Adapter-based authentication in native iOS applications

fork and edit tutorial (https://github.ibm.com/MFPSamples/DevCenter/tree/master/tutorials/en/foundation/7.0/authentication-security/adapter-based-authentication/adapter-based-authentication-native-ios-applications.html) | report issue (https://github.ibm.com/MFPSamples/DevCenter/issues/new)

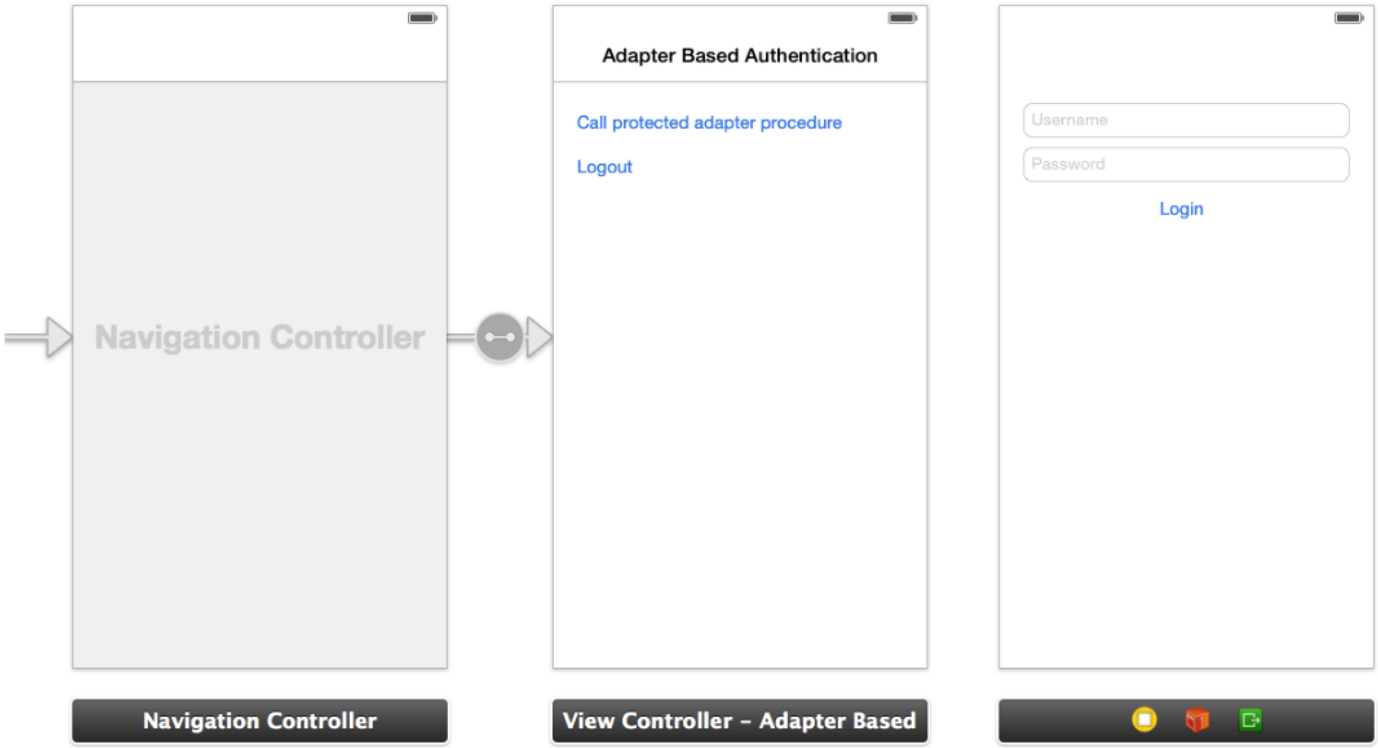
This tutorial explains how to implement the client-side of adapter-based authentication in native iOS.
Prerequisite: Make sure that you read Adapter-based authentication (../) first.

Implementing the 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 (../../../hello-world/configuring-a-native-ios-with-the-mfp-sdk/).

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:@"NativeAdapterBasedAuthRealm"]
;
    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`.

```
@implementation MyChallengeHandler
//...
-(BOOL) isCustomResponse:(WLResponse *)response {
    if(response && [response getResponseJson]){
        if ([[response getResponseJson] objectForKey:@"authRequired"]) {
            NSString* authRequired = (NSString*) [[response getResponseJson]
objectForKey:@"authRequired"];
            return [authRequired boolValue];
        }
    }
    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, `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.

