

Android Studio 3 Development Essentials Android 8 Edition

Fully updated for Android Studio 3.6, Android 10 (Q), Android Jetpack and the modern architectural guidelines and components, the goal of this book is to teach the skills necessary to develop Android-based applications using the Kotlin programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment followed by an introduction to programming in Kotlin including data types, flow control, functions, lambdas, coroutines and object-oriented programming. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room databases, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition and the playback and recording of audio. This edition of the book also covers printing, transitions, cloud-based file storage and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 3.6 and Android 10 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, constraint chains and barriers, view binding, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Feature Modules, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Fully updated for Android Studio 4.0, Android 10 (Q), Android Jetpack and the modern architectural guidelines and components, the goal of this book is to teach the skills necessary to develop Android-based applications using the Java programming language. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room databases, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition and the playback and recording of audio. This edition of the book also covers printing, transitions, cloud-based file storage and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars.

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In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 4.0 and Android 10 are also covered in detail including the Layout Editor, the `ConstraintLayout` and `ConstraintSet` classes, constraint chains, `MotionLayout` animation, barriers, direct reply notifications, view bindings and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Feature Modules, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Fully updated for Android Studio 3.0 and Android 8, the goal of this book is to teach the skills necessary to develop Android based applications using the Android Studio Integrated Development Environment (IDE), the Android 8 Software Development Kit (SDK) and the Kotlin programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment followed by an introduction to programming in Kotlin including data types, flow control, functions, lambdas and object-oriented programming. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. More advanced topics such as database management, content providers and intents are also covered, as are touch screen handling, gesture recognition, camera access and the playback and recording of both video and audio. This edition of the book also covers printing, transitions and cloud-based file storage. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 3 and Android 8 are also covered in detail including the Layout Editor, the `ConstraintLayout` and `ConstraintSet` classes, constraint chains and barriers, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Instant Apps, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Fully updated for Android Studio 3.5 and Android 10 (Q), the goal of this book is to teach the skills necessary to develop Android based applications using the Java programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android

Architecture Components including view models, lifecycle management, Room database access, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition, and the recording and playback of audio. This edition of the book also covers printing, transitions, cloud-based file storage and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 3.5 and Android 10 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, constraint chains and barriers and direct reply notifications. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Delivery, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

The goal of this book is to teach the skills necessary to build iOS 14 applications using SwiftUI, Xcode 12 and the Swift 5.3 programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an iOS development environment together with an introduction to the use of Swift Playgrounds to learn and experiment with Swift. The book also includes in-depth chapters introducing the Swift 5.3 programming language including data types, control flow, functions, object-oriented programming, property wrappers and error handling. An introduction to the key concepts of SwiftUI and project architecture is followed by a guided tour of Xcode in SwiftUI development mode. The book also covers the creation of custom SwiftUI views and explains how these views are combined to create user interface layouts including the use of stacks, frames and forms. Other topics covered include data handling using state properties in addition to observable, state and environment objects, as are key user interface design concepts such as modifiers, lists, tabbed views, context menus, user interface navigation, and outline groups. The book also includes chapters covering graphics drawing, user interface animation, view transitions and gesture handling, WidgetKit, document-based apps and SiriKit integration. Chapters are also provided explaining how to integrate SwiftUI views into existing UIKit-based projects and explains the integration of UIKit code into SwiftUI. Finally, the book explains how to package up a completed app and upload it to the App Store for publication. Along the way, the topics covered in the book are put into practice through detailed tutorials, the source code for which is also available for download. The aim of this book, therefore, is to teach you the skills necessary to build your own apps for iOS 14 using SwiftUI. Assuming you are ready to download the iOS 14 SDK and Xcode 12 and have an Apple Mac system you are ready to get started.

Each book aims to teach an important technology or programming language and is designed to take a person from being a novice to a professional by including the most essential information and explaining step by step how to put together real-world projects.

