Adapter-based authentication in native Android applications

This tutorial illustrates the native Android client-side authentication components for adapter-based authentication.
Prerequisite: Make sure that you read Adapter-based authentication (../) first.

Creating the client-side authentication components

1. Create a native Android application and add the MobileFirst native APIs as explained in the documentation.
2. Add an activity, `LoginAdapterBasedAuth`, which will handle and present the login form.
3. Remember to add this activity to the `AndroidManifest.xml` file, too.
4. Create a `MyChallengeHandler` class as a subclass of `ChallengeHandler`.
   The `isCustomResponse` method checks every custom response received from MobileFirst Server to verify whether it is the expected challenge. In the sample adapter code, a `authRequired` variable is sent for this purpose.

```
1  public boolean isCustomResponse(WLResponse response) {
2   try {
3    if(response!= null &&
4      response.getResponseJSON()!=null &&
5      response.getResponseJSON().isNull("authRequired") != true &&
6      response.getResponseJSON().getBoolean("authRequired") == true){
7     return true;
8    }
9   } catch (JSONException e) {
10   e.printStackTrace();
11  }
12  return false;
13 }
```

   The `handleChallenge` method is called after the `isCustomResponse` method returns `true`.

5. Use this method to present the login form.

```
1  public void handleChallenge(WLResponse response){
2      cachedResponse = response;
3      Intent login = new Intent(parentActivity, LoginAdapterBasedAuth.class);
4      parentActivity.startActivityForResult(login, 1);
5  }
```

6. In the `submitLogin` method, if the user asked to abort this action, use the `submitFailure()` method, otherwise invoke the adapter authentication procedure by using the `submitAdapterAuthentication()` method.

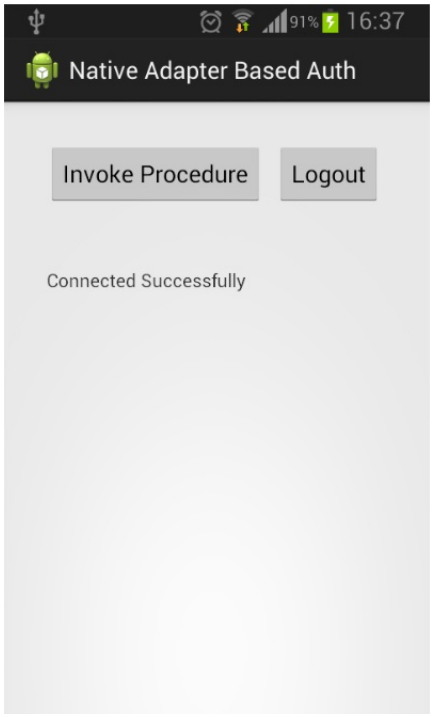
```
public void submitLogin(int resultCode, String userName, String password, boolean back) {
    if (resultCode != Activity.RESULT_OK || back) {
        submitFailure(cachedResponse);
    } else {
        Object[] parameters = new Object[]{userName, password};
        WLProcedureInvocationData invocationData = new  WLProcedureInvocationData("NativeAdapterBasedAdapter", "su
        invocationData.setParameters(parameters);
        WLRequestOptions options = new WLRequestOptions();
        options.setTimeout(30000);
        submitAdapterAuthentication(invocationData, options);
    }
}
```

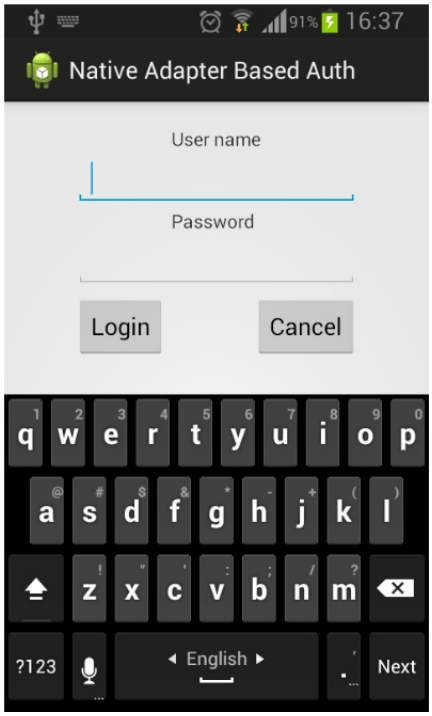
7. In the main activity class, connect to MobileFirst Server, register your `challengeHandler` method, and invoke the protected adapter procedure.
   The procedure invocation triggers MobileFirst Server to send a challenge that will trigger the `challengeHandler`.

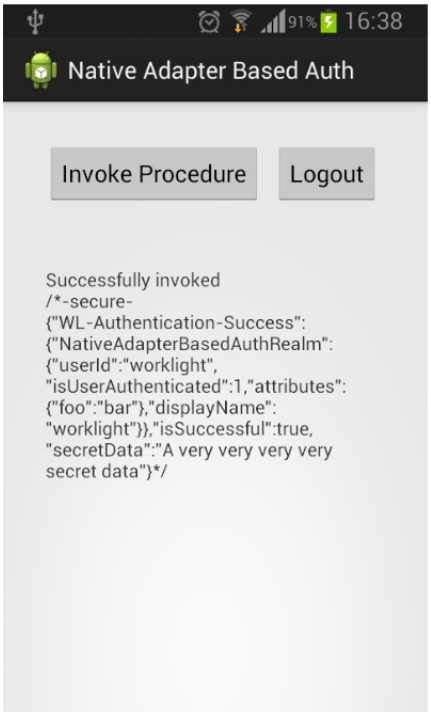
```
final WLClient client = WLClient.createInstance(this);
client.connect(new MyConnectionListener());
challengeHandler = new AndroidChallengeHandler(this, realm);
client.registerChallengeHandler(challengeHandler);
invokeBtn = (Button) findViewById(R.id.invoke);
invokeBtn.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        WLProcedureInvocationData invocationData = new WLProcedureInvocationData("DummyAdapter", "getSecretData")
        WLRequestOptions options = new WLRequestOptions();
        options.setTimeout(30000);
        client.invokeProcedure(invocationData, new MyResponseListener(), options);
    }
});
```

Sample application

Click to download (http://public.dhe.ibm.com/software/products/en/MobileFirstPlatform/docs/v700/NativeAdapterBasedAuthProject.zip) the Studio project.
Click to download (http://public.dhe.ibm.com/software/products/en/MobileFirstPlatform/docs/v700/AndroidNativeAdapterBasedAuthProject.zip) the Native project.


16:37
Native Adapter Based Auth
Invoke Procedure
Logout
Connected Successfully


16:37
Native Adapter Based Auth
User name
Password
Login
Cancel
English
Next


16:38
Native Adapter Based Auth
Invoke Procedure
Logout
Successfully invoked
/*-secure-
{"WL-Authentication-Success":
{"NativeAdapterBasedAuthRealm":
{"userId":"worklight",
"isUserAuthenticated":1,"attributes":
{"foo":"bar"},"displayName":
"worklight"}},"isSuccessful":true,
"secretData":"A very very very very
secret data"}*/