Android Studio Essentials

Android Studio is an IDE that is based on the JetBrains IntelliJ IDEA. It gives developers a unique platform to develop and debug Android apps using various developer tools. It has a wide array of features such as live layout facility, Gradle build support, and template-based wizards, which makes it a preferred choice for developers.

Starting off with the basic installation and configuration of Android Studio, this book aids you in building a new project by helping you to create a custom launcher icon and guiding you to choose your activity. You then gain an insight on the additional tools provided in Android Studio, namely the Software Development Kit (SDK) Manager, Android Virtual Device (AVD) Manager, and Javadoc.

Finally, it helps you to familiarize yourself with the Help section in Android Studio that enables you to search for the help you might require in different scenarios.

Who this book is written for
This book is intended for developers who are interested in getting acquainted with the concepts of Android Studio in a very short span of time. It is assumed that you are familiar with the OOPS paradigm and Java. It is also recommendable to have prior knowledge of the main characteristics of the Android mobile system.

What you will learn from this book

- Install Android Studio on your system and configure the Android Software Development Kit
- Create your first project and explore its structure
- Improve your productivity while programming by getting the best of the code editor
- Design the user interface using layouts and learn how to handle the various user events
- Integrate Google Play services into your project efficiently
- Monitor your app while it's running and constantly improve its performance


Belén Cruz Zapata

A fast-paced guide to get you up and running with Android application development using Android Studio

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In this package, you will find:

- The author biography
- A preview chapter from the book, Chapter 1 'Installing and Configuring Android Studio'
- A synopsis of the book’s content
- More information on Android Studio Essentials

About the Author

Belén Cruz Zapata received her engineer's degree in computer science from the University of Murcia, Spain, where she specialized in software technology and intelligent and knowledge-based technology. She earned an MSc degree in computer science and is now working on her PhD in the software engineering research group at the University of Murcia.

During the academic year of 2013-2014, Belén collaborated with Université Mohammed V-Soussi, Rabat, Morocco. Her research was focused on mobile technologies in general but especially applied to medicine.

Belén is currently working as a mobile developer for Android and iOS in the San Francisco Bay Area. She is the author of Testing and Securing Android Studio Applications, Packt Publishing.

She maintains a blog at http://www.belenzcz.com, where you can follow her projects. You can also follow her on Twitter at @belen_cz.

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Android Studio Essentials

Mobile applications have seen a huge increase in popularity in the last few years, and this interest is still growing among users. Mobile operating systems are available not only for smartphones but also for tablets, thus increasing the possible market quota for these applications.

Android has characteristics that make it pleasant to developers, such as its open source nature and a certain level of community-driven development. Android has always been contesting with iOS (the Apple mobile system) in everything, and with Xcode, iOS presented itself as a more centralized development environment. The new IDE, Android Studio, makes this centralization finally available for Android developers, and makes this tool indispensable for a good Android developer.

This book shows users how to develop and build Android applications with this new IDE. It is not only a "getting started" book but also a guide to advanced developers to build their applications faster and more productively. This book will follow a tutorial-like approach, from the basic features to the steps to build for release, including practical examples.

What This Book Covers

Chapter 1, Installing and Configuring Android Studio, describes the installation and basic configuration of Android Studio.

Chapter 2, Starting a Project, shows how to create a new project and the type of activities we can select.

Chapter 3, Navigating a Project, explores the basic structure of a project in Android Studio.

Chapter 4, Using the Code Editor, exposes the basic features of the code editor in order to get the best out of it.

Chapter 5, Creating User Interfaces, focuses on the creation of the user interfaces using both the graphical view and the text-based view.

Chapter 6, Tools, introduces the currently existing Google Play services and shows how to integrate them with a project in Android Studio.

Chapter 7, Google Play Services, exposes some additional tools such as Android SDK tools, Javadoc, and version control integration.
Chapter 8, *Debugging*, shows in detail how to debug an application in Android Studio and the provided information when debugging.

Chapter 9, *Preparing for Release*, describes how to prepare your application for its release.

Appendix, *Getting Help*, teaches you how to get help using Android Studio and provides a list of online sites to learn more about the topics seen in this book.
Installing and Configuring Android Studio

The new and official Google IDE, Android Studio, with all its varied features, is ready to be explored. Would you like to make your own Android applications and make these applications available to other users on Google Play Store? Can you do this easily? How can you achieve this?

This chapter will show you how to prepare your new Android Studio installation, and help you take your first steps in the new environment. We will begin by preparing the system for the installation and downloading the required files. Then we will see the welcome screen that prompts when running Android Studio for the first time, and accordingly, we will configure the Android software development kit (SDK) properly so that we have everything ready to create our first application.

