

# Implementing the challenge handler in Windows 8.1 Universal and Windows 10 UWP applications

## Overview

**Prerequisite:** Make sure to read the **CredentialsValidationSecurityCheck**'s challenge handler implementation ([../credentials-validation/android](#)) tutorial.

The challenge handler will demonstrate a few additional features (APIs) such as the preemptive `Login`, `Logout` and `ObtainAccessToken`.

## Login

In this example, `UserLoginSecurityCheck` expects *key:values* called `username` and `password`. Optionally, it also accepts a boolean `rememberMe` key that will tell the security check to remember this user for a longer period. In the sample application, this is collected using a boolean value from a checkbox in the login form.

`credentials` is a `JSONObject` containing `username`, `password` and `rememberMe`:

```
ChallengeHandler.challengeAnswer = credentials;
```

You may also want to login a user without any challenge being received. For example, showing a login screen as the first screen of the application, or showing a login screen after a logout, or a login failure. We call those scenarios **preemptive logins**.

You cannot call the `challengeAnswer` API if there is no challenge to answer. For those scenarios, the MobileFirst Platform Foundation SDK includes the `Login` API:

```
WorklightResponse response = await Worklight.WorklightClient.CreateInstance().AuthorizationManager.Login(String securityCheckName, JObject credentials);
```

If the credentials are wrong, the security check will send back a **challenge**.

It is the developer's responsibility to know when to use `Login` vs `challengeAnswer` based on the application's needs. One way to achieve this is to define a boolean flag, for example `isChallenged`, and set it to `true` when reaching `HandleChallenge` or set it to `false` in any other cases (failure, success, initializing, etc).

When the user clicks the **Login** button, you can dynamically choose which API to use:

```
public async void login(JSONObject credentials)
{
    if(isChallenged)
    {
        challengeAnswer= credentials;
    }
    else
    {
        WorklightResponse response = await Worklight.WorklightClient.CreateInstance().AuthorizationManager.Login(securityCheckName, credentials);
    }
}
```

## Obtaining an access token

Since this security check supports *remember me* functionality, it would be useful to check if the client is currently logged in, during the application startup.

The MobileFirst Platform Foundation SDK provides the `ObtainAccessToken` API to ask the server for a valid token:

```
WorklightAccessToken accessToken = await Worklight.WorklightClient.CreateInstance().AuthorizationManager.ObtainAccessToken(String scope);
```

If the client is already logged-in or is in the *remembered* state, the API will trigger a success. If the client is not logged in, the security check will send back a challenge.

The `ObtainAccessToken` API takes in a **scope**. The scope can be the name of your **security check**.

Learn more about **scope** in the Authorization concepts ([../authorization-concepts](#)) tutorial

## Retrieving the authenticated user

Not Yet implemented

## Logout

The MobileFirst Platform Foundation SDK also provides a `Logout` API to logout from a specific security check:

```
WorklightResponse response = await Worklight.WorklightClient.CreateInstance().AuthorizationManager.Logout(securityCheckName);
```

## Sample applications

There are two samples associated with this tutorial:

- **PreemptiveLoginWin**: An application that always starts with a login screen, using the preemptive `Login` API.
- **RememberMeWin**: An application with a *Remember Me* checkbox. The user can bypass the login screen the next time the application is opened.

Both samples use the same `UserLoginSecurityCheck` from the **SecurityCheckAdapters** adapter Maven project.

Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/SecurityCheckAdapters/tree/release80>) the SecurityAdapters Maven project.

Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/RememberMeWin8/tree/release80>) the Remember Me Win8 project.

Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/RememberMeWin10/tree/release80>) the Remember Me Win10 project.

Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/PreemptiveLoginWin8/tree/release80>) the PreemptiveLogin Win8 project.

Click to download (<https://github.com/MobileFirst-Platform-Developer-Center/PreemptiveLoginWin10/tree/release80>) the PreemptiveLoginWin10 project.

## Sample usage

- Use either Maven or MobileFirst Developer CLI to build and deploy the available **ResourceAdapter** and **UserLogin** adapters (`../../creating-adapters/`).
- Ensure the sample is registered in the MobileFirst Server by running the command: `mfpdev app register` from a **command-line** window.
- Map the `accessRestricted` scope to the `UserLogin` security check:
  - In the MobileFirst Operations Console, under **Applications** → **[your-application]** → **Security** → **Map scope elements to security checks**, add a mapping from `accessRestricted` to `UserLogin`.
  - Alternatively, from the **Command-line**, navigate to the project's root folder and run the command: `mfpdev app push`.

Learn more about the `mfpdev app push/push` commands in the Using MobileFirst Developer CLI to manage MobileFirst artifacts (`../../using-the-mfpf-sdk/using-mobilefirst-developer-cli-to-manage-mobilefirst-artifacts`).