

# Resource request from iOS applications

## 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`.

```
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:

```
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.

## 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.

## 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 `setQueryParameter` method for each parameter:

```
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`:

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

### Form parameters

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

```
//@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`:

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

## Header parameters

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

```
//@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.

## For more information

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

# Sample application

The ResourceRequestSwift project contains a native iOS Swift application 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 the command line, navigate to the project's root folder.
2. Ensure the sample is registered in the MobileFirst Server by running the command: `mfpdev app register`.
3. The sample uses the `JavaAdapter` contained in the Adapters Maven project. Use either Maven or MobileFirst Developer CLI to build and deploy the adapter (`../../adapters/creating-adapters/`).
4. To test or debug an adapter, see the testing and debugging adapters (`../../adapters/testing-and-debugging-adapters`) tutorial.
5. Import the project to Xcode, and run the sample by clicking the **Run** button.



The screenshot shows an iPhone 6 simulator running iOS 9.2. The app is titled "Resource Request". It features a form with six text input fields containing the following data: "John", "M", "Smith", "42", "175", and "1974-05-05". Below the form is a blue "Submit" button. Underneath the button, the app displays the submitted data in a plain text format: "Name = John M Smith", "Age = 42", "Height = 175", and "Date = 1974-05-05". The status bar at the top of the simulator shows "Carrier", signal strength, "10:28 AM", and battery level.