

# iOS end-to-end demonstration

fork and edit tutorial (<https://github.ibm.com/MFPSamples/DevCenter/tree/master/tutorials/en/foundation/8.0/quick-start/ios/index.md>) | report issue (<https://github.ibm.com/MFPSamples/DevCenter/issues/new>)

## Overview

The purpose of this demonstration is to experience an end-to-end flow where an application and an adapter are registered using the MobileFirst Operations Console, an "skeleton" Xcode project is downloaded and edited to call the adapter, and the result is printed to the log - verifying a successful connection with the MobileFirst Server.

### Prerequisites:

- Xcode
- MobileFirst Developer CLI (download ([file:///home/travis/build/MFPSamples/DevCenter/\\_site/downloads](file:///home/travis/build/MFPSamples/DevCenter/_site/downloads)))
- *Optional.* Stand-alone MobileFirst Server (download ([file:///home/travis/build/MFPSamples/DevCenter/\\_site/downloads](file:///home/travis/build/MFPSamples/DevCenter/_site/downloads)))

## 1. Starting the MobileFirst Server

If a remote server was already set-up, skip this step.

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

## 2. Creating an application

In a browser window, open the MobileFirst Operations Console by loading the URL: `http://your-server-host:server-port/mfpconsole`. If running locally, use: `http://localhost:9080/mfpconsole` (`http://localhost:9080/mfpconsole`). The username/password are `admin/admin`.

1. Click on the "New" button next to **Applications**
  - Select the **iOS** platform
  - Enter **com.ibm.mfp.MFPStarterIOSObjectiveC** or **com.ibm.mfp.MFPStarterIOSSwift** as the **application identifier** (depending on which mobile app scaffold you will download next)
  - Enter **1.0** as the **version** value

The screenshot shows the MobileFirst Operations Console interface. The left sidebar contains a navigation menu with 'Dashboard', 'Runtimes', 'Applications' (highlighted), 'Adapters', 'Settings', 'Devices', and 'Error Log'. The 'Applications' section has a 'New' button. The main content area is titled 'Register an Application' and includes the following fields: 'Application Name' (text input), 'Optional display name of the Application' (text input), 'Choose Platform' (radio buttons for Android, iOS (selected), and Windows), 'Bundle ID' (text input, marked as required), 'Version' (text input, marked as required), and a 'Register application' button at the bottom.

2. Click on the **Get Starter Code** tile and select to download the iOS Objective-C or Swift mobile app scaffold.



### 3. Editing application logic

1. Open the Xcode project project by double-clicking the **.xcworkspace** file.
2. Select the **[project-root]/ViewController.m/swift** file and paste the following code snippet, replacing the existing `viewDidLoad()` function:

In Objective-C:

```
- (void)viewDidLoad {
    [super viewDidLoad];

    NSURL* url = [NSURL URLWithString:@"~/adapters/javaAdapter/users/world"];
    WLResourceRequest* request = [WLResourceRequest requestWithURL:url method:WLHttpMethodGet];

    [request sendWithCompletionHandler:^(WLResponse *response, NSError *error) {
        if (error != nil){
            NSLog(@"Failure: %@",error.description);
        }
        else if (response != nil){
            // Will print "Hello world" in the Xcode Console.
            NSLog(@"Success: %@",response.responseText);
        }
    }];
}
```

In Swift:

```
override func viewDidLoad() {
    super.viewDidLoad()

    let url = NSURL(string: "~/adapters/javaAdapter/users/world")
    let request = WLResourceRequest(URL: url, method: WLHttpMethodGet)

    request.sendWithCompletionHandler { (WLResponse response, NSError error) -> Void in
        if (error != nil){
            NSLog("Failure: " + error.description)
        }
        else if (response != nil){
            NSLog("Success: " + response.responseText)
        }
    }
}
```

### 4. Creating an adapter

1. Click on the "New" button next to **Adapters**
  - Select the **Actions** → **Download sample** option. Download the **Java** adapter sample.

- From a **Command-line** window, navigate to the adapter's Maven project root folder and run the command:

- When the build finishes, deploy it from the MobileFirst Operations Console using the **Actions** → **Deploy adapter** action. The adapter can be found in the **[adapter]/target** folder.
- Alternatively, download this prepared .adapter artifact and deploy it from the MobileFirst Operations Console using the **Actions** → **Deploy adapter** action.

