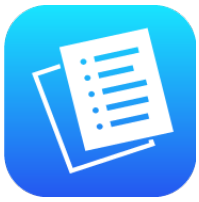

iOS and Watch Quick Start

This Quick Start guide covers everything you need to know to get Lister up and running for iOS and Apple Watch. After completing this guide, you will have built and run the Lister iOS app, watch app, watch Glance, and Today widget in the iOS Simulator.

Prerequisites

Lister for iOS supports **iCloud Document Storage** and **App Groups** to share data between multiple apps and extensions. Because this functionality requires entitlements, you must have a paid iOS Developer Program account in order to build and run Lister for iOS and Apple Watch.

Lister's Xcode project also requires a small amount of setup before it can be built and run. This setup process involves three simple steps, which are described in more detail below:

1. Set the project's bundle identifier prefix.
2. Select your development team.
3. Create provisioning profiles.

Note: If you have both an iOS Developer Program account and a Mac Developer Program account, follow the additional setup instructions in *Mac Quick Start* after following the instructions below.

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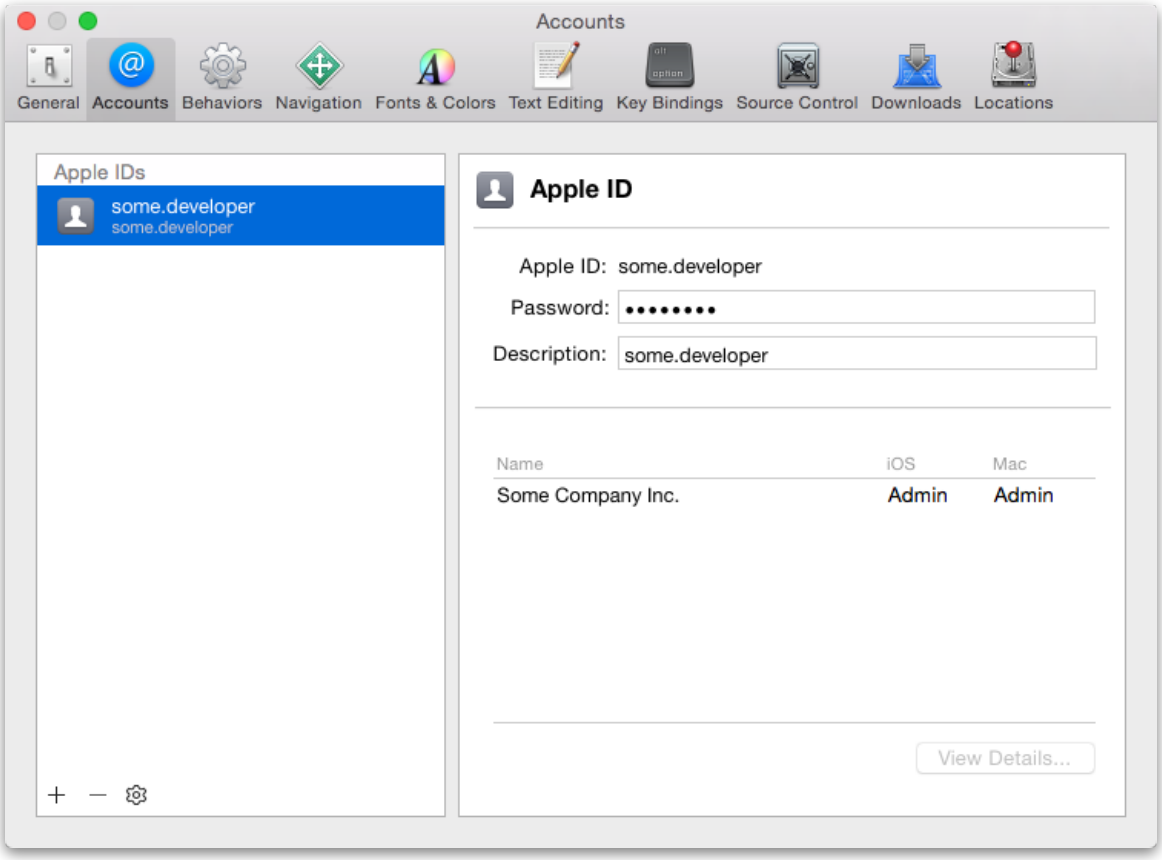
Swift and Objective-C

The Lister project is provided in a Swift version and an Objective-C version. Both versions of the project have exactly the same functionality, and you can use either version of the project with the Quick Start instructions below.

Note: If you explore both the Swift and Objective-C versions of the project, you will need to follow the setup process in full for both versions.

Before You Start

Before you start, make sure that your iOS Developer Program Apple ID is listed in Xcode's Preferences under the Accounts tab. Additionally, make sure that you have a development certificate and private key for your iOS Developer Program account installed on your development Mac.