Android development is hot, and many programmers are interested in joining the fun. However, because this technology is based on Java, you should first obtain a solid grasp of the Java language and its foundational APIs to improve your chances of succeeding as an Android app developer. After all, you will be busy learning the architecture of an Android app, the various Android-specific APIs, and Android-specific tools. If you do not already know Java fundamentals, you will probably end up with a massive headache from also having to quickly cram those fundamentals into your knowledge base. *Learn Java for Android Development, Second Edition* teaches programmers of any skill level the essential Java language and foundational Java API skills that must be learned to improve the programmer's chances of succeeding as an Android app developer. Each of the book's 14 chapters provides an exercise section that gives you the opportunity to reinforce your understanding of the chapter's material. Answers to the book's more than 500 exercises are provided in an appendix. A second appendix provides a significant game-oriented Java application, which you can convert into an Android app. Once you complete this book, you should be ready to dive into beginning Android app development. Maybe, start that journey with Apress' *Beginning Android*.

A hands-on guide to building mobile applications, *Professional Android Application Development* features concise and compelling examples that show you how to quickly construct real-world mobile applications for Android phones. Fully up-to-date for version 1.0 of the Android software development kit, it covers all the essential features, and explores the advanced capabilities of Android (including GPS, accelerometers, and background Services) to help you construct increasingly complex, useful, and innovative mobile applications for Android phones. What this book includes An introduction to mobile development, Android, and how to get started. An in-depth look at Android applications and their life cycle, the application manifest, Intents, and using external resources. Details for creating complex and compelling user interfaces by using, extending, and creating your own layouts and Views and using Menus. A detailed look at data storage, retrieval, and sharing using preferences, files, databases, and Content Providers. Instructions for making the most of mobile portability by creating rich map-based applications as well as using location-based services and the geocoder. A look at the power of background Services, using threads, and a detailed look at Notifications. Coverage of Android's communication abilities including SMS, the telephony APIs, network management, and a guide to using Internet resources Details for using Android hardware, including media recording and playback, using the camera, accelerometers, and compass sensors. Advanced development topics including security, IPC, advanced 2D / 3D graphics techniques, and user–hardware interaction. Who this book is for This book is for anyone interested in creating applications for the Android mobile phone platform. It includes information that will be valuable whether you're an experienced mobile developer or making your first foray, via Android, into writing mobile applications. It will give the grounding and knowledge you need to write applications using the current SDK, along with the flexibility to quickly adapt to future enhancements.

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.

Presents instructions for creating Android applications for mobile devices using Java. Summary RxJava for Android Developers teaches you how to build fast, fluid, and reactive mobile apps for Android with RxJava. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology For Android developers, writing multithreaded apps can be as challenging as it is necessary. RxJava simplifies complex threading operations, maintaining proper synchronization as you switch seamlessly from thread to thread. RxJava also brings the benefits of reactive programming to your apps—that means better real-time responsiveness, the holy grail for every Android developer. About the Book RxJava for Android Developers begins by inviting you to think about programming and data the reactive way. This engaging, hands-on essential reference introduces you to the central pattern of RxJava for Android, then explains the View Model before exploring highly sought-after app features like chat clients and elegant transitions. Finally, you'll look at high-level design concerns and architectural approaches and frameworks that work well with Functional Reactive Programming (FRP) thinking. What's inside An introduction to

reactive programming Easier thread management Improving UI responsiveness Thinking asynchronously Building a working chat client About the Reader Readers should have some experience building Android applications. No experience with RxJava is needed. About the Author Timo Tuominen has used FRP and RxJava extensively while working with Futurice as an architect of a major Android project for Samsung. Table of Contents PART 1 - Core reactive programming Introduction to reactive programming Networking with observables Building data processing chains Connecting the user interface with networking Advanced RxJava PART 2 - Architectures in RxJava Reactive view models Developing with view models Expanding existing Rx apps Testing reactive code PART 3 - Advanced RxJava architectures Advanced architectures: Chat client 1 Advanced architectures: Chat client 2 Transitions with Rx Making a maps client

