# Invoking adapter procedures from native Android applications

#### **Overview**

To create and configure an Android native project, first follow the "Creating your first Native Android MobileFirst application (../../hello-world/creating-first-native-android-mobilefirst-application/)" tutorial.

### **Initializing WLClient**

1. Create an instance of the WLClient class.

The WLClient instance requires a reference to the activity in which it is running.

```
WLClient client = WLClient.createInstance(context);
```

2. To establish a connection to the MobileFirst Server instance, use the connect method by specifying the MyConnectListener class instance as a parameter.

The WLClient instance tries to connect to the MobileFirst Server according to the properties of the wlclient.properties file.

After the connection is established, it invokes one of the methods of the MyConnectListener class.

3. Specify that the MyConnectListener class implements the WLResponseListener interface.

```
public class MyConnectListener implements WLResponseListener {
```

The WLResponseListener interface defines two methods:

- public void onSuccess (WLResponse response) { }
- public void onFailure (WLFailResponse response) { }
- 4. Use these methods to process connection success or connection failure.

# Invoking an adapter procedure

After the connection is established with a MobileFirst Server, you can use the WLClient instance to invoke adapter procedures.

1. Create a WLProcedureInvocationData object with the adapter and procedure names.

```
String adapterName = "RSSReader";
String procedureName = "getStoriesFiltered";
WLProcedureInvocationData invocationData =
new WLProcedureInvocationData(adapterName, procedureName);
```

2. Add the required parameters as an object array and set request options (for example: timeout).

```
Object[] parameters = new Object[] {"world"};
invocationData.setParameters(parameters);
WLRequestOptions options = new WLRequestOptions();
options.setTimeout(30000);
```

3. Get the existing WLClient instance and use it to invoke an adapter procedure.

Specify the MyInvokeListener class instance as a parameter.

You learn how to define this class instance in the next section.

```
WLClient client = WLClient.getInstance();
client.invokeProcedure(invocationData, new MyInvokeListener(), options);
```

### Receiving a procedure response

After the procedure invocation is completed, the WLClient instance calls one of the methods of the MyInvokeListener class.

1. Specify that the MyInvokeListener class implements the WLResponseListener interface.

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

The WLClient instance invokes the onSuccess and onFailure methods.

If the procedure invocation is successful, the onSuccess method of MyInvokeListener is invoked.

2. Use that method to get the data that is retrieved from the adapter. The response object contains the response data. You can use its methods and properties to retrieve the required information.

```
public void onSuccess(WLResponse response) {
    String responseText = response.getResponseText();
    AndroidNativeApp.updateTextView("Adapter Procedure Invoked Successfuly\n" + responseText)
;
}
public void onFailure(WLFailResponse response) {
    String responseText = response.getResponseText();
    AndroidNativeApp.updateTextView("Failed to Invoke Adapter Procedure\n" + responseText);
}
```

## Sample application

Click to download

(http://public.dhe.ibm.com/software/products/en/MobileFirstPlatform/docs/v630/InvokingAdapterProceduresNativeProject.zip) the Studio project.

Click to download

(http://public.dhe.ibm.com/software/products/en/MobileFirstPlatform/docs/v630/InvokingAdapterProceduresAndroidProject.zip) the Native project.

The sample is made up of two projects:

- The **InvokingAdapterProceduresNativeProject.zip.zip** file contains a MobileFirst Native API to deploy to your MobileFirst Server instance.
- The **InvokingAdapterProceduresAndroidProject.zip** file contains a native Android application that uses a MobileFirst native API library to communicate with MobileFirst Server.

Make sure to update the wlclient.properties file in the native Android project with the required server settings.



#### 1. Connect

#### 2. Invoke Procedure

Adapter Procedure Invoked Successfuly

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"responseID":"6","statusCode":200,"Items":[{"pubDate": Thu, 08 Nov 2012 06:08:00 EDT", "title": "Google Shopper adds push notifications, new UI and more with 3.0 update","link":"http:\/\/www.engadget. com\/2012\/11\/08\/google-shooper-update-ui-pushnotification-sales\/","creator":"Alexis Santos"), ["pubDate":"Thu, 08 Nov 2012 05:31:00 EDT","title":"Jam with Chrome: Google reinvents browser-based band oractice (video)","link":"http:\/\/www.engadget. com\/2012\/11\/08\/jam-with-chrome\/","creator": 'Daniel Cooper"},{"pubDate":"Thu, 08 Nov 2012 04:54:00 EDT","title":"Sandvine: Netflix up to 29 percent of North American internet traffic, YouTube is fast on the rise", 'link":"http:\/\/www.engadget.com\/2012\/11\/08\/ sandvine-netflix-29-percent-of-north-americannternet-traffic\/","creator":"Jon Fingas"},{"pubDate": Thu, 08 Nov 2012 04:21:00 EDT", "title": "Amazon Kindle aperwhite update optimizes your Manga mania, offers quicker settings","link":"http:\/\/www.engadget. com\/2012\/11\/08\/amazon-kindle-paperwhiteupdate-optimizes-your-manga-mania\/","creator":"Jon ingas"},{"pubDate":"Thu, 08 Nov 2012 03:01:00 EDT", title":"Timbuk2 Power Commute carries your gadgets, keeps 'em charged for \$199 (hands-on)","link":"http:\/\/ www.engadget.com\/2012\/11\/08\/timbuk2-powercommute-hands-on\/","creator":"Michael Gorman"}, "pubDate":"Thu, 08 Nov 2012 03:00:00 EDT","title": 'Angry Birds Star Wars adds sci-fi flavor to bird flinging, available today, we go hands-on","link":"http:\/\/www.