Handling Push Notifications in iOS

Overview

MobileFirst-provided Notifications API can be used in order to register & unregister devices, and subscribe & unsubscribe to tags. In this tutorial, you will learn how to handle push notification in iOS applications using Swift.

For information about Silent or Interactive notifications, see:

- Silent notifications (../silent)
- Interactive notifications (../interactive)

Prerequisites:

- Make sure you have read the following tutorials:
  - Push Notifications Overview (../../)
  - Setting up your MobileFirst development environment (../../../installation-configuration/#installing-a-development-environment)
  - Adding the MobileFirst Foundation SDK to iOS applications (../../../application-development/sdk/ios)
- MobileFirst Server to run locally, or a remotely running MobileFirst Server.
- MobileFirst CLI installed on the developer workstation

Jump to:

Notifications Configuration

Create a new Xcode project or use and existing one. If the MobileFirst Native iOS SDK is not already present in the project, follow the instructions in the Adding the MobileFirst Foundation SDK to iOS applications (../../../application-development/sdk/ios) tutorial.

Adding the Push SDK

1. Open the project's existing **podfile** and add the following lines:

```
use_frameworks!

platform :ios, 8.0
target "Xcode-project-target" do
   pod 'IBMMobileFirstPlatformFoundation'
   pod 'IBMMobileFirstPlatformFoundationPush'
end

post_install do |installer|
   workDir = Dir.pwd

   installer.pods_project.targets.each do |target|
      debugXcconfigFilename = "#{workDir}/Pods/Target Support Files/#{target}/#{target}.debug.xcc
onfig"
      xcconfig = File.read(debugXcconfigFilename)
      newXcconfig = xcconfig.gsub(/HEADER_SEARCH_PATHS = .*/, "HEADER_SEARCH_PATH
S = ")
      File.open(debugXcconfigFilename, "w") { |file| file << newXcconfig }

      releaseXcconfigFilename = "#{workDir}/Pods/Target Support Files/#{target}/#{target}.release.x
cconfig"
      xcconfig = File.read(releaseXcconfigFilename)
      newXcconfig = xcconfig.gsub(/HEADER_SEARCH_PATHS = .*/, "HEADER_SEARCH_PATH
S = ")
      File.open(releaseXcconfigFilename, "w") { |file| file << newXcconfig }
   end
end
```

    - Replace **Xcode-project-target** with the name of your Xcode project's target.
2. Save and close the **podfile**.
3. From a **Command-line** window, navigate into to the project's root folder.
4. Run the command `pod install`
5. Open project using the **.xcworkspace** file.

Notifications API

MFPPush Instance

All API calls must be called on an instance of `MFPPush`. This can be by created as a `var` in a view controller such as `var push = MFPPush.sharedInstance();`, and then calling `push.methodName()` throughout the view controller.

Alternatively you can call `MFPPush.sharedInstance().methodName()` for each instance in which you need to access the push API methods.

Challenge Handlers

If the `push.mobileclient` scope is mapped to a **security check**, you need to make sure matching **challenge handlers** exist and are registered before using any of the Push APIs.

> Learn more about challenge handlers in the credential validation (../../../authentication-and-security/credentials-validation/ios) tutorial.

Client-side

Swift Methods	Description
`initialize()`	Initializes MFPPush for supplied context.
`isPushSupported()`	Does the device support push notifications.
`registerDevice(completionHandler: ((WLResponse!, NSError!) -> Void)!)`	Registers the device with the Push Notifications Service.
`sendDeviceToken(deviceToken: NSData!)`	Sends the device token to the server
`getTags(completionHandler: ((WLResponse!, NSError!) -> Void)!)`	Retrieves the tag(s) available in a push notification service instance.
`subscribe(tagsArray: [AnyObject], completionHandler: ((WLResponse!, NSError!) -> Void)!)`	Subscribes the device to the specified tag(s).
`getSubscriptions(completionHandler: ((WLResponse!, NSError!) -> Void)!)`	Retrieves all tags the device is currently subscribed to.
`unsubscribe(tagsArray: [AnyObject], completionHandler: ((WLResponse!, NSError!) -> Void)!)`	Unsubscribes from a particular tag(s).
`unregisterDevice(completionHandler: ((WLResponse!, NSError!) -> Void)!)`	Unregisters the device from the Push Notifications Service

Initialization

Initialization is required for the client application to connect to MFPPush service.

- The `initialize` method should be called first before using any other MFPPush APIs.
- It registers the callback function to handle received push notifications.

```
MFPPush.sharedInstance().initialize();
```

Is push supported

Checks if the device supports push notifications.

```
let isPushSupported: Bool = MFPPush.sharedInstance().isPushSupported()

if isPushSupported {
    // Push is supported
} else {
    // Push is not supported
}
```

Register device & send device token

Register the device to the push notifications service.

```
MFPPush.sharedInstance().registerDevice({(options, response: WLResponse!, error: NSError!) -> Void
in
    if error == nil {
        // Successfully registered
    } else {
        // Registration failed with error
    }
})
```

Notes: `options` = `[NSObject : AnyObject]` which is an optional parameter that is a dictionary of options to be passed with your register request.