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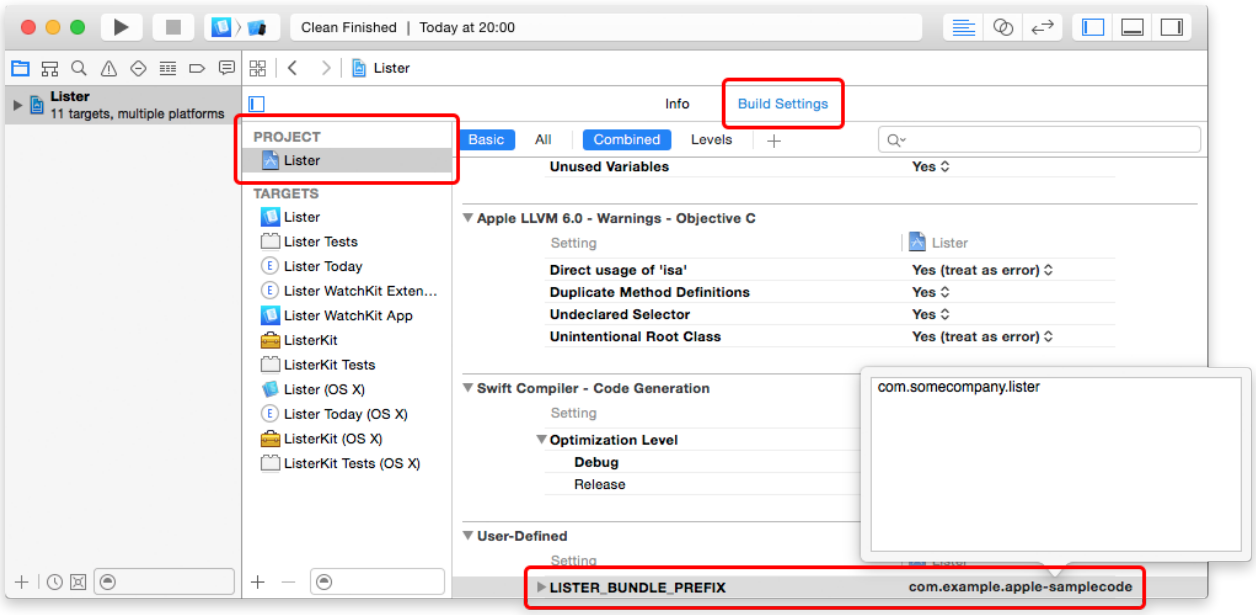
Set the Project's Bundle Identifier Prefix

Lister shares a common bundle identifier prefix across all of its targets, with a default value of `com.example.apple-samplecode`. This prefix is also used to create a single iCloud Documents identifier and a single App Groups identifier for all of Lister's targets.

You must change this bundle identifier prefix before using Lister with your own iOS Developer Program account. To change the prefix:

1. Select the Lister project in the Xcode project navigator.
2. If the Projects and Targets list is not visible, click the Show Projects and Targets icon ( ) .
3. Select the Lister project in the Projects and Targets list.
4. Select the Build Settings tab and scroll to the bottom of the list.
5. In the User-Defined section, double-click on `com.example.apple-samplecode` to edit the `LISTER_BUNDLE_PREFIX` value.
6. Change this prefix to a globally unique reverse DNS string for your own organization's name, such as `com.somecompany.lister`.



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Select Your Development Team

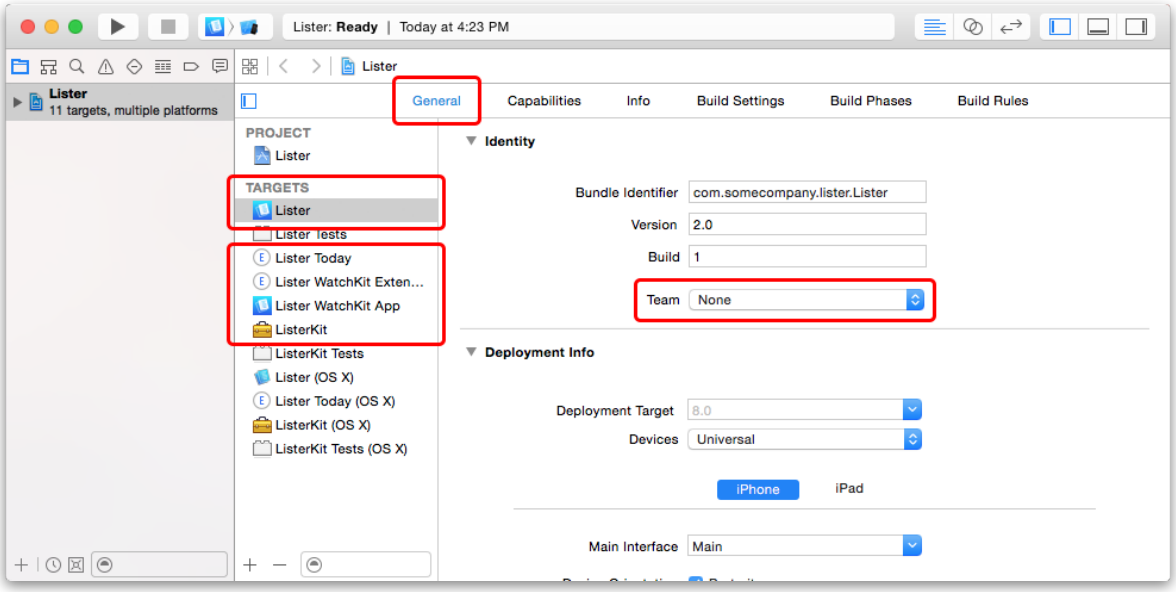
Select your paid iOS Developer Program account as the development team for each of the five targets below:

- **Lister** – the Lister app for iOS
- **Lister Today** – the Today widget for iOS
- **Lister WatchKit Extension** – the WatchKit extension for Apple Watch
- **Lister WatchKit App** – the WatchKit app for Apple Watch
- **ListerKit** – a supporting framework for the iOS app and its extensions

You do not need to set a development team for the **Lister Tests** or **ListerKit Tests** targets.

