

# iOS end-to-end demonstration

## Overview

The purpose of this demonstration is to experience an end-to-end flow:

1. A sample application that is pre-bundled with the MobileFirst client SDK is registered and downloaded from the MobileFirst Operations Console.
2. A new or provided adapter is deployed to the MobileFirst Operations Console.
3. The application logic is changed to make a resource request.

### End result:

- Successfully ping the MobileFirst Server.
- Successfully retrieving data using a MobileFirst Adapter.

### Prerequisites:

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

## 1. Starting the MobileFirst Server

Make sure you have created a Mobile Foundation instance ( ../../bluemix/using-mobile-foundation), or If using the MobileFirst Foundation Development Kit ( ../../installation-configuration/development/mobilefirst), navigate to the server's folder and run the command: `./run.sh` in Mac and Linux or `run.cmd` in Windows.

## 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 the **New** button next to **Applications**
  - Select the **iOS** platform
  - Enter **com.ibm.mfpstarteriosobjectivec** or **com.ibm.mfpstarteriosswift** as the **application identifier** (depending on the application scaffold you will download in the next step)
  - Enter **1.0** as the **version** value
  - Click on **Register application**



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



### 3. Editing application logic

1. Open the Xcode 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 `getAccessToken()` function:  
In Objective-C:

```

- (IBAction)getAccessToken:(id)sender {
    _testServerButton.enabled = NO;
    NSURL *serverURL = [[WLCClient sharedInstance] serverUrl];
    _connectionStatusLabel.text = [NSString stringWithFormat:@"Connecting to server...\n%@", serverURL];

    NSLog(@"Testing Server Connection");
    [[WLAuthorizationManager sharedInstance] obtainAccessTokenForScope:@""]
        withCompletionHandler:^(AccessToken *token, NSError *error) {
        if (error != nil) {
            _titleLabel.text = @"Bummer...";
            _connectionStatusLabel.text = [NSString stringWithFormat:@"Failed to connect to MobileFirst Server\n%@", serverURL];
            NSLog(@"Did not receive an access token from server: %@", error.description);
        } else {
            _titleLabel.text = @"Yay!";
            _connectionStatusLabel.text = [NSString stringWithFormat:@"Connected to MobileFirst Server\n%@", serverURL];
            NSLog(@"Received the following access token value: %@", token.value);

            NSURL* url = [NSURL URLWithString:@"../adapters/javaAdapter/resource/greet/"];
            WLResourceRequest* request = [WLResourceRequest requestWithURL:url method:WLHttpMethodGet];

            [request setQueryParameterValue:@"world" forName:@"name"];
            [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);
                }
            }];
        }

        _testServerButton.enabled = YES;
    }];
}

```

In Swift:

```

@IBAction func getAccessToken(sender: AnyObject) {
    self.testServerButton.enabled = false

    let serverURL = WLCient.sharedInstance().serverUrl()

    connectionStatusLabel.text = "Connecting to server...\n\((serverURL)"
    print("Testing Server Connection")
    WLAutorizationManager.sharedInstance().obtainAccessTokenForScope(nil) { (token, error) -
> Void in

        if (error != nil) {
            self.titleLabel.text = "Bummer..."
            self.connectionStatusLabel.text = "Failed to connect to MobileFirst Server\n\((serverURL)"
            print("Did not recieve an access token from server: " + error.description)
        } else {
            self.titleLabel.text = "Yay!"
            self.connectionStatusLabel.text = "Connected to MobileFirst Server\n\((serverURL)"
            print("Recieved the following access token value: " + token.value)

            let url = NSURL(string: "/adapters/javaAdapter/resource/greet/")
            let request = WLResourceRequest(URL: url, method: WLHttpMethodGet)

            request.setQueryParameterValue("world", forName: "name")
            request.sendWithCompletionHandler { (response, error) -> Void in
                if (error != nil){
                    NSLog("Failure: " + error.description)
                }
                else if (response != nil){
                    NSLog("Success: " + response.responseText)
                }
            }
        }

        self.testServerButton.enabled = true
    }
}

```

## 4. Deploy an adapter

Download this prepared .adapter artifact (../javaAdapter.adapter) and deploy it from the MobileFirst Operations Console using the **Actions → Deploy adapter** action.

Alternatively, click the **New** button next to **Adapters**.

1. Select the **Actions → Download sample** option. Download the "Hello World" **Java** adapter sample.

If Maven and MobileFirst CLI are not installed, follow the on-screen **Set up your development environment** instructions.

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

```
mfpdev adapter build
```

- 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.



## 5. Testing the application

- In Xcode, select the **mfpclient.plist** file and edit the **protocol**, **host** and **port** properties with the correct values for your MobileFirst Server.
  - If using a local MobileFirst Server, the values are typically **http**, **localhost** and **9080**.
  - If using a remote MobileFirst Server (on Bluemix), the values are typically **https**, **your-server-address** and **443**.