Sends the device token to the server to register the device with its unique identifier.

```
MFPPush.sharedInstance().sendDeviceToken(deviceToken)
```

Note: This is typically called in the **AppDelegate** in the `didRegisterForRemoteNotificationsWithDeviceToken` method

Get tags

Retrieve all the available tags from the push notification service.

```
MFPPush.sharedInstance().getTags({(response: WLResponse!, error: NSError!) -> Void in
    if error == nil {
        print("The response is: \(response)")
        print("The response text is \(response.responseText)")
        if response.availableTags().isEmpty == true {
            // Successfully retrieved tags as list of strings
        } else {
            // Successfully retrieved response from server but there where no available tags
        }
    } else {
        // Failed to receive tags with error
    }
})
```

Subscribe

Subscribe to desired tags.

```
var tagsArray: [AnyObject] = ["Tag 1" as AnyObject, "Tag 2" as AnyObject]

MFPPush.sharedInstance().subscribe(self.tagsArray, completionHandler: {(response: WLResponse!, err
or: NSError!) -> Void in
    if error == nil {
        // Subscribed successfully
    } else {
        // Failed to subscribe with error
    }
})
```

Get subscriptions

Retrieve tags the device is currently subscribed to.

```
MFPPush.sharedInstance().getSubscriptions({(response: WLResponse!, error: NSError!) -> Void in
    if error == nil {
        // Successfully received subscriptions as list of strings
    } else {
        // Failed to retrieve subscriptions with error
    }
})
```

Unsubscribe

Unsubscribe from tags.

```
var tags: [String] = {"Tag 1", "Tag 2"};

// Unsubscribe from tags
MFPPush.sharedInstance().unsubscribe(tags, completionHandler: {(response: WLResponse!, error: NSE
rror!) -> Void in
    if error == nil {
        // Unsubscribed successfully
    } else {
        // Failed to unsubscribe
    }
})
```

Unregister

Unregister the device from push notification service instance.

```
MFPPush.sharedInstance().unregisterDevice({(response: WLResponse!, error: NSError!) -> Void in
    if error == nil {
        // Unregistered successfully
    } else {
        self.showAlert("Error \(error.description)")
        // Failed to unregister with error
    }
})
```

Handling a push notification

Push notifications are handled by the native iOS framework directly. Depending on your application lifecyle, different methods will be called by the iOS framework.

For example if a simple notification is received while the application is running, **AppDelegate**'s `didReceiveRemoteNotification` will be triggered:

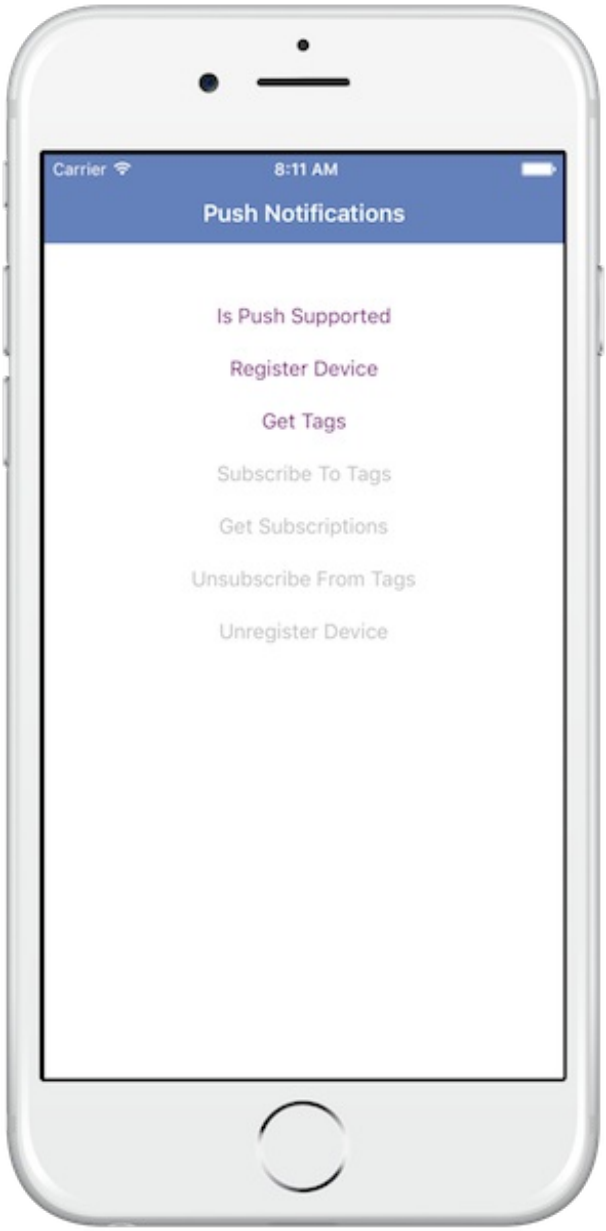
```
func application(application: UIApplication, didReceiveRemoteNotification userInfo: [NSObject : AnyObject]) {
    print("Received Notification in didReceiveRemoteNotification \(userInfo)")

    // display the alert body
    if let notification = userInfo["aps"] as? NSDictionary,
        let alert = notification["alert"] as? NSDictionary,
        let body = alert["body"] as? String {
            showAlert(body)
    }
}
```

> Learn more about handling notifications in iOS from the Apple documentation: http://bit.ly/1ESSGdQ

Sample application

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



Sample usage

Follow the sample's README.md file for instructions.

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