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" + respons
   eText);
   }
   public void onFailure(WLFailResponse response) {
        String responseText = response.getResponseText();
        AndroidNativeApp.updateTextView("Failed to Invoke Adapter Procedure\n" + responseTex
   t);
   }
   ```

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.

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