Android development can be challenging, but through the effective use of Android Developer Tools (ADT), you can make the process easier and improve the quality of your code. This concise guide demonstrates how to build apps with ADT for a device family that features several screen sizes, different hardware capabilities, and a varying number of resources. With examples in Windows, Linux, and Mac OS X, you'll learn how to set up an Android development environment and use ADT with the Eclipse IDE. Also, contributor Donn Felker introduces Android Studio, a Google IDE that will eventually replace Eclipse. Learn how to use Eclipse and ADT together to develop Android code Create emulators of various sizes and configurations to test your code Master Eclipse tools, or explore the new Android Studio Use Logcat, Lint, and other ADT tools to test and debug your code Simulate real-world events, including location, sensors, and telephony Create dynamic and efficient UIs, using Graphical Layout tools Monitor and optimize you application performance using DDMS, HierarchyViewer, and the Android Monitor tool Use Wizards and shortcuts to generate code and image assets Compile and package Android code with Ant and Gradle

Practical Software Architecture Solutions from the Legendary Robert C. Martin ("Uncle Bob") By applying universal rules of software architecture, you can dramatically improve developer productivity throughout the life of any software system. Now, building upon the success of his best-selling books Clean Code and The Clean Coder, legendary software craftsman Robert C. Martin ("Uncle Bob") reveals those rules and helps you apply them. Martin's Clean Architecture doesn't merely present options. Drawing on over a half-century of experience in software environments of every imaginable type, Martin tells you what choices to make and why they are critical to your success. As you've come to expect from Uncle Bob, this book is packed with direct, no-nonsense solutions for the real challenges you'll face—the ones that will make or break your projects. Learn what software architects need to achieve—and core disciplines and practices for achieving it Master essential software design principles for addressing function, component separation, and data management See how programming paradigms impose discipline by restricting what developers can do Understand what's critically important and what's merely a "detail" Implement optimal, high-level structures for web, database, thick-client, console, and embedded applications Define appropriate boundaries and layers, and organize components and services See why designs and architectures go wrong, and how to prevent (or fix) these failures Clean Architecture is essential reading for every current or aspiring software architect,

systems analyst, system designer, and software manager—and for every programmer who must execute someone else’s designs. Register your product for convenient access to downloads, updates, and/or corrections as they become available.

Offers software developers step-by-step instructions on how to create and distribute their first marketable, professional Android application.

Fully updated for Android Studio 4.2, the goal of this book is to teach the skills necessary to develop Android-based applications using the Java programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment. An overview of Android Studio is included covering areas such as tool windows, the code editor, and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room database access, the Database Inspector, app navigation, live data, and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition, and the recording and playback of audio. This edition of the book also covers printing, transitions, cloud-based file storage, and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers, and collapsing toolbars. Other key features of Android Studio 4.2 and Android are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, MotionLayout Editor, view binding, constraint chains, barriers, and direct reply notifications. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Delivery, the Android Studio Profiler, Gradle build configuration, and submitting apps to the Google Play Developer Console. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac, or Linux system, and ideas for some apps to develop, you are ready to get started.

Fully updated for Android Studio 3.4, Android 9, Android Jetpack and the modern architectural guidelines and components, the goal of this book is to teach the skills necessary to develop Android-based applications using the Kotlin programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment followed by an introduction to programming in Kotlin including data types, flow control, functions, lambdas and object-oriented programming. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room databases, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition, camera access and the playback and recording of both video and audio. This edition of the book also covers printing, transitions and cloud-based file storage. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation

drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 3.4 and Android 9 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, constraint chains and barriers, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Feature Modules, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Fully updated for Android Studio 3.5 and Android 10 (Q), the goal of this book is to teach the skills necessary to develop Android based applications using the Kotlin programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment followed by an introduction to programming in Kotlin including data types, flow control, functions, lambdas and object-oriented programming. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room database access, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition, and the recording and playback of audio. This edition of the book also covers printing, transitions, cloud-based file storage and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 3.5 and Android 10 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, constraint chains and barriers and direct reply notifications. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Delivery, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Revised edition of first part of: Android wireless application development / Shane Conder, Lauren Darcey. c2010.