To set your development team, first select the Lister project in the Xcode project navigator. Then, for each of the five targets listed above:

1. Select the target in the Targets list.
2. Select the General tab in the right-hand pane.
3. In the Identity section, open the Team popup menu and select your iOS Developer Program team name from the list.



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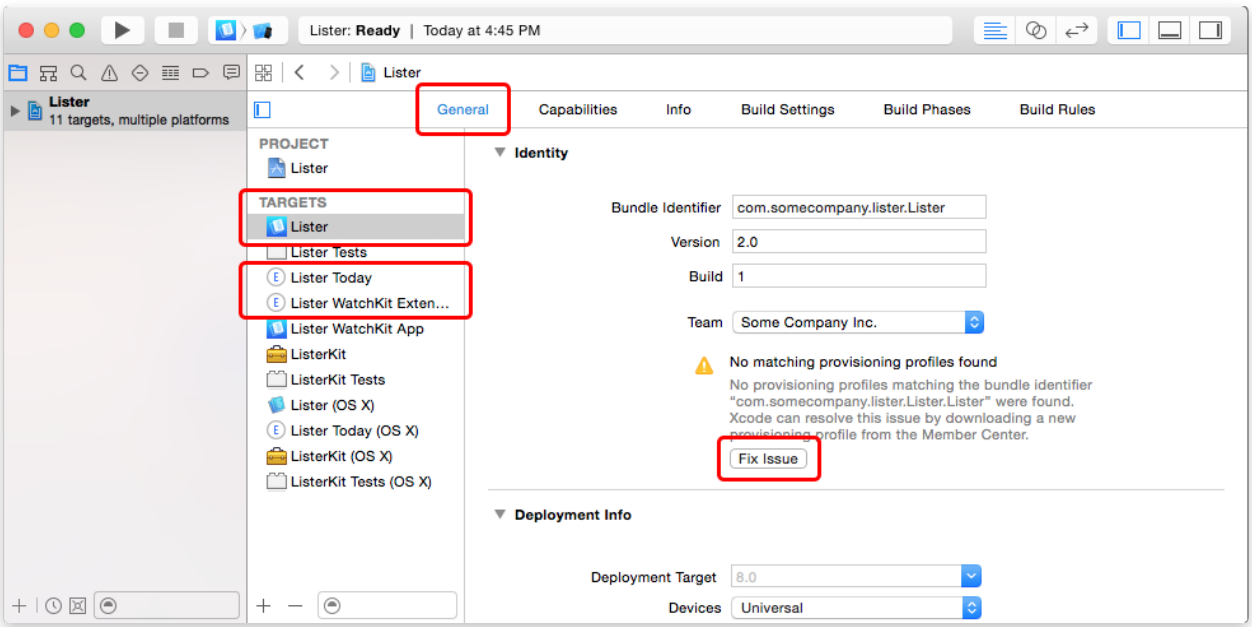
Create Provisioning Profiles

Create a provisioning profile for each of the three targets below:

- **Lister**
- **Lister Today**
- **Lister WatchKit Extension**

Xcode helps you to create these provisioning profiles. First, select the Lister project in the Xcode project navigator. Then, for each of the three targets listed above:

1. Select the target in the Targets list.
2. Select the General tab in the right-hand pane.
3. In the Identity section, under the Team popup menu, click Fix Issue.
4. Xcode will download a new provisioning profile for that target. (This process may take up to 30 seconds per target.)



Note: You must create a provisioning profile for all three targets before you build and run any of the targets.

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Set Up iCloud and App Groups

Lister can use either **iCloud Document Storage** or **App Groups** to share lists and to-do items across multiple devices.

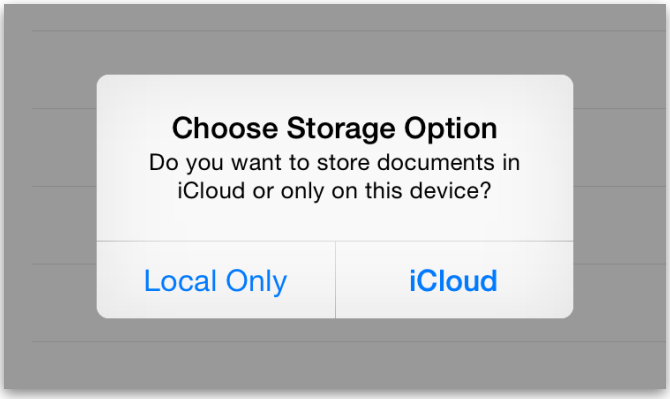
- Use Lister with iCloud Document Storage to share content between multiple iOS, Mac, and Apple Watch devices using a single Apple ID.
- Use Lister with App Groups to share content between an iOS device and its Today widget and watch app without the need for iCloud.

iCloud Document Storage

To use Lister with iCloud Document Storage, sign in to iCloud with the same Apple ID on each device or Simulator where you plan to install Lister. Do this before you first run the Lister iOS app. When you run the app (as described below), select iCloud as your storage option.

