. Jump in and build meaningful projects with Kotlin today. Apply functional programming concepts, including lambdas, sequences, and concurrency See how to use delegates, late initialization, and scope functions Explore Java interoperability and access Java libraries using Kotlin Add your own extension functions Use helpful libraries such as JUnit 5 Get practical advice for working with specific frameworks, like Android and Spring Delve into the world of Kotlin and learn to build powerful Android and web applications Key Features Learn the fundamentals of Kotlin to write high-quality code Test and debug your applications with the different unit testing frameworks in Kotlin Explore Kotlin's interesting features such as null safety, reflection, and annotations Book Description Kotlin is a general-purpose programming language used for developing cross-platform applications. Complete with a comprehensive introduction and projects covering the full set of Kotlin programming features, this book will take you through the fundamentals of Kotlin and get you up to speed in no time. Learn Kotlin Programming covers the intricacies of Kotlin, from basics to advanced, to write better quality code. You'll learn how to implement object-oriented programming in Kotlin and easily reuse your program or parts of it. The book explains DSL construction, serialization, null safety aspects, and type parameterization to help you build robust apps. You'll learn how to destructure expressions and write your own. You'll then get to grips with building scalable apps by exploring advanced topics such as testing, concurrency, microservices, coroutines, and Kotlin DSL builders. Furthermore, you'll be introduced to the kotlinx.serialization framework, which is used to persist objects in JSON, Protobuf, and other formats. By the end of this book, you'll be well versed with all the new features in Kotlin and will be able to build robust applications skillfully. What you will learn Explore the latest Kotlin features in order to write structured and readable object-oriented code Get to grips with using lambdas and higher-order functions Write unit tests and integrate Kotlin with Java code Create real-world apps in Kotlin in the microservices style Use Kotlin extensions with the Java collections library Uncover destructuring expressions and find out how to write your own Understand how Java-nullable code can be integrated with Kotlin features Who this book is for If you're a beginner or intermediate programmer who wants to learn Kotlin to build applications, this book is for you. You'll also find this book useful if you're a Java developer interested in switching to Kotlin.

The Big Nerd Ranch Guide

Master the powerful Kotlin standard library through practical code examples

Android Development with Kotlin

Kotlin for Android Developers

Mastering Kotlin

Learn RX with Rxjava, Rxkotlin and Rxandroid

Overcome performance difficulties in Kotlin with a range of exciting techniques and solutions

Focuses on service-oriented architecture: web services, orchestrations, policies, and more - for developers.

Learn to program with Kotlin, one of the fastest-growing programming languages available today Programming Kotlin Applications: Building Mobile and Server-Side Applications with Kotlin drops readers into the fast lane for learning to develop with the Kotlin programming language. Authored by accomplished cloud consultant and technology professional Brett McLaughlin, Programming Kotlin Applications provides readers with the pragmatic and practical advice they need to build their very first Kotlin applications. Designed to give readers a thorough understanding of Kotlin that goes beyond mere mobile programming, this book will help you: Learn how to develop your first Kotlin project Understand how Kotlin securely protects and stores information Advocate for using Kotlin in your own professional and personal environments Understand Kotlin's goals and how to use it as its best Know when to avoid using Kotlin Programming Kotlin Applications is written in a highly approachable and accessible way without the fluff and unrealistic samples that characterize some of its competitor guides. Perfect for developers familiar with another object-oriented programming language like Java or Ruby, or for people who want to advance their skillset in the Kotlin environment, this book is an indispensable addition to any programmer ' s library.