## 5. Testing the application

- The adapter response is then printed in the Xcode Console.

```

Date = "Tue, 19 Jan 2016 06:14:40 GMT";
"Transfer-Encoding" = Identity;
"X-Powered-By" = "Servlet/3.1.1";
}
Response Data:
{"access_token": "eyJhbGciOiJIUzI1NiIsInp1IjoiIj0iLCJ0eXN0b2kiOiI0IiwiaWF0Ij0iBTRTEZBDZDQ4RWRkNktgeWNNI3I4cUNmZU0tM0kyZS0XN2pnNmREZWF9cXZhdmdmZ2ZmR3cVpRVC9rRmFnQ2T0dH0ENWNUNLNDQFTXjD3812MNDEwD1JWm52AhhvVWlGY01TYU9LSXFvZS15SkEwdVp1ZjY5bG9wNjNkXzI2VGVlZj09ZCZlF0LWlR3S2tBznoLzXnVW2MFVZldhU893QkJsMuvOcU3Vkr3T2LlZ3KtUDsMEVYc1BaZm0WkktSFU0B01paSLuck5MeLJx0A1tHZMDLOTDV6b3MVTkEcnXZLQ0twaDJXcG1TbTJTNjFuRghIN2dMRW95bURUvEgkU1Qw9mLUsS08N1JHWZVWVWQ3ZD03D0VU15b991Z1YbX6k0eLpU0cZzZHUHw0L3RkLWMDV0h1VnRkCedR7bQhWMDU41w3aR351o1UHE1w1a21k31oY2JmZD0uZm0k1eT0Tl1nY08MDZ1TKz5ZQWtEzNGRNL9hW0U0T3iN19_eYp3C3k01dJ1bZbWuM3dImncIstNnY1161mN1ZmK1Y15F1ZC1StmYb5pYmWubZC2iW12Xw1j0U0U2MfZ5hJqYvYALC1Z729zC5E1I39_r964dU4huYQ5F1_67C7V403P7NP_p9gM1VWkzU1Y_Bx1dc1c0T1Zq9nR8d1B3GL5B7FmKf0y3vub_wq9b3Q0yMpaIXZ1ZrcxvYWNQ301Yb1716sqeLk0pD1rFnPaL1b720H_r48BZXP46E4QYk0DMG1d051Q2C9LwP20sNq_3p6VcWkY53XQ0ZQY1abbbkFNS_6VEAMerY8rJ08m1VcFrsZg3b3b2E84Z1VLW0K1yq7YnGh6JDKXqKXk1j3m30112NdZc_w_4yK6p1r7mXLCs6zXHG84y6BM7G6Ba7jFnpLX6d3g","token_type": "Bearer","expires_in":3599,"scope":""}
Status code=200
2016-01-19 08:14:40 410 MyApplication[93738:36590517] [OCLogger printMessage:withMetadata:andLevel:and:Package:] [Line 1005] [DEBUG] [WL_AFHTTPSessionManagerWrapper_PACKAGE] --[WLAFHTTPSessionManagerWrapper start] in WLAFHTTPSessionManagerWrapper.m:372 : Starting the request with URL http://:9808/mfp/api/adapters/javaAdapter/users/world
2016-01-19 08:14:40 440 MyApplication[93738:36590517] [OCLogger printMessage:withMetadata:andLevel:and:Package:] [Line 1005] [DEBUG] [WL_AFHTTPSessionManagerWrapper_PACKAGE] --[WLAFHTTPSessionManagerWrapper requestFinished:responseObject:] in WLAFHTTPSessionManagerWrapper.m:388 : Request Success
2016-01-19 08:14:40 448 MyApplication[93738:36590517] [OCLogger printMessage:withMetadata:andLevel:and:Package:] [Line 1005] [DEBUG] [WL_AFHTTPSessionManagerWrapper_PACKAGE] --[WLAFHTTPSessionManagerWrapper requestFinished:responseObject:] in WLAFHTTPSessionManagerWrapper.m:391 : Response Status Code 200
2016-01-19 08:14:40 448 MyApplication[93738:36590517] [WLAFHTTPSessionManagerWrapper requestFinished:responseObject:] [Line 393] Response Content : Hello world
2016-01-19 08:14:40 441 MyApplication[93738:36590517] Adapter invocation response: Hello world

```

**Note:** Xcode 7 enables 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)) by default.

To complete the tutorial, disable ATS (<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>
```

## Next steps

Learn more on using adapters in applications, and how to integrate additional services such as Push Notifications, using the MobileFirst security framework and more:

- Review the Server-side development tutorials ([../adapters/](#))
- Review the Authentication and security tutorials ([../authentication-and-security/](#))
- Review the Notifications tutorials ([../notifications/](#))
- Review All Tutorials ([../all-tutorials](#))