

# Resource request from iOS applications

fork and edit tutorial (<https://github.ibm.com/MFPSamples/DevCenter/tree/master/tutorials/en/foundation/8.0/using-the-mfpf-sdk/resource-request/ios/index.md>) | [report issue](https://github.ibm.com/MFPSamples/DevCenter/issues/new) (<https://github.ibm.com/MFPSamples/DevCenter/issues/new>)

## Overview

MobileFirst applications can access resources using the `WLResourceRequest` REST API. The REST API works with all adapters and external resources.

### Prerequisites:

- Ensure you have added the MobileFirst Platform SDK ([../.../adding-the-mfpf-sdk/ios](#)) to your Native iOS project.
- Learn how to create adapters ([../.../adapters/adapters-overview/](#)).

## WLResourceRequest

The `WLResourceRequest` class handles resource requests to adapters or external resources.

Create a `WLResourceRequest` object and specify the path to the resource and the HTTP method.

Available methods are: `WLHttpMethodGet`, `WLHttpMethodPost`, `WLHttpMethodPut` and `WLHttpMethodDelete`.

### Objective-C

```
WLResourceRequest *request = [WLResourceRequest requestWithURL:[NSURL URLWithString:@"~/adapters/JavaAdapter/users/"] method:WLHttpMethodGet];
```

### Swift

```
let request = WLResourceRequest(
    URL: NSURL(string: "~/adapters/JavaAdapter/users"),
    method: WLHttpMethodGet
)
```

- For **JavaScript adapters**, use `/adapters/{AdapterName}/{procedureName}`
- For **Java adapters**, use `/adapters/{AdapterName}/{path}`. The `path` depends on how you defined your `@Path` annotations in your Java code. This would also include any `@PathParam` you used.
- To access resources outside of the project, use the full URL as per the requirements of the external server.
- **timeout**: Optional, request timeout in milliseconds

## Sending the request

Request the resource by using the `sendWithCompletionHandler` method.

Supply a completion handler to handle the retrieved data:

### Objective-C

```
[request sendWithCompletionHandler:^(WLResponse *response, NSError *error) {
    if (error == nil){
        NSLog(@"%@", response.responseText);
    } else {
        NSLog(@"%@", error.description);
    }
}];
```

### Swift

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

Alternatively, you can use `sendWithDelegate` and provide a delegate that conforms to both the `NSURLConnectionDataDelegate` and `NSURLConnectionDelegate` protocols. This will allow you to handle the response with more granularity, such as handling binary responses.

## Parameters

Before sending your request, you may want to add parameters as needed.

## Path parameters

As explained above, **path** parameters (`/path/value1/value2`) are set during the creation of the `WLResourceRequest` object.

## Query parameters

To send **query** parameters (`/path?param1=value1...`) use the `setQueryParameterValue` method for each parameter:

Objective-C

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

Swift

```
request.setQueryParameterValue("value1", forName: "param1")
request.setQueryParameterValue("value2", forName: "param2")
```

## JavaScript adapters

JavaScript adapters use ordered nameless parameters. To pass parameters to a Javascript adapter, set an array of parameters with the name `params`:

Objective-C

```
[request setQueryParameterValue:@"['value1', 'value2']" forName:@"params"];
```

Swift

```
request.setQueryParameterValue(["value1", "value2"], forName: "params")
```

This should be used with `WLHttpMethodGet`.