App Groups

The Lister iOS app uses App Groups to share content with its Today widget and watch app when not logged in to iCloud. Additionally, you can select to use “local only” storage (rather than iCloud) when you first launch the Lister app on a device or Simulator that is logged in to iCloud.



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Build and Run

You are now ready to build and run the Lister iOS app, watch app, and Today widget.

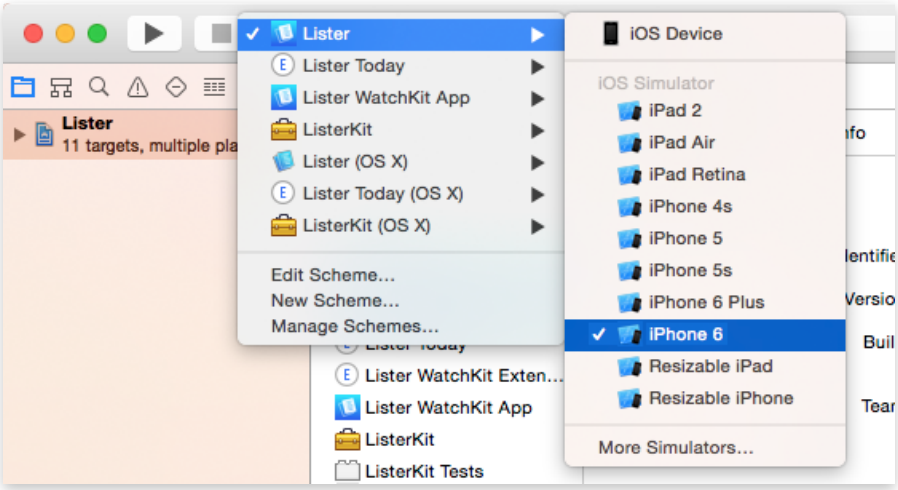
Lister requires you to build and run its iOS app target before you build and run the watch app or Today widget. The Lister iOS app creates a default set of lists when it is first launched, and these lists are used by the Today widget and the watch app.

Note: In your own watch apps, you should ensure that it does not matter whether the iOS app or the watch app is launched first. Lister does not handle both possibilities, but your app should.

Build and Run the iOS App

To build and run the Lister iOS app:

1. In Xcode, select the Lister scheme from the Scheme menu and select either an attached iOS device or an iOS Simulator.



2. Press Command-R to build and run the iOS app on the selected destination device or Simulator.

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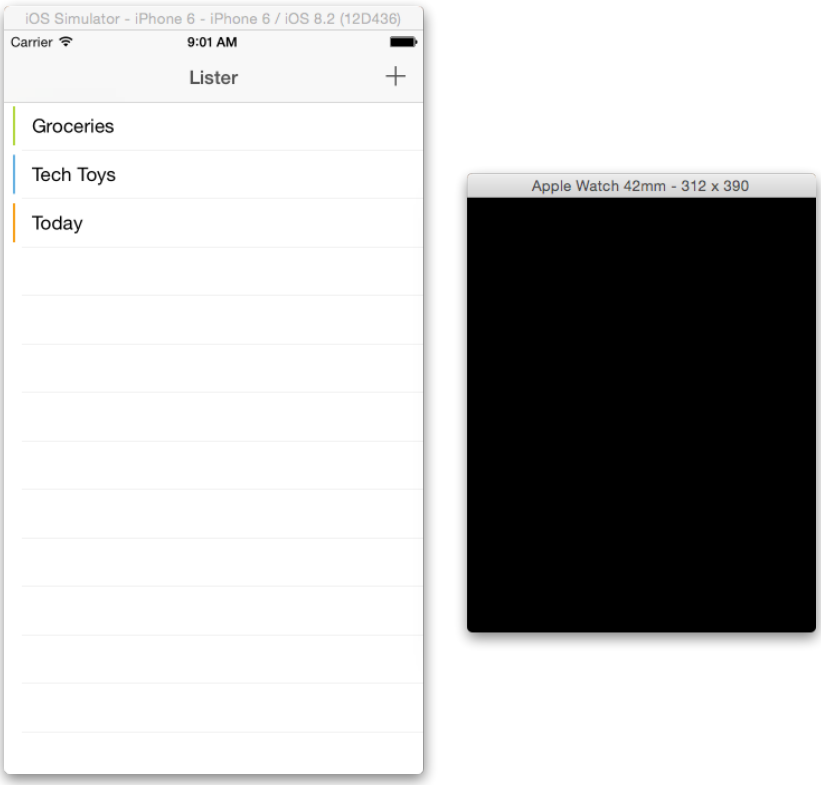
Build and Run the Watch App

To build and run the Lister watch app in the iOS Simulator:

1. In Xcode, build and run the Lister iOS app in the iOS Simulator (as described in the previous section).
2. With the iOS Simulator still open, choose Hardware > External Displays > Apple Watch - 42mm. This will open the Apple Watch simulator window as a second window alongside the main iOS Simulator window.