```
@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];
}
```

submitAdapterAuthentication

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

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

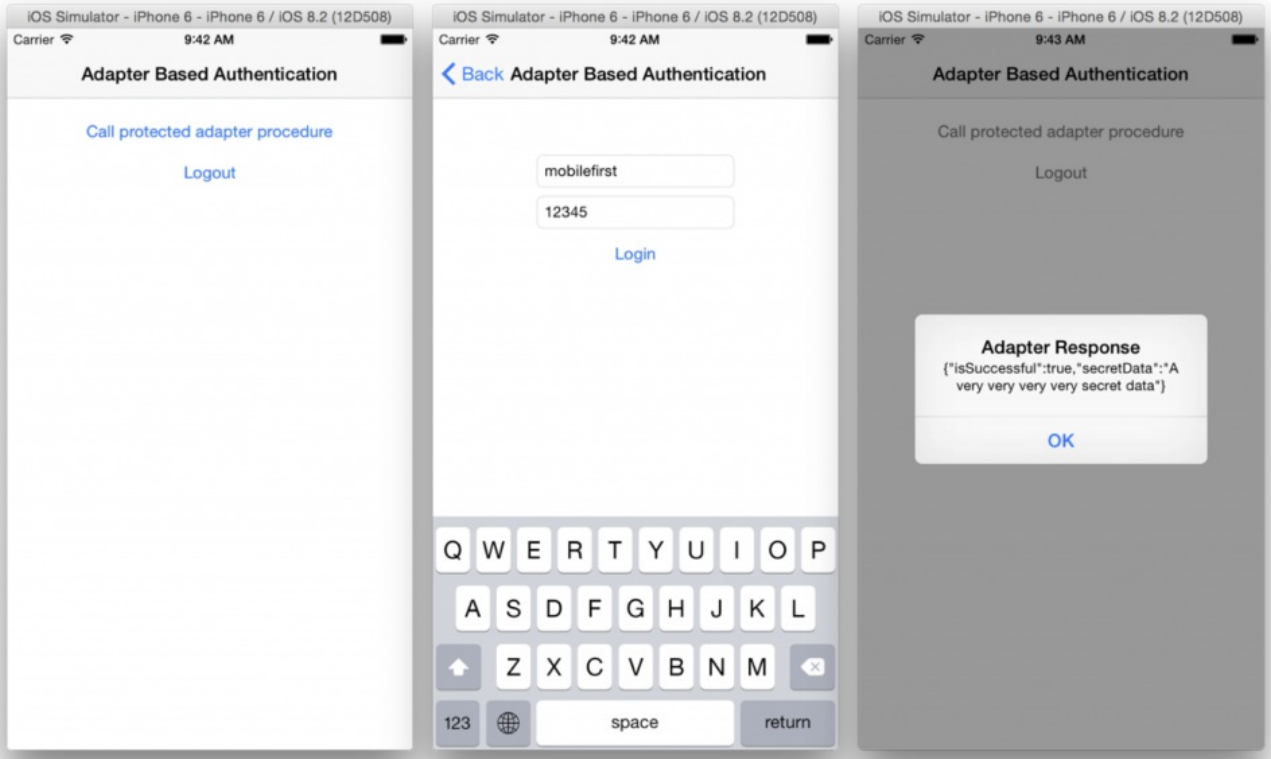
Registering the challenge handler

Before calling the protected adapter, in order to listen to 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] ];
```

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/iOSNativeAdapterBasedAuthProject.zip) the Obj-C project.
Click to download (http://public.dhe.ibm.com/software/products/en/MobileFirstPlatform/docs/v700/SwiftNativeAdapterBasedAuthProject.zip) the Swift project.


iOS Simulator - iPhone 6 - iPhone 6 / iOS 8.2 (12D508)
Carrier
9:42 AM
Adapter Based Authentication
Call protected adapter procedure
Logout
iOS Simulator - iPhone 6 - iPhone 6 / iOS 8.2 (12D508)
Carrier
9:42 AM
Back
Adapter Based Authentication
mobilefirst
12345
Login
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return
iOS Simulator - iPhone 6 - iPhone 6 / iOS 8.2 (12D508)
Carrier
9:43 AM
Adapter Based Authentication
Call protected adapter procedure
Logout
Adapter Response
{"isSuccessful":true,"secretData":"A very very very very secret data"}
OK