MobileFirst Platform {dev}

Custom Authentication in native iOS applications

Relevant to:
Native iOS

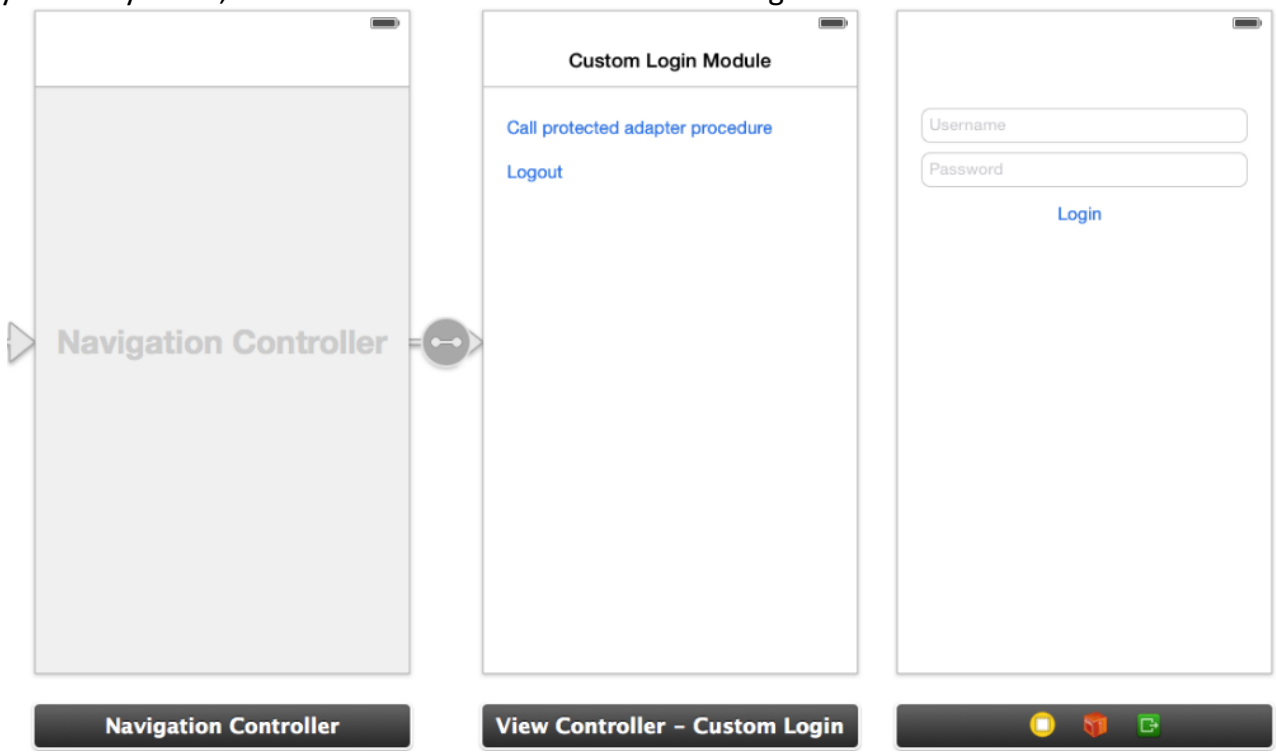
This tutorial explains how to implement the client side of a custom authenticator and login module in native iOS.
Prerequisite: Make sure that you read Custom Authentication first.

Implementing client-side authentication

Create a native iOS application and add the MobileFirst native APIs as explained in Configuring a native iOS application with the MobileFirst Platform SDK.

Storyboard

In your storyboard, add a ViewController that contains a login form.



Challenge handler

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

```
@interface MyChallengeHandler : ChallengeHandler
```

2. Call the `initWithRealm` method:

```
@implementation MyChallengeHandler
//...
```

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

3. Add the implementation of the following `ChallengeHandler` methods to handle the custom authenticator and login module 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`.

    ```
    @implementation MyChallengeHandler
    //...
    -(BOOL) isCustomResponse:(WLResponse *)response {
        if(response && [response getResponseJson]){
            if ([[response getResponseJson]
    objectForKey:@"authStatus"]) {
                NSString* authRequired = (NSString*) [[response
    getResponseJson] objectForKey:@"authStatus"];
                return ([authRequired compare:@"required"] ==
    NSOrderedSame);
            }
        }
        return false;
    }
    @end
    ```

    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.

    ```
    @implementation MyChallengeHandler
    //...
    -(void) handleChallenge:(WLResponse *)response {
        NSLog(@"A login form should appear");
        LoginViewController* loginController = [self.vc.storyboard
    instantiateViewControllerWithIdentifier:@"LoginViewController"];
        loginController.challengeHandler = self;
        [self.vc.navigationController
    pushViewController:loginController animated:YES];
    }
    @end
    ```

    3. **`onSuccess` and `onFailure` methods:**
    At the end of the authentication flow, calls to the `onSuccess` or `onFailure` methods are triggered.

    - Call the `submitSuccess` method to inform the framework that the authentication process completed successfully, so that the `onSuccess` handler of the invocation is called.
    - Call the `submitFailure` method to inform the framework that the authentication process failed, so that the `onFailure` handler of the invocation is called.

    ```
    @implementation MyChallengeHandler
    ```

```
//...
-(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];
}
```

submitLoginForm

In your login View Controller, when the user types to submit the credentials, call the `submitLoginForm` method to send the credentials to the MobileFirst Server.

```
@implementation LoginViewController
//...
- (IBAction)login:(id)sender {
    [self.challengeHandler
         submitLoginForm:@"/my_custom_auth_request_url"
         requestParameters:@{@"username": self.username.text,
@"password": self.password.text}
         requestHeaders:nil
         requestTimeoutInMilliSeconds:0
         requestMethod:@"POST"];
}
```

Registering the challenge handler

Before calling the protected adapter, in order to listen on incoming challenges, make sure to register the challenge handler by using the `registerChallengeHandler` method of the `WLClient` class.

```
[[WLClient sharedInstance] registerChallengeHandler:[[MyChallengeHandler
alloc] initWithViewController:self] ];
```

Worklight Protocol

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

- You can subclass your challenge handler by using `WLChallengeHandler` instead of `ChallengeHandler`. Note the `WL`.
- You no longer need to implement `isCustomResponse` because the challenge handler automatically checks that the realm name matches.
- The `handleChallenge` method receives the challenge as a parameter, not the entire response object.
- Instead of `submitLoginForm`, use `submitChallengeAnswer` to send your challenge response as a JSON object.

- You do not need to call `submitSuccess` or `submitFailure` because the framework will do it for you.

> For an example that uses `WorklightProtocolAuthenticator`, see the Remember Me tutorial or this video blog post.

Sample application

Click to download the MobileFirst project.

Click to download the Objective-C project.

Click to download the Swift project.

- The `CustomAuth` project contains a MobileFirst native API that you can deploy to your MobileFirst server.
- The `CustomAuthObjC` and `CustomAuthSwift` 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.