# Invoking adapter procedures from native iOS applications

fork and edit tutorial (https://github.ibm.com/MFPSamples/DevCenter/tree/master/tutorials/en/foundation/7.0/server-side-development/invoking-adapter-procedures-native-ios-applications.html) | report issue (https://github.ibm.com/MFPSamples/DevCenter/issues/new) To create and configure an iOS native project, first follow the "Configuring a native iOS application with the MobileFirst Platform SDK (../../hello-world/configuring-a-native-ios-with-the-mfp-sdk/)" tutorial.

MobileFirst applications can adapt procedures to communicate with any data source. This tutorial explains how to use the REST API for returning data from an HTTP adapter. The same can be applied using other data sources (such as SQL adapters, etc).

## Initializing WLClient

- 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:

```
MyConnectListener *connectListener = [[MyConnectListener alloc] initWithController:self];
[[WLClient sharedInstance] wlConnectWithDelegate:connectListener];
```

**Note:** Remember to import the WLClient.h and WLDelegate.h files in your header file and the WLResourceRequest.h files in your implementation file.

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.

```
@interface MyConnectListener : NSObject <WLDelegate> {
    @private
    ViewController *vc;
}
```

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.

```
-(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];
}
[vc updateView:resultText];
}
```

## 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}

```
NSURL* url = [NSURL URLWithString:@"/adapters/RSSReader/getStories"];
```

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

```
WLResourceRequest* request = [WLResourceRequest requestWithURL:url method:WLHttpMethodGet];
```

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

```
[request setQueryParameterValue:@"['technology']" forName:@"params"];
```

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

```
[request setQueryParameterValue:@"value1" forName:@"param1"];
[request setQueryParameterValue:@"value2" forName:@"param2"];
```

4. Trigger the request with a call to the sendWithCompletionHandler method.

Specify a completionHandler instance.

```
[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];
}
```

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

## Sample and result

- Download the Studio project
   (http://public.dhe.ibm.com/software/products/en/MobileFirstPlatform/docs/v700/InvokingAdapterProceduresNativeProject.zip)
- Download the native project
   (http://public.dhe.ibm.com/software/products/en/MobileFirstPlatform/docs/v700/InvokingAdapterProceduresiOSProject.zip)

The sample contains two projects:

- The InvokingAdapterProceduresNativeProject.zip file contains a **MobileFirst native API** which you can deploy to your MobileFirst Server instance.
- The InvokingAdapterProceduresi0SProject.zip file 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 iOSNativeApp with the relevant server settings.



#### 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-iwatchluxury-baselworld-toptease.jpg", "medium": "image"}, "guid": {"CDATA":"http://www.cnn.com/ 2015/03/24/tech/apple-watchbaselworld-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://