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*for Android
2.3*

Android™ Programming Tutorials

Mark L. Murphy



Android Programming Tutorials

by Mark L. Murphy

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You can search through the PDF using most PDF readers (e.g., Adobe Reader). If you wish to search all of the CommonsWare books at once, and

your operating system does not support that directly, you can always combine the PDFs into one, using tools like [PDF Split-And-Merge](#) or the Linux command `pdftk *.pdf cat output combined.pdf`.

Welcome to the Book!

If you come to this book after having read its companion volumes, *The Busy Coder's Guide to Android Development* and *The Busy Coder's Guide to Advanced Android Development*, thanks for sticking with the series! CommonsWare aims to have the most comprehensive set of Android development resources (outside of the Open Handset Alliance itself), and we appreciate your interest.

If you come to this book having learned about Android from other sources, thanks for joining the CommonsWare community!

Prerequisites

This book is a collection of tutorials, walking you through developing Android applications, from the simplest "Hello, world!" to applications using many advanced Android APIs.

Since this book only supplies tutorials, **you will want something beyond it as a reference guide**. That could be simply the Android SDK documentation, available with your SDK installation or online. It could be the other books in the CommonsWare Android series. Or, it could be another Android book – a list of currently-available Android books can be found on the [Android Programming knol](#). What you do not want to do is

attempt to learn all of Android solely from these tutorials, as they will demonstrate the breadth of the Android API but not its depth.

Also, the tutorials themselves have varying depth. Early on, there is more "hand-holding" to explain every bit of what needs to be done (e.g., classes to import). As the tutorials progress, some of the simpler Java bookkeeping steps are left out of the instructions – such as exhaustive lists of import statements – so the tutorials can focus on the Android aspects of the code.

You can find out when new releases of this book are available via:

- The [cw-android](#) Google Group, which is also a great place to ask questions about the book and its examples
- The [commonsguy](#) Twitter feed
- The [CommonsBlog](#)
- The Warescription newsletter, which you can subscribe to off of your [Warescription](#) page

Using the Tutorials

Each tutorial has a main set of step-by-step instructions, plus an "Extra Credit" section. The step-by-step instructions are intended to guide you through creating or extending Android applications, including all code you need to enter and all commands you need to run. The "Extra Credit" sections, on the other hand, provide some suggested areas for experimentation beyond the base tutorial, without step-by-step instructions.

If you wish to start somewhere in the middle of the book, or if you only wish to do the "Extra Credit" work, or if you just want to examine the results without doing the tutorials directly yourself, you can download the results of each tutorial's step-by-step instructions [from the book's github repository](#). You can either clone the repository, or click the Download Source button in the upper-right to get the source as a ZIP file. The source code is organized by tutorial number, so you can readily find the project(s) associated with a particular tutorial from the book.

Note that while you are welcome to copy and paste code out of the book, you may wish to copy from [the full source code](#) instead. A side-effect of the way the source code listings are put into this book makes them difficult to copy from some PDF viewers, for example.

The tutorials do not assume you are using Eclipse, let alone any other specific editor or debugger. The instructions included in the tutorials will speak in general terms when it comes to tools outside of those supplied by the Android SDK itself.

The code for the tutorials has been tested most recently on Android 2.2. It should work on older versions as well, on the whole.

The tutorials include instructions for both Linux and Windows XP. OS X developers should be able to follow the Linux instructions in general, making slight alterations as needed for your platform. Windows Vista users should be able to follow the Windows XP instructions in general, tweaking the steps to deal with Vista's directory structure and revised Start menu.

If you wish to use the source code from the CommonsWare Web site, bear in mind a few things:

1. The projects are set up to be built by Ant, not by Eclipse. If you wish to use the code with Eclipse, you will need to create a suitable Android Eclipse project and import the code and other assets.
2. You should delete `build.xml`, then run `android update project -p ...` (where `...` is the path to a project of interest) on those projects you wish to use, so the build files are updated for your Android SDK version.

Also, please note that the tutorials are set up to work well on HVGA and larger screen sizes. Using them on QVGA or similar sizes is not recommended.

Warescription

This book will be published both in print and in digital form. The digital versions of all CommonsWare titles are available via an annual subscription – the Warescription.

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From time to time, subscribers will also receive access to subscriber-only online material, including not-yet-published new titles.

Also, if you own a print copy of a CommonsWare book, and it is in good clean condition with no marks or stickers, you can **exchange that copy** for a free four-month Warescription.

If you are interested in a Warescription, visit the Warescription section of the CommonsWare [Web site](#).

What's New

For those of you who have a Warescription, or otherwise have been keeping up with this book, here is what is new in this version:

- The Patchy examples were tweaked to use identi.ca instead of Twitter, due to the latter's change in authentication schemes
- The tutorials were tested on Android 2.2

About the "Further Reading" Sections

Each tutorial has, at the end, a section named "Further Reading". Here, we list places to go learn more about the theory behind the techniques illustrated in the preceding tutorial. Bear in mind, however, that the Internet is fluid, so links may not necessarily work. And, of course, there is no good way to link to other books. Hence, the "Further Reading" section describes where you can find material, but actually getting there may require a few additional clicks on your part. We apologize for the inconvenience.

Errata and Book Bug Bounty

Books updated as frequently as CommonsWare's inevitably have bugs. Flaws. Errors. Even the occasional gaffe, just to keep things interesting. You will find a list of the known bugs on the [errata page](#) on the CommonsWare Web site.

But, there are probably even more problems. If you find one, please let us know!

Be the first to report a unique concrete problem in the current digital edition, and we'll give you a coupon for a six-month Warescription as a bounty for helping us deliver a better product. You can use that coupon to get a new Warescription, renew an existing Warescription, or give the coupon to a friend, colleague, or some random person you meet on the subway.

By "concrete" problem, we mean things like:

- Typographical errors
- Sample applications that do not work as advertised, in the environment described in the book
- Factual errors that cannot be open to interpretation

By "unique", we mean ones not yet reported. Each book has an errata page on the CommonsWare Web site; most known problems will be listed there. One coupon is given per email containing valid bug reports.



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