Alternatively, if you have installed the MobileFirst CLI, then navigate to the project root folder and run the command `mfpdev app register`. If a remote MobileFirst Server is used, run the command `mfpdev server add` (`../../application-development/using-mobilefirst-cli-to-manage-mobilefirst-artifacts/#add-a-new-server-instance`) to add the server, followed by for example: `mfpdev app register myBluemixServer`.

- Press the **Play** button.



## Results

- Clicking the **Ping MobileFirst Server** button will display **Connected to MobileFirst Server**.
- If the application was able to connect to the MobileFirst Server, a resource request call using the

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/3.5JVM";
}
Response Data:
{"access_token": "eyJhbGciOiJIUzI1NiIsImNpdjY6ImVlbiJjoiQVF8Q0kiOiIsIm14OTB1TBZDZD40RmNkZGtWdWNNM3I4OUNMZU0tM0kyeS0XNWpwnREZF9xcmhmZS2ZmRpcVRTVjRfMnQ7ODh0HWNUNUNDFQTxBjdXJ2MTNWEDEWDLJWm5ZAhvWwLGY01TYU9LSXFVZSl5SkEwdVpIdzJsYShyYXVKN5Zj0q9ZSJ09LM5SzbtzeXhivLWZHFZVnIUR093Qk5hV0Vuc0V3VRK3Z1Z2ZktUSHEVCVYtIzA2ZWt0bWk5cFUB08lpw5Uk3SE6LjXA0LTZHDnLOTDVB63NVTKexNZK1Q0twaoJxc6LTBTJT1FuRGInZDcWRHR95BURUVEVqUkQW90mluS0ZnLjhwYXVkd2Q3J0V1L1Sw1L1ZVyeS6KldudLI3C9LW0DUU1TVRCBE=Thv0NWwVjdpeFq6gJUMU4IwiaJR5J1o1MB1wiw2Lkij0iV2mZDUXMeT1LT1Ly0BM0ZLTk5ZWQMTEZNGJLNGU0MTc3Lnls_eyJpbnMLl1jb2BwawhLmncctlnY16tmzmZm10TLk5YjcnDND2AYy50skwLEtxRKyRJRLMDK3NyisImZlCiG16mlvbv5SpmYubWbzIiwic2hhbmVjaXoNUDZMc2p0bmVjgmV2ALC2Z29vc25lTG119n_F96AD4UvhxyQ5tf_C67wZ3PqVnP_psgWblVNKnzUly_Y_Bx1EdcdITJqPsnRkzBJ687FMFn93yb_wqb9zKoOynPAxzITrcxvyMnnvoVDUpCioPvjY56k6MpKcUIrrrFnPaLbp7z8H--wR4XZKPBe4kibyoKwsqLD6TiQo5zCnno-q36gvCuPKw3Q0zyQiabkFTNS_6vEAHER4BYJD8mLiFC5Zg3bZ6E84ZIVLw0xiKy7YnGhdJKXqMKkljYmJ01JDNdczw_4Vykp6j7rNMkTs6xZhKG8Agg88MVGB27fnpJJnKgDg3","token_type": "Bearer","expires_in": 3599,"scope": ""}
Status code: 200
2016-01-19 08:14:40.410 MyApplication[93738:36599517] <@Logger printMessage:withMetadataandLevel:tagAndPackage> [Line 1005] [DEBUG] [WL_AHFTPSTSessionManagerWrapper_PACKAGE] -[WLAFHTPTSessionManagerWrapper start] in WLAFHTPTSessionManagerWrapper.m:372 : Starting the request with URL http://9808/mfp/api/adapters/javaAdapter/users/world
2016-01-19 08:14:40.440 MyApplication[93738:36599517] <@Logger printMessage:withMetadataandLevel:tagAndPackage> [Line 1005] [DEBUG] [WL_AHFTPSTSessionManagerWrapper_PACKAGE] -[WLAFHTPTSessionManagerWrapper requestFinished:responseObject:] in WLAFHTPTSessionManagerWrapper.m:388 : Request Success
2016-01-19 08:14:40.440 MyApplication[93738:36599517] <@Logger printMessage:withMetadataandLevel:tagAndPackage> [Line 1005] [DEBUG] [WL_AHFTPSTSessionManagerWrapper_PACKAGE] -[WLAFHTPTSessionManagerWrapper requestFinished:responseObject:] in WLAFHTPTSessionManagerWrapper.m:391 : Response Status Code : 200
2016-01-19 08:14:40.440 MyApplication[93738:36599517] -[WLAFHTPTSessionManagerWrapper requestFinished:responseObject:] [Line 393] Response Content : Hello world
2016-01-19 08:14:40.441 MyApplication[93738:36599517] Adapter invocation response: Hello world

```

## 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 Using the MobileFirst Foundation (../application-development/) tutorials
- Review the Adapters development (../adapters/) tutorials
- Review the Authentication and security tutorials (../authentication-and-security/)
- Review the Notifications tutorials (../notifications/)
- Review All Tutorials (../all-tutorials)