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.


80% 13:33
1. Connect
2. Invoke Procedure
Adapter Procedure Invoked Successfuly
*-secure-
{"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-push-
notification-sales\/","creator":"Alexis Santos"},
{"pubDate":"Thu, 08 Nov 2012 05:31:00 EDT","title":"Jam
with Chrome: Google reinvents browser-based band
practice (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-american-
internet-traffic\/","creator":"Jon Fingas"},{"pubDate":
Thu, 08 Nov 2012 04:21:00 EDT","title":"Amazon Kindle
Paperwhite update optimizes your Manga mania, offers
quicker settings","link":"http:\/\/www.engadget.
com\/2012\/11\/08\/amazon-kindle-paperwhite-
update-optimizes-your-manga-mania\/","creator":"Jon
Fingas"},{"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-power-
commute-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.