Fully updated for Android Studio 4.1, Android 11 (R), Android Jetpack and the modern architectural guidelines and components, the goal of this book is to teach the skills necessary to develop Android-based applications using the Kotlin programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment followed by an introduction to programming in Kotlin including data types, flow control, functions, lambdas, coroutines and object-oriented programming. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room databases, app navigation,

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live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition and the playback and recording of audio. This edition of the book also covers printing, transitions, cloud-based file storage and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. Other key features of Android Studio 4.1 and the Android 11 SDK are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, MotionLayout animation, constraint chains and barriers, view binding, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Feature Modules, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Fully updated for Android 6, the goal of this book is to teach the skills necessary to develop Android based applications using the Android Studio Integrated Development Environment (IDE) and the Android 6 Software Development Kit (SDK). Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Designer tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. More advanced topics such as database management, content providers and intents are also covered, as are touch screen handling, gesture recognition, camera access and the playback and recording of both video and audio. This edition of the book also covers printing, transitions and cloud-based file storage. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, in-app billing and submitting apps to the Google Play Developer Console. Chapters also cover advanced features of Android Studio such as Gradle build configuration and the implementation of build variants to target multiple Android device types from a single project code base. Assuming you already have some Java programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Learn Android Studio covers Android Studio and its rich tools ecosystem, including Git and Gradle: this book covers how Android Studio works seamlessly with Git, for source control, and Gradle, a build and test tool. In addition, this book demonstrates how to develop/collaborate with remote Git web-hosting services such as GitHub and Bitbucket. Four complete Android projects accompany this volume and are available for download from a public Git repository. With this book, you learn the latest and most productive tools in the Android tools ecosystem, and the best practices for Android app development. You will be able to take away the labs' code as templates or frameworks to re-use and customize for your own similar apps. Android Studio is an intuitive, feature-rich, and extremely forgiving Integrated Development Environment (IDE). This IDE is more productive and easier to use for your Android app creations than Eclipse. With this book you will quickly master Android Studio and maximize your Android development time. Source code on the remote web-hosting service is targeted to the latest Android Studio release, version 1.2.

Kotlin / Android Studio 3.0 Development Essentials - Android 8 Edition eBook Frenzy Provides instruction on building Android apps, including solutions to working with web services, multitouch gestures, location awareness, and device features.

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Explore Android Studio 4.0 and update your skills to build modern applications in Java

- Key Features* Set up your Android development and testing environments* Create user interfaces with Android Studio Editor, XML, and Java* Explore the essential elements of Android Jetpack

Description Android rolls out frequent updates to meet the demands of the dynamic mobile market and to enable its developer community to lead advancements in application development. This book focuses on the updated features of Android Studio (the fully integrated development environment launched by Google) to build reliable Android applications using Java. The book starts by outlining the steps necessary to set up an Android development and testing environment. You'll then learn how to create user interfaces with the help of Android Studio Layout Editor, XML files, and by writing the code in Java. The book introduces you to Android architecture components and advanced topics such as intents, touchscreen handling, gesture recognition, multi-window support integration, and biometric authentication, and lets you explore key features of Android Studio 4.0, including the layout editor, direct reply notifications, and dynamic delivery. You'll also cover Android Jetpack in detail and create a sample app project using the ViewModel component. Finally, you'll upload your app to the Google Play Console and handle the build process with Gradle. By the end of this book, you'll have gained the skills necessary to develop applications using Android Studio 4.0 and Java.

What you will learn

- * Design impressive UI for Android application using Android Studio Editor and Java*
- * Understand how Android Jetpack can help you reduce the amount of code*
- * Explore unique ways to handle single-touch and multi-touch events*
- * Trigger local and remote notifications on the device*
- * Integrate biometric authentication into an Android app*

Create, test, and upload an Android app bundle on Google Play Store

Who this book is for This book is for application developers and Java programmers who want to explore Android Studio 4.0 to create powerful Android applications. A basic understanding of Java and the Android SDK will be helpful.

