

# Custom Authentication in native Windows Phone 8 applications

## Overview

This tutorial illustrates the native Windows Phone 8 client-side authentication components for custom authentication. Make sure you read Custom Authentication (../) first.

## Creating the client-side authentication components

Create a native Windows Phone 8 application and add the MobileFirst native APIs following the documentation.

### CustomChallengeHandler

Create a CustomChallengeHandler class as a subclass of ChallengeHandler.

CustomChallengeHandler should implement

- `isCustomResponse`
- `handleChallenge`

`isCustomResponse` checks every custom response received from MobileFirst Server to see if this is the challenge we are expecting.

```
public override bool isCustomResponse(WLResponse response)
{
    if(response == null ||
        response.getResponseJSON() == null)
    {
        return false;
    }
    if(response.ToString().IndexOf("authStatus") > -1)
    {
        return true;
    }
    else
    {
        return false;
    }
}
```

`handleChallenge` method, is called after the `isCustomResponse` method returned true. Within this method we present our login form. Different approaches may be adopted to present the login form.

```

public override void handleChallenge(JObject response)
{
    Deployment.Current.Dispatcher.BeginInvoke(() =>
    {
        MainPage._this.NavigationService.Navigate(new Uri("/LoginPage.xaml", UriKind.Relative))
    }
    );
}

```

From the login form , credentials are passed to the CustomChallengeHandler class. The submitLoginForm() method is used to send our input data to the authenticator.

```

public void submitLogin(string username, string password)
{
    Dictionary<String, String> parms = new Dictionary<String, String>();
    parms.Add("username", username);
    parms.Add("password", password);
    submitLoginForm("/my_custom_auth_request_url", parms, null, 10000, "post")
}

```

## MainPage

Within the MainPage class connect to MobileFirst server, register your challengeHandler and invoke the protected adapter procedure.

The procedure invocation will trigger MobileFirst server to send a challenge that will trigger our challengeHandler.

```

WLClient client;
client = WLClient.getInstance();
challengeHandler = new WindowsChallengeHandler();
client.registerChallengeHandler((BaseChallengeHandler<JObject>)challengeHandler)
;
client.connect(new MyConnectResponseListener(this));

```

Since the native API not protected by a defined security test, there is no login form presented during server connection.

Invoke the protected adapter procedure and the login form is presented by the challengeHandler.

```

WLProcedureInvocationData invokeData = new WLProcedureInvocationData("AuthAdapter", "get
SecretData");
WLRequestOptions options = new WLRequestOptions();
client.invokeProcedure(invokeData, new MyResponseListener(this), options);

```

## Worklight Protocol

If your custom authenticator uses WorklightProtocolAuthenticator, some simplifications can be made:

- Subclass your challenge handler using `WLChallengeHandler` instead of `ChallengeHandler`. Note the `WL`.
- You no longer need to implement `isCustomResponse` as the challenge handler will automatically check that the realm name matches.
- `handleChallenge` will receive the challenge as a parameter, not the entire response object.
- Instead of `submitLoginForm`, use `submitChallengeAnswer` to send your challenge response as a JSON.
- There is no need to call `submitSuccess` or `submitFailure` as the framework will do it for you.

For an example that uses `WorklightProtocolAuthenticator`, see the Remember Me ([../.../advanced-topics/remember-me/](http://../.../advanced-topics/remember-me/)) tutorial or this video blog post ([file:///home/travis/build/MFPSamples/DevCenter/\\_site/blog/2015/05/29/ibm-mobilefirst-platform-foundation-custom-authenticators-and-login-modules/](http://file:///home/travis/build/MFPSamples/DevCenter/_site/blog/2015/05/29/ibm-mobilefirst-platform-foundation-custom-authenticators-and-login-modules/)).

## Sample application

Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/CustomAuth>) the MobileFirst project.

Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/CustomAuthWP8>) the Native project.

- The `CustomAuth` project contains a MobileFirst native API that you can deploy to your MobileFirst server.
- The `CustomAuthWP8` project contains a native WP8 application that uses a MobileFirst native API library.
- Make sure to update the `worklight.plist` file in the native project with the relevant server settings.



