

iOS - Implementing Apache Cordova plugin

Overview

In some cases, developers of a MobileFirst application might have to use a specific third-party native library or a device function that is not yet available in Apache Cordova.

With Apache Cordova, developers can create an Apache Cordova plug-in, which means that they create custom native code blocks, and then call these code blocks in their applications by using JavaScript.

This tutorial demonstrates how to create and integrate a simple Apache Cordova plug-in for iOS, in the following topics:

- Creating a plug-in
- Declaring a plug-in
- Implementing `cordova.exec()` in JavaScript
- Implementing the Objective-C code of a Cordova plug-in
- Sample application

Note: In Cordova-based applications, developers must check for the `deviceready` event before they use the Cordova API set. In a MobileFirst application, however, this check is done internally.

Instead of implementing this check, you can place implementation code in the `wlCommonInit()` function in the `common\js\main.js` file.

Creating a plug-in

1. Declare the plug-in in the `config.xml` file.
2. Use the `cordova.exec()` API in the JavaScript code.
3. Create the plug-in class that will run natively in iOS.

The plug-in performs the required action and calls a JavaScript callback method that is specified during the call to `cordova.exec()` method.



Declaring a plug-in

You must declare the plug-in in the project, so that Cordova can detect it.

To declare the plug-in, add a reference to the `config.xml` file, located in the native folder of the iOS environment.

```

1 | <feature name="sayHelloPlugin"><br />
2 |   <param name="ios-package" value="sayHelloPlugin" /><br />
3 | </feature>
  
```

Implementing `cordova.exec()` in JavaScript

From the JavaScript code of the application, use the `cordova.exec()` method to call the Cordova plug-in:

```
1 function sayHello() {  
2     var name = $("#NameInput").val();  
3     cordova.exec(sayHelloSuccess, sayHelloFailure, "SayHelloPlugin", "sayHello", [name]);  
4 }
```

`sayHelloSuccess` - Success callback

`sayHelloFailure` - Failure callback

`SayHelloPlugin` - Plug-in name as declared in the `config.xml` file

`sayHello` - Action name

`[name]` - Parameters array

The plug-in calls the success and failure callbacks.

```
1 function sayHelloSuccess(data){  
2     WL.SimpleDialog.show(  
3         "Response from plug-in",  
4         data,  
5         [{text: "OK", handler: function() {WL.Logger.debug("Ok button pressed");}}]  
6     );  
7 }  
8  
9 function sayHelloFailure(data) {  
10    WL.SimpleDialog.show (  
11        "Response from plug-in",  
12        data,  
13        [{text: "OK", handler: function() {WL.Logger.debug("Ok button pressed");}}]  
14    );  
15 }
```

Implementing the Objective-C code of a Cordova plug-in

After you have declared the plug-in and the JavaScript implementation is ready, you can implement the Cordova plug-in.

Prerequisite: Ensure that the project is built in Eclipse and opened in the Xcode IDE.

Step 1

1. Add a new Cocoa Touch Class file, make sure that it is a subclass of `UIViewController`, and save it in the `Classes` folder of the Xcode project.
2. Import the `Cordova/CDV.h` header file and inherit the `CDVPlugin` class.
3. Declare the `SayHelloPlugin` signature.

```
1 #import <Foundation/Foundation.h>  
2 #import <Cordova/CDV.h>  
3  
4 @interface SayHelloPlugin : CDVPlugin  
5 - (void)sayHello:(CDVInvokedUrlCommand*)command;  
6 @end
```

Step 2

1. Implement the method. The `command` argument contains references to the parameters that are sent from JavaScript and callbacks:

```

1 | #import "SayHelloPlugin.h"
2 |
3 | @implementation SayHelloPlugin
4 | - (void)sayHello:(CDVInvokedUrlCommand*)command {

```

2. Write this statement to retrieve the parameters that are sent from JavaScript.

```

1 | NSString *responseString = [NSString stringWithFormat:@"Hello %@", [command.arguments objectAtIndex:0]];

```

3. The `pluginResult` object is created with data retrieved from JavaScript. The `CDVCommandStatus` parameter defines whether the plug-in call was successful or not.

```

1 | CDVPluginResult *pluginResult = [CDVPluginResult resultWithStatus:CDVCommandStatus_OK messageAsString:re

```



4. Use the `sendPluginResult` method to return a response back to JavaScript (invoke callback).

```

1 | [self.commandDelegate sendPluginResult:pluginResult callbackId:command.callbackId];
2 | }
3 | @end

```

Important note:

If you work with existing `.m` and `.h` files, reference them while you are working in Xcode.

Placing the `.m` and `.h` files only in the `iphone\native\Classes` folder in Eclipse is not sufficient, because these files are not referenced in the Xcode project unless they were added in Xcode.

Sample application

Click to download

(<http://public.dhe.ibm.com/software/products/en/MobileFirstPlatform/docs/v700/ApacheCordovaPluginsProject.zip>)
the Studio project.