Note: You can test a watch app on either the 38mm or 42mm Apple Watch screen size by choosing either Apple Watch - 38mm or Apple Watch - 42mm from the Hardware > External Displays menu.

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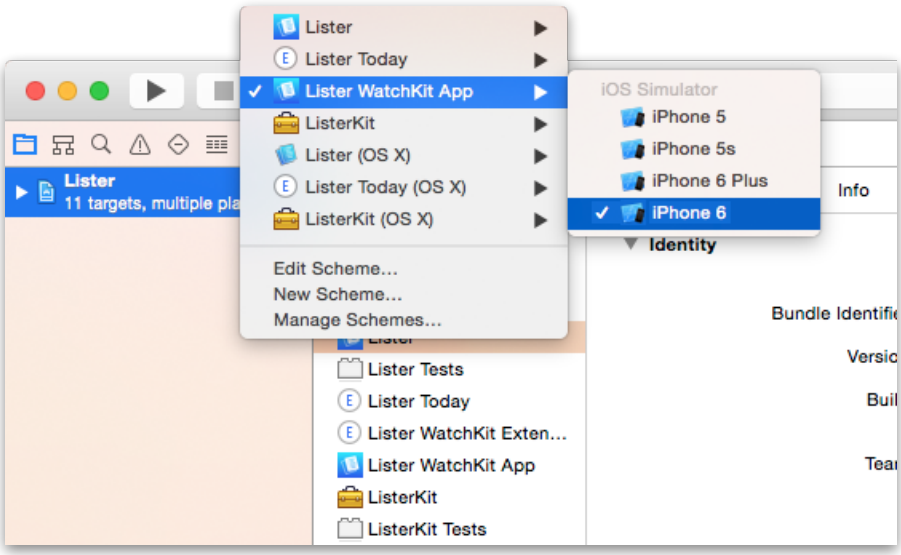
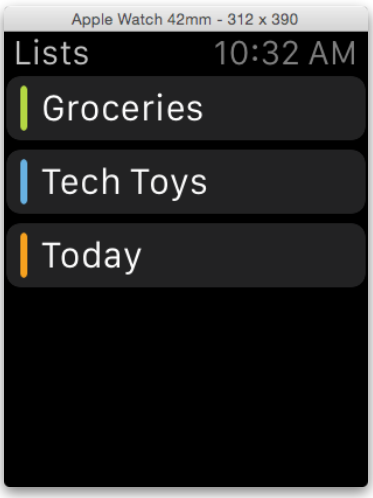
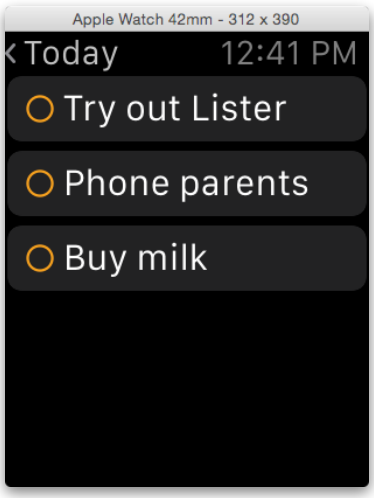
3. In Xcode, choose the Lister WatchKit App scheme from the Schemes list and choose the same Simulator as you chose for the iOS app.



4. Press Command-R to build and run the watch app in the iOS Simulator.



Lister watch app: list of lists



Lister watch app: Today list

Note: When you build and run a watch app, Xcode does not switch to the iOS Simulator automatically. You will need to switch to the iOS Simulator manually in order to view and use the watch app.

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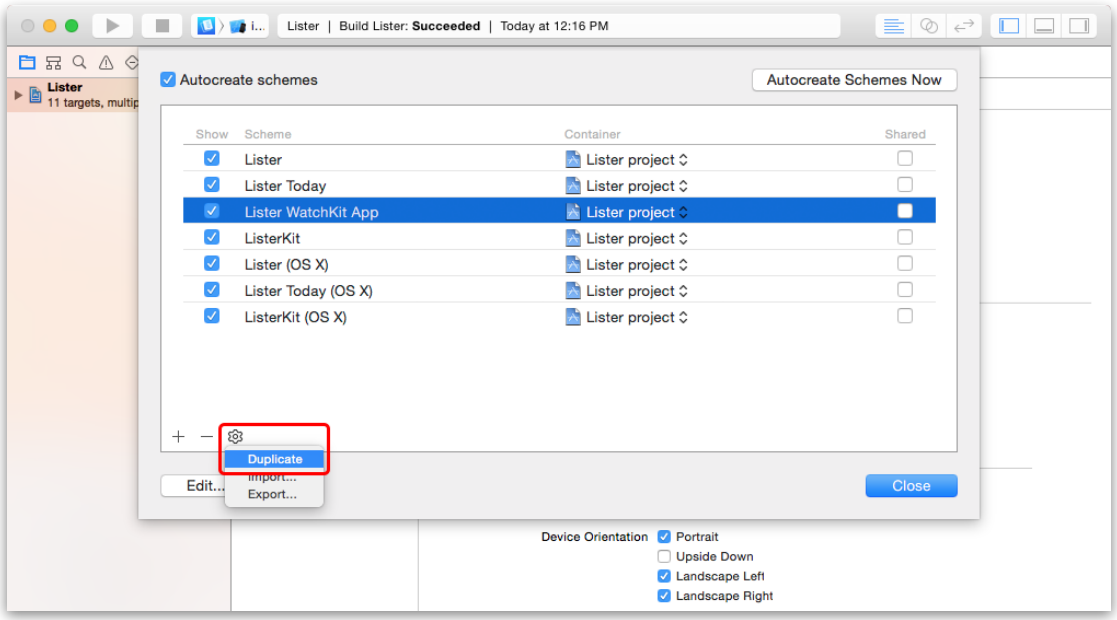
Create a Scheme to Build and Run the Watch Glance

