

# Adding the MobileFirst Foundation SDK to iOS Applications

## Overview

The MobileFirst Foundation SDK consists of a collection of pods that are available through CocoaPods (<http://guides.cocoapods.org>) and which you can add to your Xcode project.

The pods correspond to core functions and other functions:

- **IBMMobileFirstPlatformFoundation** - Implements client-to-server connectivity, handles authentication and security aspects, resource requests, and other required core functions.
- **IBMMobileFirstPlatformFoundationJSONStore** - Contains the JSONStore framework. For more information, review the JSONStore for iOS tutorial ([../jsonstore/ios/](#)).
- **IBMMobileFirstPlatformFoundationPush** - Contains the push notification framework. For more information, review the Notifications tutorials ([../notifications/](#)).
- **IBMMobileFirstPlatformFoundationWatchOS** - Contains support for Apple WatchOS.

In this tutorial you learn how to add the MobileFirst Native SDK by using CocoaPods to a new or existing iOS application. You also learn how to configure the MobileFirst Server to recognize the application.

### Prerequisites:

- Xcode and MobileFirst CLI installed on the developer workstation.
- A local or remote instance of MobileFirst Server is running.
- Read the Setting up your MobileFirst development environment ([../installation-configuration/development/mobilefirst](#)) and Setting up your iOS development environment ([../installation-configuration/development/ios](#)) tutorials.

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## Adding the MobileFirst Native SDK

Follow the instructions below to add the MobileFirst Native SDK to a new or existing Xcode project, and to register the application to the MobileFirst Server.

Before you start, make sure that the MobileFirst Server is running.

If using a locally installed server: From a **Command-line** window, navigate to the server's folder and run the command: `./run.sh`.

## Creating an application

Create an Xcode project or use an existing one (Swift or Objective-C).

## Adding the SDK

1. The MobileFirst Native SDK is provided via CocoaPods.
  - If CocoaPods (<http://guides.cocoapods.org>) is already installed in your development environment, skip to step 2.
  - If CocoaPods is not installed, install it as follows:
    - Open a **Command-line** window and navigate to the root of the Xcode project.
    - Run the command: `sudo gem install cocoapods` followed by `pod setup`. **Note:** These commands might take several minutes to complete.
2. Run the command: `pod init`. This creates a `Podfile`.
3. Using your favorite code editor, open the `Podfile`.
  - Comment out or delete the contents of the file.
  - Add the following lines and save the changes:

```
use_frameworks!

platform :ios, 8.0
target "Xcode-project-target" do
  pod 'IBMMobileFirstPlatformFoundation'
end
```

- Replace **Xcode-project-target** with the name of your Xcode project's target.
4. Back in the command-line window, run the commands: `pod install`, followed by `pod update`. These commands add the MobileFirst Native SDK files, add the **mfplugin.plist** file, and generate a Pod project.

**Note:** The commands might take several minutes to complete.

**❗ Important:** From here on, use the `[ProjectName].xcworkspace` file in order to open the project in Xcode. Do **not** use the `[ProjectName].xcodeproj` file. A CocoaPods-based project is managed as a workspace containing the application (the executable) and the library (all project dependencies that are pulled by the CocoaPods manager).

## Manually adding the MobileFirst Native SDK

You can also manually add the MobileFirst SDK:

[Click for instructions](#)

## Registering the application

1. Open a **Command-line** window and navigate to the root of the Xcode project.
2. Run the command:

```
mfplugin app register
```

- If a remote server is used, use the command `mfplugin server add (../using-mobilefirst-cli-to-manage-mobilefirst-artifacts/#add-a-new-server-instance)` to add it.

You are asked to provide the application's BundleID. **Important:** The BundleID is **case sensitive**.

The `mfplugin app register` CLI command first connects to the MobileFirst Server to register the application, then generates the **mfplugin.plist** file at the root of the Xcode project, and adds to it the metadata that identifies the MobileFirst Server.

