

Learn Objective-C on the Mac

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Hello



Welcome to *Learn Objective-C on the Mac*! This book is designed to teach you the basics of the Objective-C language. Objective-C is a superset of C and is the language used by many (if not most) applications that have a true Mac OS X look and feel.

This book teaches you the Objective-C language and introduces you to its companion, Apple's Cocoa toolkit. Cocoa is written in Objective-C and contains all the elements of the Mac OS X user interface, plus a whole lot more. Once you learn Objective-C in this book, you'll be ready to dive into Cocoa with a full-blown project or another book such as *Learn Cocoa on the Mac* or *Beginning iPhone Development*, both by Dave Mark and Jeff LaMarche (Apress 2009).

In this chapter, we'll let you know the basic information you need before you get started with this book. We'll also serve up a bit of history about Objective-C and give you a thumbnail sketch of what's to come in future chapters.

Before You Start

Before you read this book, you should have some experience with a C-like programming language such as C++, Java, or venerable C itself. Whatever the language, you should feel comfortable with its basic principles. You should know what variables and functions are and understand how to control your program's flow using conditionals and loops. Our focus is the features Objective-C adds to its base language, C, along with some goodies chosen from Apple's Cocoa toolkit.

Are you coming to Objective-C from a non-C language? You'll still be able to follow along, but you might want to take a look at Appendix A or check out *Learn C on the Mac* by Dave Mark (Apress 2009).

Where the Future Was Made Yesterday

Cocoa and Objective-C are at the heart of Apple's Mac OS X operating system. Although Mac OS X is relatively new, Objective-C and Cocoa are much older. Brad Cox invented Objective-C in the early 1980s to meld the popular and portable C language with the elegant Smalltalk language. In 1985, Steve Jobs founded NeXT, Inc., to create powerful, affordable workstations. NeXT chose Unix as its operating system and created NextSTEP, a powerful user interface toolkit developed in Objective-C. Despite its features and a small, loyal following, NextSTEP achieved little commercial success.

When Apple acquired NeXT in 1996 (or was it the other way around?), NextSTEP was renamed Cocoa and brought to the wider audience of Macintosh programmers. Apple gives away its development tools—including Cocoa—for free, so any Mac programmer can take advantage of them. All you need is a bit of programming experience, basic knowledge of Objective-C, and the desire to dig in and learn stuff.

You might wonder, "If Objective-C and Cocoa were invented in the '80s—in the days of *Alf* and *The A-Team*, not to mention stuffy old Unix—aren't they old and moldy by now?" Absolutely not! Objective-C and Cocoa are the result of years of effort by a team of excellent programmers, and they have been continually updated and enhanced. Over time, Objective-C and Cocoa have evolved into an incredibly elegant and powerful set of tools. Objective-C is also the key to writing applications for the iPhone. So now, twenty-some years after NeXT adopted Objective-C, all the cool kids are using it.

What's Coming Up

Objective-C is a superset of C. Objective-C begins with C, and then adds a couple of small but significant additions to the language. If you've ever looked at C++ or Java, you may be surprised at how small Objective-C really is. We'll cover Objective-C's additions to C in detail in this book's chapters:

- Chapter 2, "Extensions to C," focuses on the basic features that Objective-C introduces.
- In Chapter 3, "An Introduction to Object-Oriented Programming," we kick off the learning by showing you the basics of object-oriented programming.
- Chapter 4, "Inheritance," describes how to create classes that gain the features of their parent classes.
- Chapter 5, "Composition," discusses techniques for combining objects so they can work together.
- Chapter 6, "Source File Organization," presents real-world strategies for creating your program's sources.

- Chapter 7, “More about Xcode,” shows you some shortcuts and power-user features to help you get the most out of your programming day.
- We take a brief respite from Objective-C in Chapter 8, “A Quick Tour of the Foundation Kit,” to impress you with some of Cocoa’s cool features using one of its two primary frameworks.
- You’ll spend a lot of time in your Cocoa applications dealing in Chapter 9, “Memory Management” (sorry about that).
- Chapter 10, “Object Initialization,” is all about what happens when objects are born.
- Chapter 11, “Properties,” gives you the lowdown on Objective-C’s new dot notation and an easier way to make object accessors.
- Chapter 12, “Categories,” describes the supercool Objective-C feature that lets you add your own methods to existing classes—even those you didn’t write.
- Chapter 13, “Protocols,” tells about a form of inheritance in Objective-C that allows classes to implement packaged sets of features.
- Chapter 14, “Introduction to the Application Kit,” gives you a taste of the gorgeous applications you can develop in Cocoa using its other primary framework.
- Chapter 15, “File Loading and Saving,” shows you how to save and retrieve your data.
- Chapter 16, “Key-Value Coding,” gives you ways to deal with your data indirectly.
- And finally, in Chapter 17, “NSPredicate,” we show you how to slice and dice your data.

If you’re coming from another language like Java or C++, or from another platform like Windows or Linux, you may want to check out Appendix A, “Coming to Objective-C from Other Languages,” which points out some of the mental hurdles you’ll need to jump to embrace Objective-C.

Summary

Mac OS X programs are written in Objective-C, using technology from way back in the 1980s that has matured into a powerful set of tools. In this book, we’ll start by assuming you know something about C programming and go from there.

We hope you enjoy the ride!