The Lister WatchKit App target defines both a watch app and a watch Glance. However, by default, the Lister Xcode project contains a scheme for building and running the watch app only.

You can create a second scheme to build and run the watch Glance from the same Lister WatchKit App target.

1. In Xcode, choose Product > Scheme > Manage Schemes…
2. In the Manage Schemes sheet, select the Lister WatchKit App scheme.
3. Click on the Action icon in the bottom left corner of the Manage Schemes sheet (⚙), and choose Duplicate.



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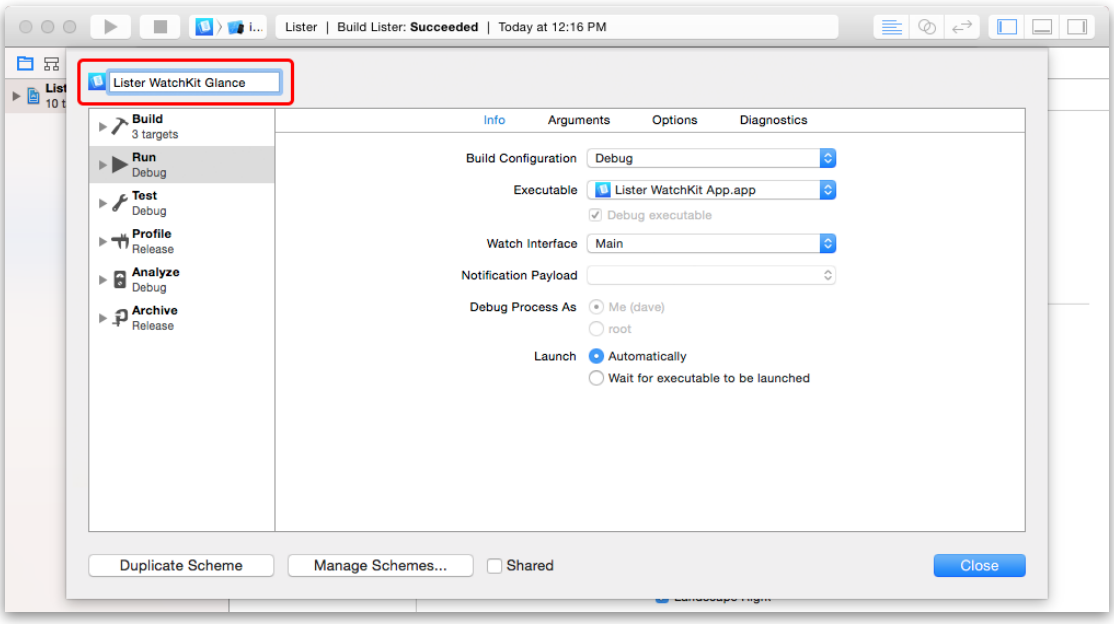
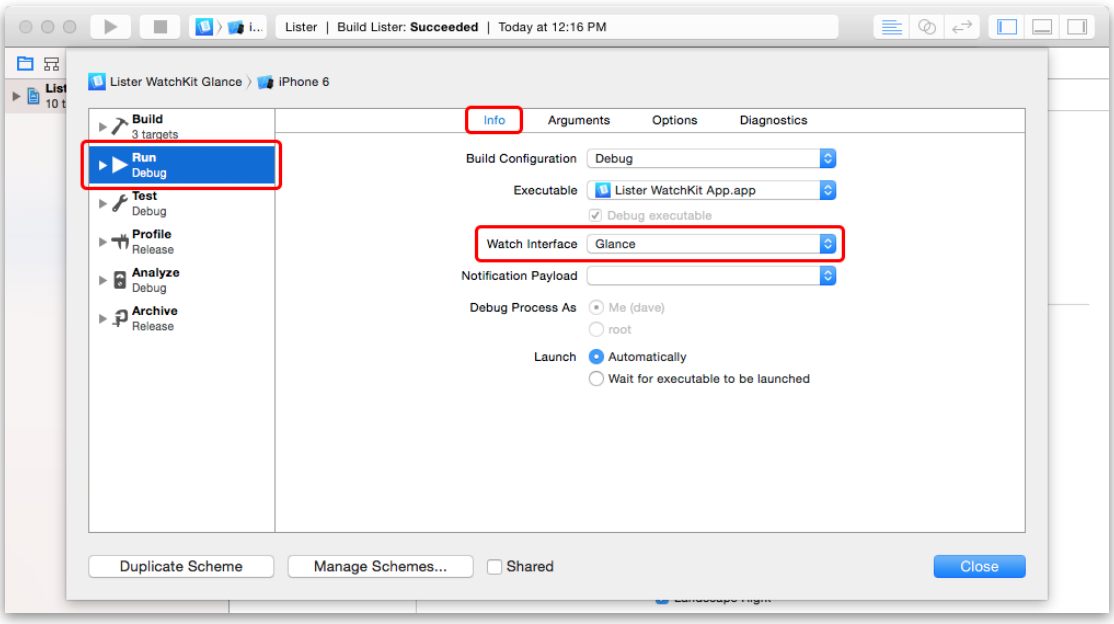
4. An Edit Scheme sheet appears for the new scheme. Change the scheme's name to "Lister WatchKit Glance".