These are the topics that we will cover in this chapter:

- Installing Android Studio
- Running Android Studio for the first time
- Configuring the Android SDK

Preparing for installation

A prerequisite to start working with Android Studio is to have Java installed on your system. The system must also be able to find the Java installation. This can be achieved by installing the Java Development Kit (JDK) on your system and then setting an environment variable named JAVA_HOME, which points to the SDK folder in your system. Check this environment variable to avoid issues during the installation of Android Studio.
Installing and Configuring Android Studio

Downloading Android Studio

The Android Studio package can be downloaded from the Android developer tools web page, at http://developer.android.com/sdk/index.html, by clicking on the download button, as is shown in the next screenshot. This package is an EXE file for Windows systems, a DMG file for Mac OS X systems, and a TGZ file for Linux systems.

Installing Android Studio

In Windows, launch the EXE file. The default installation directory is \Users\<your_user_name>\AppData\Local\Android\android-studio. The AppData directory is usually a hidden directory.

In Mac OS X, open the DMG file and drop Android Studio into your Applications folder. The default installation directory is /Applications/Android\ Studio.app.

In Linux systems, unzip the TGZ file and execute the studio.sh script located in the android-studio/bin/ directory.

If you have any problem in the installation process or in the following steps, you can get help on this and on other known issues by checking out Appendix, Getting Help.
Running Android Studio for the first time

Execute Android Studio and wait until it loads completely. This may take a few minutes on the first time. The first time you execute Android Studio, you will be prompted by a welcome screen. As shown in the following screenshot, the welcome screen includes a section to open recent projects and the Quick Start section. The Quick Start section provides options to start a new project, open a project, import a project, and even perform more advanced actions such as checking out from a version control system and modifying the configuration options.

Let's take a look at the various options available in the Quick Start section:

- **Start a new Android Studio project**: This creates a new Android project from scratch.
- **Open an existing Android Studio Project**: This opens an existing project.
- **Import an Android code sample**: This imports a project containing Google code samples from GitHub.
- **Check out project from Version Control**: This creates a new project by importing existing sources from a version control system.
• **Import Non-Android Studio project:** This creates a new project by importing existing sources from your system.

• **Configure:** This opens the configuration menu. The configuration menu has the following options:
  
  ° **SDK Manager:** This opens the Android SDK tool, which will be explained in *Chapter 6, Tools.*
  
  ° **Settings:** This opens the Android Studio preferences.
  
  ° **Plugins:** This opens the plugins manager for Android Studio.
  
  ° **Import Settings:** This imports the settings from a file (.jar).
  
  ° **Export Settings:** This exports the settings to a file (.jar).
  
  ° **Project Defaults:** This opens the project defaults settings menu.

  ° **Settings:** This opens the template project's settings. These settings are also reachable through the Android Studio settings (by navigating to **Configure** | **Settings**).

  ° **Project Structure:** This opens the project and platform settings.

  ° **Run Configurations:** This opens the run and debug settings.

• **Docs and How-Tos:** This opens the help menu, which contains the following options:

  ° **Read Help:** This opens the Android Studio help, an online version

  ° **Tips of the Day:** This opens a dialog with the tip of the day

  ° **Default Keymap Reference:** This opens an online PDF file containing the default keymap

  ° **JetBrains TV:** This opens a JetBrains website containing video tutorials

  ° **Plugin Development:** This opens a JetBrains website containing information for plugin developers

### Configuring the Android SDK

The essential feature that needs to be configured correctly is the Android SDK. Although Android Studio automatically installs the latest Android SDK available, you should have everything you need beforehand to create your first application. It is important to check it and to learn how we can change it.
In the Android Studio welcome screen, navigate to **Configure | Project Defaults | Project Structure.** In **SDK Location,** you should have a selected **Android SDK location,** as shown in the next screenshot. This selected SDK location is the default location that will be used in our Android projects. However, we can change it later for specific projects that require special settings.

If you don't have any Android SDK configured in Android Studio, then you have to add it manually.
Installing and Configuring Android Studio

To accomplish this task, click on the ellipsis button to add an Android SDK, and then select the home directory for the SDK. Check whether you have it in your system by navigating to your Android Studio installation directory. You should find a folder named `sdk`. It contains the Android SDK and its tools. The Android Studio installation directory might be in a hidden folder, so click on the button highlighted in the following screenshot to show hidden files and directories:

![Hidden Files and Directories](image)

If you wish to use another Android SDK location that is different from the location included with Android Studio, select this instead. For example, if you previously used the Android Development Tools (ADT) plugin for Eclipse, you already have an Android SDK installed in your system.
Summary

We successfully prepared the system for Android Studio and installed our Android Studio instance. We ran the Studio for the first time, and now we know the options available on the welcome screen. Also, you learned how to configure your Android SDK and install it manually in case you wish to use a different version. Completing these tasks will leave our system with Android Studio running and configured to create our first project.

In the next chapter, we will learn about the concept of a project and how it includes everything the application requires, from classes to libraries. We will also create our first project and discuss the different kinds of activities available in the wizard.
Where to buy this book

You can buy Android Studio Essentials from the Packt Publishing website.

Alternatively, you can buy the book from Amazon, BN.com, Computer Manuals and most internet book retailers.

Click here for ordering and shipping details.