Fully updated for Android Studio 3.4, Android 9, Android Jetpack and the modern architectural guidelines and components, the goal of this book is to teach the skills necessary to develop Android-based applications using the Java programming language. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room databases, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition, camera access and the playback and recording of both video and audio. This edition of the book also covers printing, transitions and cloud-based file storage. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 3.4 and Android 9 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, constraint chains and barriers, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Feature Modules, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Unleash the power of the Android OS and build the kinds of brilliant, innovative apps users love to use. If you already know your way around the Android OS and can build a simple Android app

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in under an hour, this book is for you. If you're itching to see just how far you can push it and discover what Android is really capable of, it's for you. And if you're ready to learn how to build advanced, intuitive, innovative apps that are a blast to use, this book is definitely for you. From custom views and advanced multi-touch gestures, to integrating online web services and exploiting the latest geofencing and activity recognition features, ace Android developer, Erik Hellman, delivers expert tips, tricks and little-known techniques for pushing the Android envelope so you can: Optimize your components for the smoothest user experience possible Create your own custom Views Push the boundaries of the Android SDK Master Android Studio and Gradle Make optimal use of the Android audio, video and graphics APIs Program in Text-To-Speech and Speech Recognition Make the most of the new Android maps and location API Use Android connectivity technologies to communicate with remote devices Perform background processing Use Android cryptography APIs Find and safely use hidden Android APIs Cloud-enable your applications with Google Play Services Distribute and sell your applications on Google Play Store Learn how to unleash the power of Android and transform your apps from good to great in *Android Programming: Pushing the Limits*. Fully updated for Android Studio 3.3, Android 9 and the Android Jetpack modern architectural guidelines and components, the goal of this book is to teach the skills necessary to develop Android-based applications using the Java programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room databases, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition, camera access and the playback and recording of both video and audio. This edition of the book also covers printing, transitions and cloud-based file storage. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 3.3 and Android 9 are also covered in detail including the Layout Editor, the `ConstraintLayout` and `ConstraintSet` classes, constraint chains and barriers, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Instant Apps, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Take your Android programming skills to the next level by unleashing the potential of Android Studio *Expert Android Studio* bridges the gap between your Android programming skills with the provided tools including Android Studio, NDK, Gradle and Plugins for IntelliJ Idea Platform. Packed with best practices and advanced tips and techniques on Android tools, development cycle, continuous integration, release management, testing, and performance, this book offers professional guidance to experienced developers who want to push the boundaries of the Android platform with the developer tools. You'll discover how to use the tools and techniques to unleash your true potential as a developer. Discover the basics of working in Android Studio and Gradle, as well as the application architecture of the latest Android platform Understand Native Development Kit and its integration with Android Studio Complete your development

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lifecycle with automated tests, dependency management, continuous integration and release management Writing your own Gradle plugins to customize build cycle Writing your own plugins for Android Studio to help your development tasks. Expert Android Studio is a tool for expert and experienced developers who want to learn how to make use of the tools while creating Android applications for use on mobile devices.

Fully updated for Android Studio 3.0 and Android 8, the goal of this book is to teach the skills necessary to develop Android based applications using the Android Studio Integrated Development Environment (IDE), the Android 8 Software Development Kit (SDK) and the Java programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. More advanced topics such as database management, content providers and intents are also covered, as are touch screen handling, gesture recognition, camera access and the playback and recording of both video and audio. This edition of the book also covers printing, transitions and cloud-based file storage. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 3 and Android 8 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, constraint chains and barriers, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Instant Apps, the Android Studio Profiler and Gradle build configuration. Assuming you already have some Java programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Fully updated for Android Studio 4.0, Android 10 (Q), Android Jetpack and the modern architectural guidelines and components, the goal of this book is to teach the skills necessary to develop Android-based applications using the Kotlin programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment followed by an introduction to programming in Kotlin including data types, flow control, functions, lambdas, coroutines and object-oriented programming. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room databases, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition and the playback and recording of audio. This edition of the book also covers printing, transitions, cloud-based file storage and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 4.0 and the Android SDK are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, MotionLayout animation, constraint chains

