

# Resource request from native iOS Objective-C applications

- Download MobileFirst project (<https://github.com/MobileFirst-Platform-Developer-Center/InvokingAdapterProcedures>)
- Download Native project (<https://github.com/MobileFirst-Platform-Developer-Center/InvokingAdapterProceduresObjC>)

## Overview

To create and configure an iOS native project, first follow the “Configuring a native iOS application with the MobileFirst Platform SDK (../..../configuring-the-mfpf-sdk/configuring-a-native-ios-application-with-the-mfp-sdk/)” tutorial.

MobileFirst applications can access resources using the `WLResourceRequest` REST API. This tutorial explains how to use the `WLResourceRequest` API with an HTTP adapter.

## Initializing WLClient

1. Access the `WLClient` functionality by using `[WLClient sharedInstance]` anywhere in your application.
2. Initiate the connection to the server by using the `wlConnectWithDelegate` method.  
For most actions, you must specify a delegate object, such as a `MyConnectListener` instance in the following example:

```
[code lang="obj-c"]
MyConnectListener *connectListener = [[MyConnectListener alloc] initWithController:self];
[[WLClient sharedInstance] wlConnectWithDelegate:connectListener];
[/code]
```

**Note:** Remember to `#import` `<IBMMobileFirstPlatformFoundation/IBMMobileFirstPlatformFoundation.h>` when using the MobileFirst SDK.

3. Create a delegate to be used in the `wlConnectWithDelegate` method and receive the response from the MobileFirst Server instance. Name the class `MyConnectListener`.  
The header file must specify that it implements the `WLDelegate` protocol.

```
[code lang="obj-c"]
@interface MyConnectListener : NSObject <WLDelegate> {
    @private
    ViewController *vc;
}
[/code]
```

The `WLDelegate` protocol specifies that the class implements the following methods:

- The `onSuccess` method: `(WLResponse *) response`
- The `onFailure` method: `(WLFailResponse *) response`

After `wlConnectWithDelegate` finishes, the `onSuccess` method or the `onFailure` method of the supplied `MyConnectListener` instance is invoked.

In both cases, the response object is sent as an argument.

4. Use this object to operate data that is retrieved from the server.

```
[code lang="obj-c"]
```

```
-(void)onSuccess:(WLResponse *)response{
    NSLog(@"\nConnection Success: %@", response);
    NSString *resultText = @"Connection success. ";

    if ([response responseText] != nil){
        resultText = [resultText stringByAppendingString:[response responseText]];
    }
    [vc updateView:resultText];
}

-(void)onFailure:(WLFailResponse *)response{
    NSString *resultText = @"Connection failure. ";

    if ([response responseText] != nil){
        resultText = [resultText stringByAppendingString:[response responseText]];
    }
    [vc updateView:resultText];
}

[/code]
```

## Invoking an adapter procedure

After the connection is established with a `MobileFirst Server` instance, you can use the `WLResourceRequest` class to invoke adapter procedures or call any REST resources.

1. Define the URI of the resource. For a JavaScript HTTP adapter:

```
/adapters/{AdapterName}/{ProcedureName}
[code lang="obj-c"]
NSURL* url = [NSURL URLWithString:@"adapters/RSSReader/getFeed"];
[/code]
```

2. Create a `WLResourceRequest` object and choose the HTTP method (GET, POST, etc).

```
[code lang="obj-c"]
WLResourceRequest* request = [WLResourceRequest requestWithURL:url
method:WLHttpMethodGet];
[/code]
```

3. Add the required parameters.

- For JavaScript-based adapters, use the `params` parameter name to set an array of parameters.

```
[code lang="obj-c"]
[request setQueryParameterValue:@"[\"MobileFirst_Platform\"]" forName:@"params"];
[/code]
```

- For Java adapters or other resources, you can use `setQueryParameterValue` for each parameter.

```
[code lang="obj-c"]
[request setQueryParameterValue:@"value1" forName:@"param1"];
[request setQueryParameterValue:@"value2" forName:@"param2"];
[/code]
```

4. Trigger the request with a call to the `sendWithCompletionHandler` method. Specify a `completionHandler` instance.

```
[code lang="obj-c"]
[request sendWithCompletionHandler:^(WLResponse *response, NSError *error) {
NSString* resultText;
if(error != nil){
resultText = @"Invocation failure.";
resultText = [resultText stringByAppendingString: error.description];
}
else{
resultText = @"Invocation success.";
resultText = [resultText stringByAppendingString:response.responseText];
}
[self updateView:resultText];
}];
[/code]
```

Other signatures, which are not covered in this tutorial, exist for the `send` method. Those signatures enable you to set parameters in the body instead of the query, or to handle the response with a delegate instead of a completion handler. See the user documentation to learn more.

## Sample and result

Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/InvokingAdapterProcedures>) the MobileFirst project.

Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/InvokingAdapterProceduresObjC>) the Native project.

- The `InvokingAdapterProcedures` project contains a **MobileFirst native API** which you can deploy to your MobileFirst Server instance and required to deploy to the server.
- The `InvokingAdapterProceduresObjC` project contains a **native iOS application** that uses a MobileFirst native API library to communicate with the MobileFirst Server instance.
- Make sure to update the `worklight.plist` file in **NativeiOSInvoking** with the relevant server settings.

## Invoking Adapter Procedures

[Connect](#)[Invoke Procedure](#)

```
Invocation success.{"statusCode":
200,"errors":
[],"isSuccessful":true,"statusReason":"O
K","rss":{"feedburner":"http://
rssnamespace.org/feedburner/ext/
1.0","channel":{"pubDate":"Tue, 24 Mar
2015 13:43:23 EDT","title":"CNN.com -
Technology","description":"CNN.com
delivers up-to-the-minute news and
information on the latest top stories,
weather, entertainment, politics and
more.","item":{"content":
{"height":"51","width":"90","type":"imag
e/jpeg","url":"http://i2.cdn.turner.com/
cnn/dam/assets/150324102800-iwatch-
luxury-baselworld-top-
tease.jpg","medium":"image"},"guid":
{"CDATA":"http://www.cnn.com/
2015/03/24/tech/apple-watch-
baselworld-2015/
index.html","isPermaLink":"false"},"pub
Date":"Tue, 24 Mar 2015 10:58:05
EDT","title":"'It's a fight for the
wrist'","thumbnail":
{"height":"51","width":"90","url":"http://
```

(<https://developer.ibm.com/mobilefirstplatform/wp-content/uploads/sites/32/2014/12/ios-invoke-adapter-procedure-result.png>)