Build feature-rich, reliable Android Pie apps with the help of more than 100 proven industry standard recipes and strategies. Key Features Uncover the latest features in Android 9 Pie to make your applications stand out Develop Android Pie applications with the latest mobile technologies, from set up to security Get up-to-speed with Android Studio 3 and its impressive new features Book Description The Android OS has the largest installation base of any operating system in the world. There has never been a better time to learn Android development to write your own applications, or to make your own contributions to the open source community! With this extensively updated cookbook, you'll find solutions for working with the user interfaces, multitouch gestures, location awareness, web services, and device features such as the phone, camera, and accelerometer. You also get useful steps on packaging your app for the Android Market. Each recipe provides a clear solution and sample code you can use in your project from the outset. Whether you are writing your first app or your hundredth, this is a book that you will come back to time and time again, with its many tips and tricks on the rich features of Android Pie. What you will learn Develop applications using the latest Android framework while maintaining backward-compatibility with the support library Create engaging applications using knowledge gained from recipes on graphics, animations, and multimedia Work through succinct steps on specifics that will help you complete your project faster Add location awareness to your own app with examples using the latest Google Play services API Utilize Google Speech Recognition APIs for your app Who this book is for If you are new to Android development and want to take a hands-on approach to learning the framework, or if you are an experienced developer in need of clear working code to solve the many challenges in Android development, you will benefit from this book. Either way, this is a resource you'll want to keep on your desk as a quick reference to help you solve new problems as you tackle more challenging projects.

Want to get started building applications for Android, the world ' s hottest, fast-growing mobile platform? Already building Android applications and want to get better at it? This book brings together all the expert guidance—and code—you ' ll need! Completely up-to-date to reflect the newest and most widely used Android SDKs, The Android Developer ' s Cookbook is the essential resource for developers building apps for any Android device, from phones to tablets. Proven, modular recipes take you from the absolute basics to advanced location-based services, security techniques, and performance optimization. You ' ll learn how to write apps from scratch, ensure interoperability, choose the best solutions for common problems, and avoid development pitfalls. Coverage includes: Implementing threads, services, receivers, and other background tasks Providing user alerts Organizing user interface layouts and views Managing user-initiated events such as touches and gestures Recording and playing audio and video Using hardware APIs available on Android devices Interacting with other devices via SMS, web browsing, and social networking Storing data efficiently with SQLite and its alternatives Accessing location data via GPS Using location-related services such as the Google Maps API Building faster applications with native code Providing backup and restore with the Android Backup Manager Testing and debugging apps throughout the development cycle Turn to The Android Developer ' s Cookbook for proven, expert answers—and the code you need to implement them. It ' s all you need to jumpstart any Android project, and create high-value, feature-rich apps that sell!

Effective Kotlin

A Refactoring Guidebook

Scala Cookbook

Building Applications with the Android SDK

Create Elegant, Expressive, and Performant Jvm and Android Applications

Java to Kotlin

Flutter Cookbook

This book will equip you to create high-quality, visually appealing Android 11 apps from scratch with Kotlin. You'll discover a wide range of real-world development challenges faced by developers and explore various techniques to overcome them.

Make the most of Kotlin by leveraging design patterns and best practices to build scalable and high performing apps Key Features Understand traditional GOF design patterns to apply generic solutions Shift from OOP to FP; covering reactive and concurrent patterns in a step-by-step manner Choose the best microservices architecture and MVC for your development environment Book Description Design patterns enable you as a developer to speed up the development process by providing you with proven development paradigms. Reusing design patterns helps prevent complex issues that can cause major problems, improves your code base, promotes code reuse, and makes an architecture more robust. The mission of this book is to ease the adoption of design patterns in Kotlin and provide good practices for programmers. The book begins by showing you the practical aspects of smarter coding in Kotlin, explaining the basic Kotlin syntax and the impact of design patterns. From there, the book provides an in-depth explanation of the classical design patterns of creational, structural, and behavioral families, before heading into functional programming. It then takes you through reactive and concurrent patterns, teaching you about using streams, threads, and coroutines to write better code along the way By the end of the book, you will be able to efficiently address common problems faced while developing applications and be comfortable working on scalable and maintainable projects of any size. What you will learn Get to grips with Kotlin principles, including its strengths and weaknesses Understand classical design patterns in Kotlin Explore functional programming using built-in features of Kotlin Solve real-world problems using reactive and concurrent design patterns Use threads and coroutines to simplify concurrent code flow Understand antipatterns to write clean Kotlin code, avoiding common pitfalls Learn about the design considerations necessary while choosing between architectures Who this book is for This book is for developers who would like to master design patterns with Kotlin to build efficient and scalable applications. Basic Java or Kotlin programming knowledge is assumed