## Form parameters

To send **form** parameters in the body, use `sendWithFormParameters` instead of `sendWithCompletionHandler`:

Objective-C

```
//@FormParam("height")
NSDictionary *formParams = @{@"height":@"175"};

//Sending the request with Form parameters
[request sendWithFormParameters:formParams completionHandler:^(WLResponse *response, NSError *error) {
    if (error == nil){
        NSLog(@"%@", response.responseText);
    } else {
        NSLog(@"%@", error.description);
    }
}];
```

Swift

```
//@FormParam("height")
let formParams = ["height":"175"]

//Sending the request with Form parameters
request.sendWithFormParameters(formParams) { (response, error) -> Void in
    if(error == nil){
        NSLog(response.responseText)
    }
    else{
        NSLog(error.description)
    }
}
```

## JavaScript adapters

JavaScript adapters use ordered nameless parameters. To pass parameters to a Javascript adapter, set an array of parameters with the name `params`:

Objective-C

```
NSDictionary *formParams = @{@"params":@"['value1', 'value2']"};
```

Swift

```
let formParams = ["params":["value1', 'value2']"]
```

This should be used with `WLHttpMethodPost`.

## Header parameters

To send a parameter as an HTTP header use the `setHeaderValue` API:

Objective-C

```
//@HeaderParam("Date")
[request setHeaderValue:@"2015-06-06" forName:@"birthdate"];
```

Swift

```
//@HeaderParam("Date")
request.setHeaderValue("2015-06-06", forName: "birthdate")
```

## Other custom body parameters

- `sendWithBody` allows you to set an arbitrary String in the body.
- `sendWithJSON` allows you to set an arbitrary dictionary in the body.
- `sendWithData` allows you to set an arbitrary `NSData` in the body.

## The response

The `response` object contains the response data and you can use its methods and properties to retrieve the required information. Commonly used properties are `responseText` (String), `responseJSON` (Dictionary) (if the response is in JSON) and `status` (Int) (the HTTP status of the response).

Use the `response` and `error` objects to get the data that is retrieved from the adapter.

## For more information

For more information about `WLResourceRequest`, refer to the user documentation.

## Sample application

The `ResourceRequestSwift` project contains an iOS application, implemented in Swift, that makes a resource request using a Java adapter.

The adapter Maven project contains the Java adapter used during the resource request call.

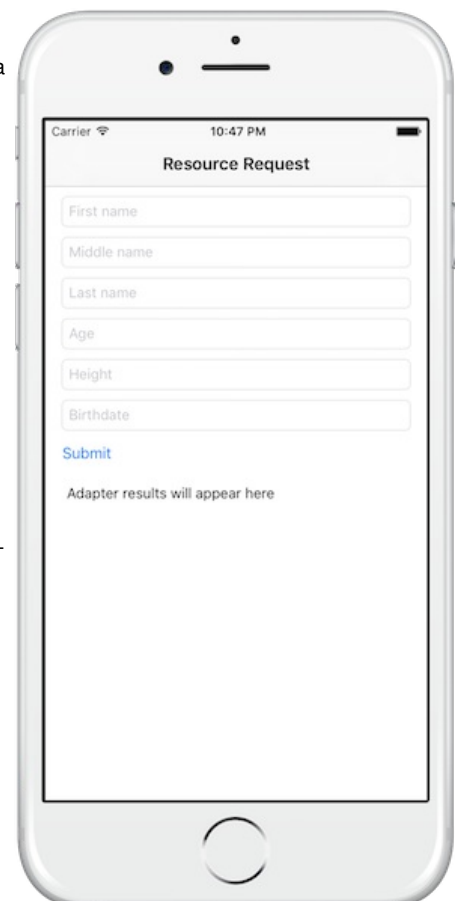
Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/ResourceRequestSwift/tree/release80>) the iOS project.

Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/Adapters/tree/release80>) the adapter Maven project.

## Sample usage

1. From a **Command-line** window, navigate to the project's root folder and run the command:  
`mfpdev app register.`
2. The sample uses the `JavaAdapter` contained in the Adapters Maven project. Use either Maven, MobileFirst CLI or your IDE of choice to build and deploy the adapter (`../../adapters/creating-adapters/`).
3. To test or debug an adapter, see the testing and debugging adapters (`../../adapters/testing-and-debugging-adapters`) tutorial.
4. Import the project to Xcode, and run the sample by clicking the **Run** button.

Note about iOS 9:



- 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 (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>
```