5. Choose the Run build option.
6. Choose the Info tab.
7. Choose Glance from the Watch Interface popup menu.



8. Click the Close button to close the Edit Scheme sheet.

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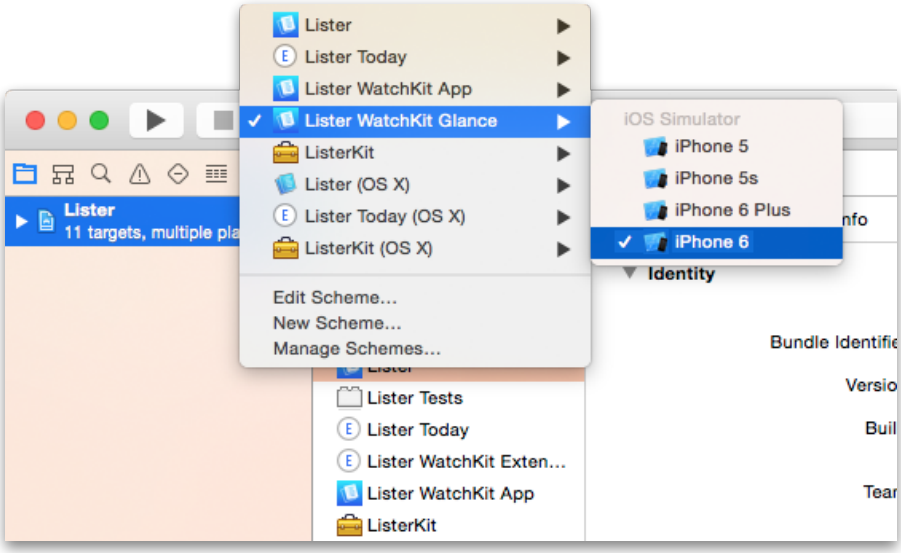
9. Click the Close button to close the Manage Schemes sheet.

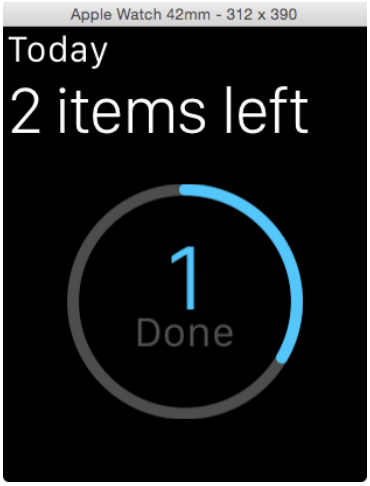
Build and Run the Watch Glance

To build and run the watch Glance in the iOS Simulator:

1. In Xcode, choose the Lister WatchKit Glance scheme (with the same iOS Simulator as before) from the Schemes list.



2. Press Command-R to build and run the Glance in the iOS Simulator.



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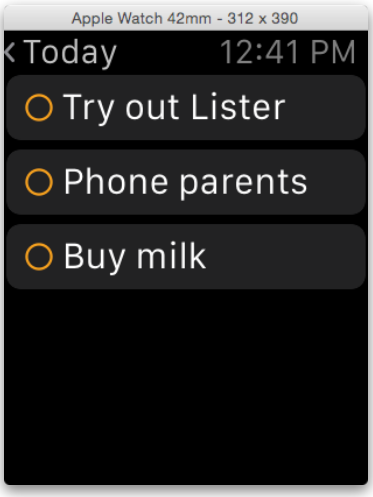
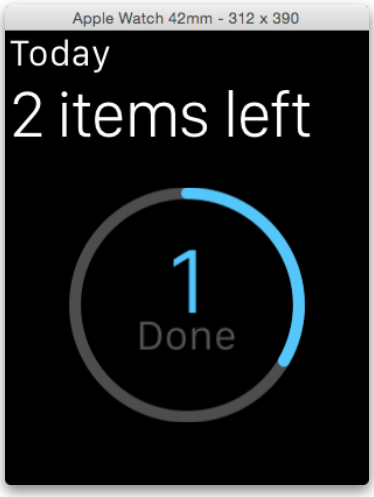
Note: You can switch between building and running the watch app and the watch Glance at any time by selecting the appropriate scheme in Xcode and pressing Command-R to run that scheme in the iOS Simulator.



Lister watch app - Today list



Lister watch Glance

Note: Lister's watch Glance shows the number of items completed and remaining from the app's Today list. As a result, the Lister iOS app does not allow you to delete its single Today list.