Build optimized applications in Kotlin by learning how to smartly implement standard libraries. Key Features Get the most out of the Kotlin library to develop high-quality portable applications Explore the powerful support for data processing and I/O operations Discover ways to enhance your Android application development Book Description Given the verbosity of Java, developers have turned to Kotlin for effective software development. The Kotlin standard library provides vital tools that make day-to-day Kotlin programming easier. This library features the core attributes of the language, such as algorithmic problems, design patterns, data processing, and working with files and data streams. The recipes in this book offer coding solutions that can be readily executed. The book covers various topics related to data processing, I/O operations, and collections transformation. We'll walk through effective design patterns in Kotlin and you'll understand how coroutines add new features to JavaScript. As you make your way through the chapters, you'll learn how to implement clean, reusable functions and scalable interfaces containing default implementations. In the concluding chapters, we'll provide recipes on functional programming concepts, such as lambdas, monads, functors, and Kotlin scoping functions. By

the end of the book, you'll be able to address a range of problems that Kotlin developers face by implementing easy-to-follow solutions. What you will learn Work with ranges, progressions, and sequences in use cases Add new functionalities to current classes with Kotlin extensions Understand elements such as lambdas, closures, and monads Build a REST API consumer with Retrofit and a coroutine adapter Discover useful tips and solutions for making your Android projects Explore the benefits of standard library features Who this book is for This book is for software developers who are familiar with Kotlin's basics and want to discover more advanced features and concepts, especially those provided by the Kotlin standard library. It's also ideal for experienced software developers who are familiar with the functional programming paradigm and other programming languages who want to switch to Kotlin. It will also help Java developers switch to Kotlin and integrate it into existing Java Virtual Machine (JVM) projects.

Kotlin Programming CookbookExplore more than 100 recipes that show how to build robust mobile and web applications with Kotlin, Spring Boot, and AndroidPackt Publishing Ltd

A Brain-Friendly Guide

Android Programming Unleashed

Learning Ratpack

Over 100 proven techniques and solutions for app development with Flutter 2.2 and Dart

Head First Kotlin

Android Cookbook

Provides instruction on building Android apps, including solutions to working with web services, multitouch gestures, location awareness, and device features.

Master the concise and expressive power of a pragmatic multi-paradigm language for JVM, Android and beyond Key Featuresa- Language fundamentalsa- Object-oriented and functional programming with Kotlina- Kotlin standard librarya- Building domain-specific languagesa- Using Kotlin for Web developmenta- Kotlin for Android platforma- Coroutine-based concurrencyDescriptionThe purpose of this book is to guide a reader through the capabilities of the Kotlin language and give examples of using it for development of various applications be it desktop, mobile or Web. Although our primary focus is on the JVM and Android, the knowledge we're sharing here to various extents applies to other Kotlin-supported platforms such as JavaScript, native and even multi-platform applications.The book starts with an introduction to language and its ecosystem that will give you an understanding of the key ideas behind Kotlin design, introduce you to the Kotlin tooling and present you the basic language syntax and constructs. In the next chapters we'll get to know the multi-paradigm nature of Kotlin which allows you to create powerful abstractions by combining various aspects of functional and object-oriented programming. We'll talk about using common Kotlin APIs such as the standard library, reflection, and coroutine-based concurrency as well as the means for creating your own flexible APIs based on domain-specific languages. In the concluding chapters, we'll give examples of using Kotlin for more specialized tasks such as testing, building Android applications, Web development and creating microservices.What will you learnBy the end of the book, you'll obtain a thorough knowledge of all basic aspects of Kotlin programming. You'll be able to create a flexible and reusable code by taking advantage of object-oriented and functional features, use Kotlin standard library, compose your own domain-specific languages, write asynchronous code using Kotlin coroutines library as well. You'll also have a basic understanding of using Kotlin for writing test code, web applications and Android development. This knowledge will also give you a solid foundation for deeper learning of related development platforms, tools and frameworks.Who this book is forThe book is primarily aimed at developers familiar with Java and JVM and willing to get a firm understanding of Kotlin while having little to no experience in that language. Discussion of various language features will be accompanied, if deemed necessary, by comparisons with their Java's analogs which should simplify Java-to-Kotlin transition. Most of the material, however, is rather Java-agnostic and should be beneficial even without prior Java knowledge. In general, experience in object-oriented or functional paradigm is a plus, but not required.Table of Contents10. Annotations and Reflection11. Domain-Specific Languages12. Java Interoperability13. Concurrency14. Testing with Kotlin15. Android Applications16. Web Development with Ktor17. Building MicroservicesAbout the AuthorAleksei Sedunov has been working as a Java developer since 2008. After joining JetBrains in 2012 he's been actively participating in the Kotlin language development focusing on IDE tooling for the IntelliJ platform. Currently, he's working in a DataGrip team, a JetBrains Database IDE, carrying on with using Kotlin as the main development tool.His LinkedIn Profile: https://www.linkedin.com/in/alexey-sedunov-8554a530/