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and barriers, view binding, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Feature Modules, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Fully updated for Android Studio 3.6, Android 10 (Q), Android Jetpack and the modern architectural guidelines and components, the goal of this book is to teach the skills necessary to develop Android-based applications using the Java programming language. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room databases, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition and the playback and recording of audio. This edition of the book also covers printing, transitions, cloud-based file storage and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 3.6 and Android 10 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, constraint chains, barriers, direct reply notifications, view bindings and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Feature Modules, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Fully updated for Android Studio 2, the goal of this book is to teach the skills necessary to develop Android based applications using the Android Studio Integrated Development Environment (IDE) and the Android 6 Software Development Kit (SDK). Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Designer tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. More advanced topics such as database management, content providers and intents are also covered, as are touch screen handling, gesture recognition, camera access and the playback and recording of both video and audio. This edition of the book also covers printing, transitions and cloud-based file storage. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, in-app billing and submitting apps to the Google Play Developer Console. The key new features of Android Studio 2, Instant Run and the new AVD emulator environment, are also covered in detail. Chapters also cover advanced features of Android Studio such as Gradle build configuration and the implementation of build variants to target multiple Android device types from a single project code base. Assuming you already have some Java programming experience, are ready to download Android Studio and the Android SDK, have access to a

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Windows, Mac or Linux system and ideas for some apps to develop, you are ready to get started.

Summary Android in Practice is a treasure trove of Android goodness, with over 90 tested, ready-to-use techniques including complete end-to-end example applications and practical tips for real world mobile application developers. Written by real world Android developers, this book addresses the trickiest questions raised in forums and mailing lists. Using an easy-to-follow problem/solution/discussion format, it dives into important topics not covered in other Android books, like advanced drawing and graphics, testing and instrumentation, building and deploying applications, and using alternative languages. About the Book It's not hard to find the information you need to build your first Android app. Then what? If you want to build real apps, you will need some how-to advice, and that's what this book is about. Android in Practice is a rich source of Android tips, tricks, and best practices, covering over 90 clever and useful techniques that will make you a more effective Android developer. Techniques are presented in an easy-to-read problem/solution/discussion format. The book dives into important topics like multitasking and services, testing and instrumentation, building and deploying applications, and using alternative languages. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. What's Inside Techniques covering Android 1.x to 3.x Android for tablets Working with threads and concurrency Testing and building Using location awareness and GPS Styles and themes And much more! This book requires a working knowledge of Java, but no prior experience with Android is assumed. Source Code can be found at <https://code.google.com/p/android-in-practice/> Table of Contents PART 1 BACKGROUND AND FUNDAMENTALS Introducing Android Android application fundamentals Managing lifecycle and state PART 2 REAL WORLD RECIPES Getting the pixels perfect Managing background tasks with Services Threads and concurrency Storing data locally Sharing data between apps HTTP networking and web services Location is everything Appeal to the senses using multimedia 2D and 3D drawing PART 3 BEYOND STANDARD DEVELOPMENT Testing and instrumentation Build management Developing for Android tablets

Fully updated for Android Studio 3.0 and Android 8, the goal of this book is to teach the skills necessary to develop Android based applications using the Android Studio Integrated Development Environment (IDE), the Android 8 Software Development Kit (SDK) and the Kotlin programming language. This book contains 88 in-depth chapters and 45 sample projects (including the source code). Note: This is the Kotlin edition of the book. If you are looking for the Java edition, search for Android Studio 3.0 Development Essentials - Android 8 Edition. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment followed by an introduction to programming in Kotlin including data types, flow control, functions, lambdas and object-oriented programming. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. More advanced topics such as database management, content providers and intents are also covered, as are touch screen handling, gesture recognition, camera access and the playback and recording of both video and audio. This edition of the book also covers printing, transitions and cloud-based file storage. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 3 and Android 8 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet

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classes, constraint chains and barriers, direct reply notifications and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Instant Apps, the Android Studio Profiler and Gradle build configuration.