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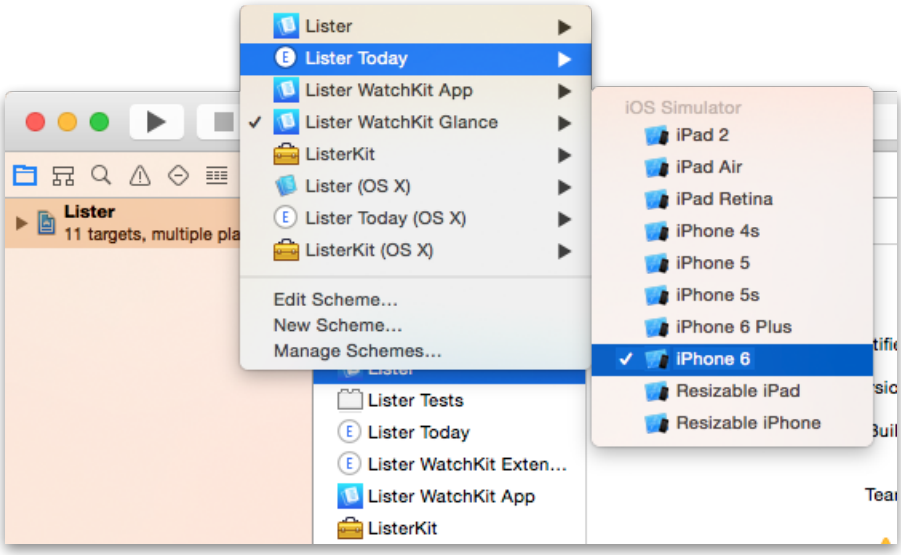
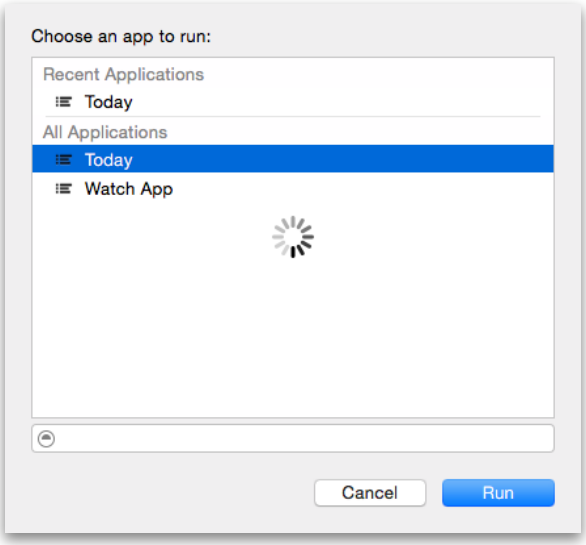
Build and Run the Today Widget

To build and run the Lister Today widget in the iOS Simulator:

1. In Xcode, choose the Lister Today scheme from the Scheme menu and select either an attached iOS device or an iOS Simulator.



2. Press Command-R to build and run the Today widget on the selected destination device or Simulator.
3. In the “Choose an app to run:” sheet, choose Today and click Run.



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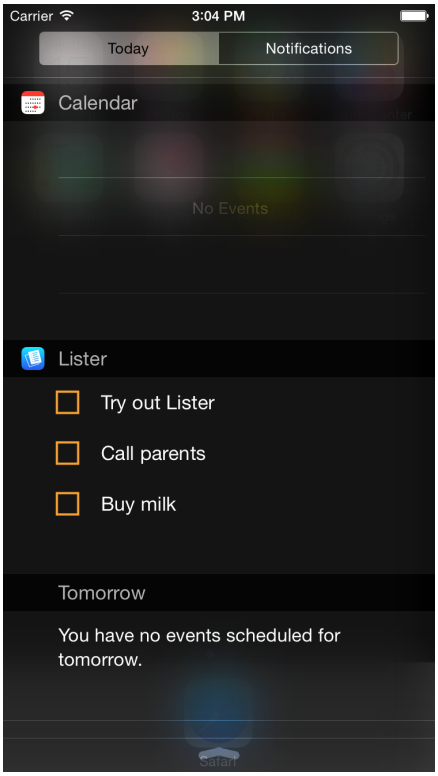
4. The iOS Simulator launches with the Lister Today widget visible, displaying items from the app's Today list.



5. Checking an item in the Today widget's UI completes that item in the Today list that is shared between the Today widget and the main Lister iOS app. You can test this by opening the iOS app in the iOS Simulator after modifying list items in the Today widget.
6. Tapping the name of an item in the Today widget launches the Lister iOS app with the Today list visible.

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Further Reading

For more information about managing Developer Program accounts and adding accounts to Xcode, see *Managing Accounts* in the App Distribution Guide.

For more information about bundle identifiers, team settings, and provisioning profiles, see *Configuring Your Xcode Project For Distribution* in the App Distribution Guide.

Lister's default project settings automatically specify iCloud Document Storage and App Group capabilities for you when you create the project's provisioning profiles. To learn more about setting up custom iCloud and App Group capabilities for your own apps, see *Adding Capabilities* in the App Distribution Guide.

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