Save time and trouble when using Scala to build object-oriented, functional, and concurrent applications. With more than 250 ready-to-use recipes and 700 code examples, this comprehensive cookbook covers the most common problems you'll encounter when using the Scala language, libraries, and tools. It's ideal not only for experienced Scala developers, but also for programmers learning to use this JVM language. Author Alvin Alexander (creator of DevDaily.com) provides solutions based on his experience using Scala for highly scalable, component-based applications that support concurrency and distribution. Packed with real-world scenarios, this book provides recipes for: Strings, numeric types, and control structures Classes, methods, objects, traits, and packaging Functional programming in a variety of situations Collections covering Scala's wealth of classes and methods Concurrency, using the Akka Actors library Using the Scala REPL and the Simple Build Tool (SBT) Web services on both the client and server sides Interacting with SQL and NoSQL databases Best practices in Scala development

Build, secure, and deploy real-world serverless applications in AWS and peek into the serverless cloud offerings from Azure, Google Cloud, and IBM Cloud Key Features Build serverless applications with AWS Lambda, AWS CloudFormation and AWS CloudWatch Perform data analytics and natural language processing(NLP)on the AWS serverless platform Explore various design patterns and best practices involved in serverless computing Book Description Managing physical servers will be a thing of the past once you're able to harness the power of serverless computing. If you're already prepped with the basics of serverless computing, Serverless Programming Cookbook will help you take the next step ahead. This recipe-based guide provides solutions to problems you might face while building serverless applications. You'll begin by setting up Amazon Web Services (AWS), the primary cloud provider used for most recipes. The next set of recipes will cover various components to build a Serverless application including REST APIs, database, user management, authentication, web hosting, domain registration, DNS management, CDN, messaging, notifications and monitoring. The book also introduces you to the latest technology trends such as Data Streams, Machine Learning and NLP. You will also see patterns and practices for using various services in a real world application. Finally, to broaden your understanding of Serverless computing, you'll also cover getting started guides for other cloud providers such as Azure, Google Cloud Platform and IBM cloud. By the end of this book, you'll have acquired the skills you need to build serverless applications efficiently using various cloud offerings. What you will learn Serverless computing in AWS and explore services with other clouds Develop full-stack apps with API Gateway, Cognito, Lambda and DynamoDB Web hosting with S3, CloudFront, Route 53 and AWS Certificate Manager SQS and SNS for effective communication between microservices Monitoring and troubleshooting with CloudWatch logs and metrics Explore Kinesis Streams, Amazon ML models and Alexa Skills Kit Who this book is for For developers looking for practical solutions to common problems while building a serverless application, this book provides helpful recipes. To get started with this intermediate-level book, knowledge of basic programming is a must.

Android Programming with Kotlin for Beginners

Kotlin Programming Cookbook

Functional Programming in Kotlin

Over 100 recipes and solutions to solve the most common problems faced by Android developers, 3rd Edition

Best practices

Build scalable applications using traditional, reactive, and concurrent design patterns in Kotlin