Fully updated for Android Studio 4.2, the goal of this book is to teach the skills necessary to develop Android-based applications using the Kotlin programming language. Beginning with the basics, this book provides an outline of the steps necessary to set up an Android development and testing environment followed by an introduction to programming in Kotlin including data types, flow control, functions, lambdas, and object-oriented programming. An overview of Android Studio is included covering areas such as tool windows, the code editor, and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room database access, the Database Inspector, app navigation, live data, and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition, and the recording and playback of audio. This edition of the book also covers printing, transitions, cloud-based file storage, and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers, and collapsing toolbars. Other key features of Android Studio 4.2 and Android are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, MotionLayout Editor, view binding, constraint chains, barriers, and direct reply notifications. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Delivery, the Android Studio Profiler, Gradle build configuration, and submitting apps to the Google Play Developer Console. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac, or Linux system, and ideas for some apps to develop, you are ready to get started.

Fully updated for Android Studio 4.1, Android 11 (R), Android Jetpack and the modern architectural guidelines and components, the goal of this book is to teach the skills necessary to develop Android-based applications using the Java programming language. An overview of Android Studio is included covering areas such as tool windows, the code editor and the Layout Editor tool. An introduction to the architecture of Android is followed by an in-depth look at the design of Android applications and user interfaces using the Android Studio environment. Chapters are also included covering the Android Architecture Components including view models, lifecycle management, Room databases, app navigation, live data and data binding. More advanced topics such as intents are also covered, as are touch screen handling, gesture recognition and the playback and recording of audio. This edition of the book also covers printing, transitions, cloud-based file storage and foldable device support. The concepts of material design are also covered in detail, including the use of floating action buttons, Snackbars, tabbed interfaces, card views, navigation drawers and collapsing toolbars. In addition to covering general Android development techniques, the book also includes Google Play specific topics such as implementing maps using the Google Maps Android API, and submitting apps to the Google Play Developer Console. Other key features of Android Studio 4.1 and Android 11 are also covered in detail including the Layout Editor, the ConstraintLayout and ConstraintSet classes, constraint chains, MotionLayout animation, barriers, direct reply notifications, view bindings and multi-window support. Chapters also cover advanced features of Android Studio such as App Links, Dynamic Feature Modules, the Android Studio Profiler and Gradle build configuration. Assuming you already have some programming experience, are ready to download Android Studio and the Android SDK, have access to a Windows, Mac or Linux system and ideas for some apps to develop, you are ready

to get started.

This book covers Android app design fundamentals in Android Studio using Java programming language. The author assumes you have no experience in app development. The book starts with the installation of the required development environment and setting up the emulators. Then, the simplest "Hello World" app is developed step by step. In the next chapter, basics of the Java programming language are given with practical examples. Screenshots and code snippets are clearly given in the book to guide the reader. After the Java lecture, 6 complete Android apps are developed again by step by step instructions. Each code line is explained. As the reader follows the development of the example apps, he/she will learn designing user interfaces, connecting interface objects to code, developing efficient Java code and testing the app on emulators and real devices. The sample apps developed in this book are as follows: 1. Headlight app: Learn the basics of app development and use buttons in your code. 2. Body mass index (BMI) calculator app: Using input boxes, performing calculations and displaying the results on the screen. 3. Simple dice roller app: Using random number generator functions, including images in your project, displaying images on the screen and changing the displayed image programmatically. 4. The compass app: Accessing the magnetic field sensor, setting required permissions, extracting the direction angle and animating a compass figure. 5. Show my location app: Creating a map project, setting required permissions, accessing GPS device and showing real time location on the map. 6. S.O.S. sender app: Adding SMS functionality, setting required permissions and sending real time location using SMS. This book includes 146 figures and 114 code snippets that are used to explain app development concepts clearly. Full resolution colour figures and project files can be viewed and downloaded from the the book's website: www.android-java.website.

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