

# Adapter-based authentication in native iOS applications

## Overview

This tutorial explains how to implement the client-side of adapter-based authentication in native iOS.

**Prerequisite:** Make sure that you read the Adapter-based authentication (../) tutorial first.

## Implementing the client-side authentication

Create a native iOS application and add the MobileFirst native APIs as explained in the Configuring a native iOS application with the MobileFirst Platform SDK (../hello-world/configuring-a-native-ios-application-with-the-mfp-sdk/) tutorial.

## Storyboard

In your storyboard, add a view controller containing a login form.



## Challenge Handler

- Create a `MyChallengeHandler` class as a subclass of `ChallengeHandler`.

```
@interface MyChallengeHandler : ChallengeHandler
```

- Call the `initWithRealm` method:

### @implementation MyChallengeHandler

//...

```
-(id)init{  
    self = [self initWithRealm:@"AuthRealm"]  
    ;  
    return self;  
}
```

- Add implementation of the following `ChallengeHandler` methods to handle the adapter-based challenge:

#### 1. `isCustomResponse` method:

The `isCustomResponse` method is invoked each time a response is received from the MobileFirst Server. It is used to detect whether the response contains data that is related to this challenge handler. It must return either `true` or `false`.

```
-(BOOL) isCustomResponse:(WLResponse *)response {  
    if(response && response.responseJSON){  
        if ([response.responseJSON objectForKey:@"authStatus"] != nil)  
        {  
            return true;  
        }  
    }  
    return false;  
}
```

#### 2. `handleChallenge` method:

If `isCustomResponse` returns `true`, the framework calls the `handleChallenge` method. This function is used to perform required actions, such as hiding the application screen and showing the login screen.

```

-(void) handleChallenge:(WLResponse *)response {
    NSString* authStatus = (NSString*) [response.responseJSON objectForKey:@"authStatus"];
    if([authStatus isEqualToString:@"complete"]){
        [self.vc.navigationController popViewControllerAnimated:YES];
        [self submitSuccess:response];
    }
    else{
        // Check if login form is already visible />
        if([self.vc.navigationController.visibleViewController isKindOfClass:[LoginViewController class]]){>
            dispatch_async(dispatch_get_main_queue(), ^(void){
                LoginViewController* loginController = (LoginViewController*) self.vc.navigationController.visibleViewController;
                loginController.errorMsg.hidden = NO;
            });
        }
        else{
            [self.vc performSegueWithIdentifier:@"showLogin" sender:self.vc];
            dispatch_async(dispatch_get_main_queue(), ^(void){
                LoginViewController* loginController = (LoginViewController*) self.vc.navigationController.visibleViewController;
                loginController.challengeHandler = self;
                loginController.errorMsg.hidden = YES;
            });
        }
    }
}

```

### 3. **onSuccess** and **onFailure** methods:

At the end of the authentication flow, **onSuccess** or **onFailure** will be triggered. Call the **submitSuccess** method in order to inform the framework that the authentication process completed successfully and for the **onSuccess** handler of the invocation to be called. Call the **submitFailure** method in order to inform the framework that the authentication process failed and for the **onFailure** handler of the invocation to be called.

```

-(void) onSuccess:(WLResponse *)response {
    NSLog(@"Challenge succeeded");
    [self.vc.navigationController popViewControllerAnimated:YES];
    ;
    [self submitSuccess:response];
}
-(void) onFailure:(WLFailResponse *)response {
    NSLog(@"Challenge failed");
    [self submitFailure:response];<
}

```

In your login View Controller, when the user taps to submit the credentials, call the `submitAdapterAuthentication` method to send the credentials to the adapter procedure.

```
@implementation LoginViewController
//...
- (IBAction)login:(id)sender {
    WLProcedureInvocationData *myInvocationData = [[WLProcedureInvocationData alloc]
    <
        initWithAdapterName:@"AuthAdapter"
        procedureName:@"submitAuthentication"];
    myInvocationData.parameters = @[self.username.text, self.password.text];
    [self.challengeHandler submitAdapterAuthentication:myInvocationData options:nil];
}
```

## The Main ViewController

In the sample project, in order to trigger the challenge handler we use the `WLClient invokeProcedure` method.

The protected procedure invocation triggers MobileFirst Server to send the challenge.

- Create a `WLClient` instance and use the `connect` method to connect to the MobileFirst Server:

```
MyConnectListener *connectListener = [[MyConnectListener alloc] init];
[[WLClient sharedInstance] wlConnectWithDelegate:connectListener]
;
```

- In order to listen to incoming challenges, make sure to register the challenge handler by using the `registerChallengeHandler` method:

```
[[WLClient sharedInstance] registerChallengeHandler:[[MyChallengeHandler alloc] initWith
ViewController:self] ];<br />
```

- Invoke the protected adapter procedure:

```
NSURL* url = [NSURL URLWithString:@"~/adapters/AuthAdapter/getSecretData"];
WLResourceRequest* request = [WLResourceRequest requestWithURL:url method:WLHttp
MethodGet];
[request sendWithCompletionHandler:^(WLResponse *response, NSError *error) {
    ...
}];
```

## Sample application

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

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

Objective-C project.

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

- The `AdapterBasedAuth` project contains a MobileFirst native API that you can deploy to your MobileFirst server.
- The `AdapterBasedAuthObjC` and `AdapterBasedAuthSwift` projects contains a native iOS 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.