Kotlin Standard Library Cookbook

Summary Kotlin in Action guides experienced Java developers from the language basics of Kotlin all the way through building applications to run on the JVM and Android devices. Foreword by Andrey Breslav, Lead Designer of Kotlin. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Developers want to get work done - and the less hassle, the better. Coding with Kotlin means less hassle. The Kotlin programming language offers an expressive syntax, a strong intuitive type system, and great tooling support along with seamless interoperability with existing Java code, libraries, and frameworks. Kotlin can be compiled to Java bytecode, so you can use it everywhere Java is used, including Android. And with an effi cient compiler and a small standard library, Kotlin imposes virtually no runtime overhead. About the Book Kotlin in Action teaches you to use the Kotlin language for production-quality applications. Written for experienced Java developers, this example-rich book goes further than most language books, covering interesting topics like building DSLs with natural language syntax. The authors are core Kotlin developers, so you can trust that even the gnarly details are dead accurate. What's Inside Functional programming on the JVM Writing clean and idiomatic code Combining Kotlin and Java Domain-specific languages About the Reader This book is for experienced Java developers. About the Author Dmitry Jemerov and Svetlana Isakova are core Kotlin developers at JetBrains. Table of Contents PART 1 - INTRODUCING KOTLIN Kotlin: what and why Kotlin basics Defining and calling functions Classes, objects, and interfaces Programming with lambdas The Kotlin type system PART 2 - EMBRACING KOTLIN Operator overloading and other conventions Higher-order functions: lambdas as parameters and return values Generics Annotations and reflection DSL construction

Build smart looking Kotlin apps with UI and functionality for the Android platform Key Features Start your Android programming career, or just have fun publishing apps on Google Play marketplace The first-principle introduction to Kotlin through Android, to start building easy-to-use apps Learn by example and build four real-world apps and dozens of mini-apps Book Description Android is the most popular mobile operating system in the world and Kotlin has been declared by Google as a first-class programming language to build Android apps. With the imminent arrival of the most anticipated Android update, Android 10 (Q), this book gets you started building apps compatible with the latest version of Android. It adopts a project-style approach, where we focus on teaching the fundamentals of Android app development and the essentials of Kotlin by building three real-world apps and more than a dozen mini-apps. The book begins by giving you a strong grasp of how Kotlin and Android work together before gradually moving onto exploring the various Android APIs for building stunning apps for Android with ease. You will learn to make your apps more presentable using different layouts. You will dive deep into Kotlin programming concepts such as variables, functions, data structures, Object-Oriented code, and how to connect your Kotlin code to the UI. You will learn to add multilingual text so that your app is accessible to millions of more potential users. You will learn how animation, graphics, and sound effects work and are implemented in your Android app. By the end of the book, you will have sound knowledge about significant Kotlin programming concepts and start building your own fully featured Android apps. What you will learn Learn how Kotlin and Android work together Build a graphical drawing app using Object-Oriented Programming (OOP) principles Build beautiful, practical layouts using ScrollView, RecyclerView, NavigationView, ViewPager and CardView Write Kotlin code to manage an apps' data using different strategies including JSON and the built-in Android SQLite database Add user interaction, data captures, sound, and animation to your apps Implement dialog boxes to capture input from the user Build a simple database app that sorts and stores the user's data Who this book is for This book is for people who are new to Kotlin, Android and want to develop Android apps.It also acts as a refresher for those who have some experience in programming with Android and Kotlin.

Get started with Kotlin programming for building real world applications Key Features Start programming with Kotlin Explore Kotlin language syntax, standard libraries and Java Interoperability Builds an example application with what you learn Book Description Kotlin is a general purpose, object-oriented language that primarily targets the JVM and Android. Intended as a better alternative to Java, its main goals are high interoperability with Java and increased developer productivity. Kotlin is still a new language and this book will help you to learn the core Kotlin features and get you ready for developing applications with Kotlin. This book covers Kotlin features in detail and explains them with practical code examples.You will learn how to set up the environment and take your frst steps with Kotlin and its syntax. We will cover the basics of the language, including functions, variables, and basic data types. With the basics covered, the next chapters show how functions are first-class citizens in Kotlin and deal with the object-oriented side of Kotlin. You will move on to more advanced features of Kotlin. You will explore Kotlin's Standard Library and learn how to work with the Collections API. The book finishes by putting Kotlin in to practice, showing how to build a desktop app. By the end of this book, you will be confident enough to use Kotlin for your next project. What you will learn Programming in Kotlin language syntax, basic types, control ?ow, classes, and OOP Writing functions and functional programming in Kotlin Defning and importing from packages in Kotlin Running Kotlin on JVMs and Android runtimes Working with the Kotlin Standard Library and advanced features of Kotlin programming Setting up a Kotlin development environment with JetBrains tools Building real-world applications with Kotlin Who this book is for This book is intended for anybody who wants to learn the most important Kotlin features. No experience of Kotlin is expected.

