

# Custom Authenticator and Login Module in native Android applications

fork and edit tutorial (<https://github.ibm.com/MFPSamples/DevCenter/tree/master/tutorials/en/foundation/6.3/authentication-security/custom-authenticator-login-module/custom-authenticator-login-module-native-android-applications.html>) | report issue (<https://github.ibm.com/MFPSamples/DevCenter/issues/new>)

This is a continuation of Custom Authenticator and Login Module (../).

## Creating the client-side authentication components

Create a native Android application and add the IBM MobileFirst Platform Foundation native APIs following the documentation.

Add an Activity, `LoginCustomLoginModule`, that will handle and present the login form. Remember to add this Activity to the `AndroidManifest.xml` file as well.

Create a `MyChallengeHandler` class as a subclass of `ChallengeHandler`. `MyChallengeHandler` should implement 2 main methods:

- `isCustomResponse`
- `HandleChallenge`

In our sample we add another method to present and handle the received data from our form (`submitLogin`).

### `isCustomResponse`

This method checks every custom response received from the MobileFirst Server to see if that's the challenge we are expecting.

```
public boolean isCustomResponse(WLResponse response) {
    if (response == null || response.getResponseJSON() == null) {
        return false;
    }
    if(response.toString().indexOf("authStatus") > -1){
        return true;
    }
    else{
        return false;
    }
}
```

### `handleChallenge`

This method is called after the `isCustomResponse` method returned `true`.

*Here we use this method to present our login form.*

```

public void handleChallenge(WLResponse response){
    try {
        if(response.getResponseJSON().getString("authStatus") == "complete"){
            submitSuccess(response);
        }
        else {
            cachedResponse = response;
            Intent login = new Intent(parentActivity, LoginCustomLoginModule.class)
;
            parentActivity.startActivityForResult(login, 1);
        }
    } catch (JSONException e) {
        e.printStackTrace();
    }
}

```

## submitLogin

If the user asked to abort this action we use `submitFailure()` method, otherwise we send the information we collected from our login form to our custom authenticator using `submitLoginForm()` method.

```

public void submitLogin(int resultCode, String userName, String password, boolean back){
    if (resultCode != Activity.RESULT_OK || back) {
        submitFailure(cachedResponse);
    } else {
        HashMap<String, String> params = new HashMap<String, String>();
        params.put("username", userName);
        params.put("password", password);
        submitLoginForm("/my_custom_auth_request_url", params, null, 0, "post");
    }
}

```

## Main Activity

In the Main Activity class connect to the MobileFirst server, register your `challengeHandler` and invoke the protected adapter procedure.

The procedure invocation will trigger the MobileFirst server to send a challenge that will trigger our `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/v630/NativeCustomLoginModuleProject.zip>) the Studio project.

Click to download

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

