

# Adapter-based authentication in native Android applications

fork and edit tutorial (<https://github.com/MobileFirst-Platform-Developer-Center/DevCenter/#fork-destination-box>) | report issue (<https://github.com/MobileFirst-Platform-Developer-Center/DevCenter/issues/new>)

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.

```
public boolean isCustomResponse(WLResponse response) {
    try {
        if(response!= null &&
            response.getResponseJSON()!=null &&
            response.getResponseJSON().isNull("authRequired") != true &&
            response.getResponseJSON().getBoolean("authRequired") == true)
        {
            return true;
        }
    } catch (JSONException e) {
        e.printStackTrace();
    }
    return false;
}
```

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

5. Use this method to present the login form.

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

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("NativeAdapterBasedA
dapter", "submitAuthentication");
        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", "getS
ecretData");
        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.