What will you learn from this book? Head First Kotlin is a complete introduction to coding in Kotlin. This hands-on book helps you learn the Kotlin language with a unique method that goes beyond syntax and how-to manuals and teaches you how to think like a great Kotlin developer. You'll learn everything from language fundamentals to collections, generics, lambdas, and higher-order functions. Along the way, you'll get to play with both object-oriented and functional programming. If you want to really understand Kotlin, this is the book for you. Why does this book look so different? Based on the latest research in cognitive science and learning theory, Head First Kotlin uses a visually rich format to engage your mind rather than a text-heavy approach that puts you to sleep. Why waste your time struggling with new concepts? This multisensory learning experience is designed for the way your brain really works.

Programming Kotlin

Recipes for Object-Oriented and Functional Programming

A Problem-Focused Approach

Kotlin in Action

The Joy of Kotlin

Kotlin In-depth [Vol-II]

How to Think Like a Computer Scientist

"A must read for all developers that want to begin serious Android development." —Justin Anderson, Freelance Android Developer "From start to finish, this book contains a variety of great tips and insight into the most important attributes of Android design. This book will definitely be required reading for any of our future Android engineers." —Cameron Banga, Cofounder, 9magnets, LLC There's a downside to Android's amazing openness and versatility: it's easy for developers to write code that's inefficient, unreliable, insecure, or hard to maintain. In Android Development Patterns , enterprise Android developer Phil Dutson helps you leverage Android 5.0+'s amazing power without falling victim to those pitfalls. Dutson presents today's most comprehensive set of patterns and procedures for building optimized, robust apps with Android 5.0+. First, Dutson guides you through establishing a highly efficient development environment and workflow, and testing your app to ensure that your code works just as you expect. Then, he walks through the modern best practices for structuring apps, using widgets and components, and working with views. You learn how to build apps that are easy to manage and update, deliver accurate and up-to-date information without wasting precious battery power, and take advantage of new hardware, such as Android Wear and Android TV. Dutson concludes by presenting powerful strategies for optimizing your apps and packaging them for distribution. Coverage includes Using testing to build more trustworthy, dependable, maintainable apps Understanding subtle but critical differences between Android and traditional Java programming Building consistent, modern user interfaces with views and layouts Leveraging the proven MVC pattern to cleanly organize logic Creating rich visual experiences with 3D graphics, animation, and media Simplifying capture and use of location data with the new Locations API Integrating optional hardware, such as Bluetooth, NFC, or USB Building better apps with Google Play Services Creating Android Wear notifications and apps Tuning and improving apps with Google Analytics Designing Android TV apps for the "ten foot view" informit.com/aw https://github.com/dutsonpa/adp-files

Build robust, highly scalable reactive web applications with Ratpack, the lightweight JVM framework. With this practical guide, you'll discover how asynchronous applications differ from more traditional thread-per-request systems—and how you can reap the benefits of complex non-blocking through an API that makes the effort easy to understand and adopt. Author Dan Woods—a member of the Ratpack core team—provides a progressively in-depth tour of Ratpack and its capabilities, from basic concepts to tools and strategies to help you construct fast, test-driven applications in a semantic and expressive way. Ideal for Java web developers familiar with Grails or Spring, this book is applicable to all versions of Ratpack 1.x. Configure your applications and servers to accommodate the cloud Use Ratpack testing structures on both new and legacy applications Add advanced capabilities, such as component binding, with modules Explore Ratpack's static content generation and serving mechanisms Provide a guaranteed execution order to asynchronous processing Model data and the data access layer to build high-performance, data-driven applications Work with reactive and functional programming strategies Use distribution techniques that support continuous delivery and other deployment tactics

A balance between implementing complex applications and optimizing performance is a present-day need. This book helps you achieve this balance while developing and deploying applications with Kotlin. You will learn how to use profiling tools to detect performance issues and discover bytecode that is generated to overcome performance bottlenecks.

Reactive Programming with Kotlin (Second Edition)

Building Mobile and Server-Side Applications with Kotlin

Learning Concurrency in Kotlin