

# Windows Phone 8 - Implementing Cordova plug-ins

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## Overview

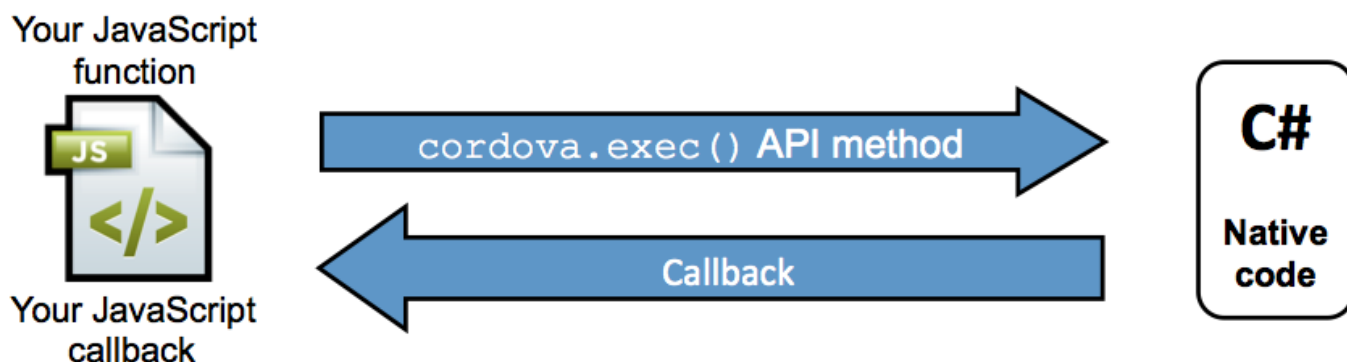
In some cases, developers of a MobileFirst application might have to use a specific third-party native library or a device function that is not yet available in Apache Cordova. With Apache Cordova, developers can create an Apache Cordova plug-in, which means that they create custom native code blocks, and call these code blocks in their applications by using JavaScript. In this tutorial, a simple Apache Cordova plug-in creation and integration for Windows Phone 8 will be demonstrated.

### 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, implementation code can be placed in the `wlCommonInit()` function in `common\js\main.js`. The below code blocks are based on the sample application, provided at the bottom of this tutorial.

### Plug-in creation overview:

- Declare the plug-in in the config.xml file
- Use the `cordova.exec()` API in the JavaScript code
- Create the plug-in class that will run natively in Windows Phone 8
- The plug-in performs the required action and calls a JavaScript callback method that is specified during the call to `cordova.exec()`



## Declaring a plug-in

The plug-in needs to be declared 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 Windows Phone 8 environment.

```

<feature name="sayHelloPlugin">
  <param name="wp-package" value="sayHelloPlugin" />
</feature>
  
```

## Implementing cordova.exec() in JavaScript

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

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

`sayHelloSuccess` - Success callback `sayHelloFailure` - Failure callback `SayHelloPlugin` - Plug-in name as declared in config.xml `sayHello` - Action name `[name]` - Parameters array The plug-in calls the `success` and `failure` callbacks.

```
function sayHelloSuccess(data){  
    WL.SimpleDialog.show(  
        "Response from plug-in", data,  
        [{text: "OK", handler: function() {WL.Logger.debug("Ok button pressed");}}]  
    );  
}  
  
function sayHelloFailure(data){  
    WL.SimpleDialog.show(  
        "Response from plug-in", data,  
        [{text: "OK", handler: function() {WL.Logger.debug("Ok button pressed");}}]  
    );  
}
```

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

After the plug-in is declared, and the JavaScript implementation is ready, the Cordova plug-in can be implemented. For this purpose, ensure that the project is built in Eclipse and opened in the Visual Studio IDE.

### Step 1

- Create a new C# class
- Add the new class to your project namespace and add the required import statements.

```
using System;  
using System.Collections.Generic;  
using System.Linq;  
using System.Text;  
using System.Threading.Tasks;  
  
using WPCordovaClassLib.Cordova;  
using WPCordovaClassLib.Cordova.Commands;  
using WPCordovaClassLib.Cordova.JSON;  
  
namespace Cordova.Extension.Commands  
{  
    public class SayHelloPlugin : BaseCommand  
    {  
    }
```

### Step 2

Implement the `SayHelloPlugin` class and the `sayHello` method.

- The JavaScript wrapper calls the `sayHello` method and passes a single parameter. It returns a string back to JavaScript.

```
public void sayHello(string options)
{
    string optVal = null;
    try {
        optVal = JsonHelper.Deserialize<string[]>(options)[0];
    }
    catch (Exception) {
        DispatchCommandResult(new PluginResult(PluginResult.Status.ERROR, "SayHelloPlugin
signaled an error"));
    }
}
```

- The `DispatchCommandResult` method returns the result to JavaScript, whether success or failure.

```
if (optVal == null)
{
    DispatchCommandResult(new PluginResult(PluginResult.Status.ERROR, "Got null value
as input"));
}
else
{
    DispatchCommandResult(new PluginResult(PluginResult.Status.OK, "Hello " + optVal));
}
}
```

## Sample application

Click to download

(<http://public.dhe.ibm.com/software/products/en/MobileFirstPlatform/docs/v630/ApacheCordovaPluginsProject.zip>)  
the Studio project.

