

Extracted from:

iCloud for Developers

Automatically Sync Your iOS Data,
Everywhere, All the Time

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Preface

You are an iOS developer with a successful application to your credit, but your customers want more and pepper you with questions: How do I back up my data? How can I replicate on my iPad the data that I've created on my iPhone? If I buy a new iPhone, will I lose the data in my apps when I switch devices?

You'd like to support your users, but you don't have the skills or time to build a back-end system that could provide the safe and reliable backups your customers say they want. Moreover, the thought of synchronizing data across multiple devices gives you a headache.

If any of this applies to you, iCloud is a good candidate for solving your problems and giving your users the features they've requested. This book will teach you how to work with iCloud, hook up with its APIs, work with its different storage solutions, and make your application shine.

Who Should Read This Book?

If you are an iOS developer looking to integrate your application with iCloud and to enhance it with data synchronization and backup, this book is for you. This book is also for those who simply want to know more about iCloud and the features it provides to client applications.

Before digging in, you should already know the basics of programming iOS, including proficiency in coding with Objective-C 2.0, working with view controllers, and using common data structures such as arrays and dictionaries. If you don't normally use them, I also suggest you refresh your knowledge of Notification Center¹ and Grand Central Dispatch,² both of which are used extensively throughout the book.

1. https://developer.apple.com/library/mac/#documentation/Cocoa/Conceptual/Notifications/Introduction/introNotifications.html#//apple_ref/doc/uid/10000043-SW1
2. https://developer.apple.com/library/mac/#documentation/Performance/Reference/GCD_libdispatch_Ref/Reference/reference.html

What's in This Book?

This book is an introduction to iCloud and how to use its APIs to add synchronization and data backup in your applications. We'll cover the three main technologies that iCloud supports: key-value storage, document-based storage, and Core Data storage. I will illustrate the use of these APIs by showing how to build a Universal iOS app, Grocery, that keeps track of a shopping list.

How to Read This Book

The book starts with the simplest approach to synchronizing data with iCloud, key-value storage, and ends with the most advanced, Core Data. Unless you have previous experience with iCloud APIs, I suggest you read the book from start to finish and take the time to understand the concepts and techniques of iCloud development as they are introduced. Throughout the book, you will be invited to build and run the Grocery application as it is being developed. You should consider these as “conceptual check points”—opportunities to ask yourself whether you have a clear understanding of what's been described in the previous sections.

Notes on Formatting

Objective-C is a verbose language. You will find snippets in this book that do not appear to be conventionally formatted, in the way you would expect them to appear in Xcode. That's because of the lengths of many of the names used in iCloud programming, such as those for the various notifications the service provides. Some of these are lengthy and cannot be broken on two different lines. I have tried as much as possible to preserve Cocoa conventions, but sometimes the size of the page rules.

Online Resources

This book has a companion website at <http://www.icloudfordevelopers.com> and a mailing list in which news will be announced.

Requirements

In this book we are going to build a real application. You will learn how to set it up and configure it correctly. But it's not possible to test an iCloud-enabled application on the Device Simulator. This means that to get the most out of the book, you'll need a pair of real devices, such as an iPhone and an iPad, both with iOS 6 installed and with iCloud correctly configured and enabled.

To test whether your devices are correctly configured for iCloud, fire up the Apple-provided Calendar app, make an entry, and verify that synchronization

happens correctly between the devices. Also access <http://www.icloud.com> to see whether your entry has been propagated to the central iCloud servers.

To develop the application used throughout the book, you will need a Mac with Xcode 4.6.2 installed and updated to develop applications that target iOS 6. We assume that you already have an active developer account and are acquainted with iOS development, Objective-C, Xcode, and Core Data. In case you need some introduction to iOS development, check out [iOS SDK Development \[AD12\]](#) or find plenty of material at the iOS Dev Center: <https://developer.apple.com/devcenter/ios/index.action>.

Moving On

Now that you have all the pieces, let's get started. We are going to start slowly, by first introducing the basics of iCloud and showing you how to take advantage of its features in your application. To prepare for work on the Grocery app, you'll also learn how to prepare the Xcode project for iCloud. Ready, set, go!