

Resource Request from Native Android Applications

Overview

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

Prerequisite: Ensure you have added the MobileFirst Platform SDK (../adding-the-mfpf-sdk/adding-the-mfpf-sdk-to-android-applications) to your Native Android project.

WLResourceRequest

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

1. Define the URI of the resource:

```
URI adapterPath = new URI("/adapters/RSSReader/getFeed");
```

- 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.

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

```
WLResourceRequest request = new WLResourceRequest(adapterPath,WLResourceRequest.GET);
```

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

- In JavaScript adapters, which use ordered nameless parameters, pass an array of parameters with the name `params`:

```
```js
request.setQueryParameter("params",["param1', 'param2']");
```
```

- In Java adapters or external resources, there are several optional types of parameters:
 - **Path parameter:** path parameters (`/path/value1/value2`) are set during the creation of the `WLResourceRequest` object:

```
URI adapterPath = new URI("/adapters/JavaAdapter/users/"
    + first_name.getText().toString() + "/"
    + middle_name.getText().toString() + "/"
    + last_name.getText().toString()
);

WLResourceRequest request = new
WLResourceRequest(adapterPath, WLResourceRequest.POST);
```

- **Query parameters:** use the `.setQueryParameter` method for each parameter:

```
request.setQueryParameter("param1", "value1");
request.setQueryParameter("param2", "value2");
```

- **Header parameters:** use `.addHeader()` to set header parameters to the request.

```
request.addHeader("date", date.getText().toString());
```

- **Form parameters:** To send form parameters in the body, use `.send(HashMap<String, String> formParameters, WLResponseListener)`:

```
HashMap formParams = new HashMap();
formParams.put("height", height.getText().toString());
request.send(formParams, new MyInvokeListener());
```

1. Call the resource by using the `.send()` method. Specify a `WLResponseListener` class instance:

```
request.send(new MyInvokeListener());
```

See the user documentation to learn more about `WLResourceRequest` and other signatures for the `send` method, which are not covered in this tutorial.

The response

When the resource call is completed, the framework calls one of the methods of the `WLResponseListener` class that you defined in the `.send()` method.

1. Create a new class that implements the `WLResponseListener` interface:

```
public class MyInvokeListener implements WLResponseListener {
}
```

2. Implement the `onSuccess` and `onFailure` methods.

If the resource call is successful, the `onSuccess` method is called. Otherwise, the `onFailure` method is called.

Use these methods to get the data that is retrieved from the adapter.

The `response` object contains the response data and you can use its methods and properties to retrieve the required information.

```

public void onSuccess(WLResponse response) {
    String responseText = response.getResponseText();
    AndroidNativeApp.updateTextView("Successfully called the resource\n" + responseText);
}

public void onFailure(WLFailResponse response) {
    String responseText = response.getResponseText();
    AndroidNativeApp.updateTextView("Failed to call the resource\n" + responseText);
}

```

For more information

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

Sample application

The ResourceRequestAndroid project contains a native Android application that makes a resource request using a Java adapter.

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

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

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

Sample usage

- Make sure to update the **app/src/main/assets/mfpclient.properties** file in the Android Studio project with the server properties.
- The sample uses the `JavaAdapter` contained in the Adapters Maven project. Use either Maven or MobileFirst Developer CLI to build and deploy the adapter (`../../creating-adapters/`).

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