**❗ Tip:** You can also register applications from the MobileFirst Operations Console:

1. Load the MobileFirst Operations Console.
2. Click the **New** button next to **Applications** to register a new application and follow the on-screen instructions.
3. After the application is registered, navigate to the application's **Configuration Files** tab and copy or download the **mfplugin.plist** file. Follow the onscreen instructions to add the file to your project.

## Completing the setup process

In Xcode, right-click the project entry, click on **Add Files To [ProjectName]** and select the **mfplugin.plist** file, located at the root of the Xcode project.

## Referencing the SDK

Whenever you want to use the MobileFirst Native SDK, make sure that you import the MobileFirst Foundation framework:

Objective-C:

```
#import <IBMMobileFirstPlatformFoundation/IBMMobileFirstPlatformFoundation.h>
```

Swift:

```
import IBMMobileFirstPlatformFoundation
```

Note about iOS 9 and above:

- Starting Xcode 7, Application Transport Security (ATS) ([https://developer.apple.com/library/ios/releasenotes/General/WhatsNewIniOS/Articles/iOS9.html#//apple\\_ref/doc/uid/TP40016198-SW14](https://developer.apple.com/library/ios/releasenotes/General/WhatsNewIniOS/Articles/iOS9.html#//apple_ref/doc/uid/TP40016198-SW14)) is enabled by default. In order to run apps during development, you can disable ATS (read more (<http://iosdevtips.co/post/121756573323/ios-9-xcode-7-http-connect-server-error>)).

1. In Xcode, right-click the **[project]/info.plist file → Open As → Source Code**
2. Paste the following:

```
<key>NSAppTransportSecurity</key>
<dict>
  <key>NSAllowsArbitraryLoads</key>
  <true/>
</dict>
```

## Adding Support for Apple watchOS 2

If you are developing for Apple watchOS, the Podfile must contain sections corresponding to the main app and the watchOS extension:

```
# Replace with the name of your watchOS application
xcodproj 'MyWatchApp'

use_frameworks!

#use the name of the iOS target
target :MyWatchApp do
  platform :ios, 9.0
  pod 'IBMMobileFirstPlatformFoundation'
end

#use the name of the watch extension target
target :MyWatchApp WatchKit Extension do
  platform :watchos, 2.0
  pod 'IBMMobileFirstPlatformFoundation'
end
```

Verify that the Xcode project is closed and run the `pod install` command.

## Updating the MobileFirst Native SDK

To update the MobileFirst Native SDK with the latest release, run the following command from the root folder of the Xcode project in a **Command-line** window:

```
pod update
```

SDK releases can be found in the SDK's CocoaPods repository (<https://cocoapods.org/?q=ibm%20mobilefirst>).

## Generated MobileFirst Native SDK artifacts

### mfpclient.plist

Located at the root of the project, this file defines the client-side properties used for registering your iOS app on the MobileFirst server.

| Property                | Description  | Example values |
|-------------------------|--|----------------|
| wlServerProtocol        | The communication protocol with the MobileFirst Server.                  | http or https  |
| wlServerHost            | The host name of the MobileFirst Server.                                 | 192.168.1.63   |
| wlServerPort            | The port of the MobileFirst Server.                                      | 9080           |
| wlServerContext         | The context root path of the application on the MobileFirst Server./mfp/ |                |
| languagePreferencesSets | the default language for client sdk system messages.                     | en             |

## Bitcode and TLS 1.2

For information about support for Bitcode and TLS 1.2 see the Additional Information (additional-information) page.

## Tutorials to follow next

With the MobileFirst Native SDK now integrated, you can now:

- Review the Using the MobileFirst Foundation SDK tutorials (../)
- Review the Adapters development tutorials (../adapters/)
- Review the Authentication and security tutorials (../authentication-and-security/)
- Review the Notifications tutorials (../notifications/)

- [Review All Tutorials \(../../all-tutorials\)](#)