

IBM Worklight V6.1.0 Getting Started

Using IBM Worklight API in native iOS applications



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Agenda

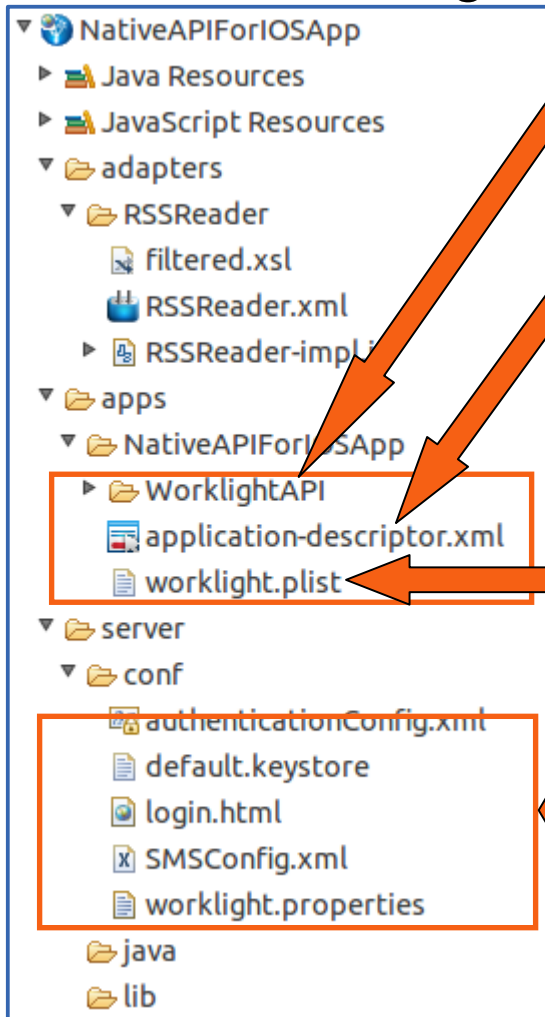
- Creating an IBM Worklight native API
- Creating and configuring an iOS native application
- Initializing the WLClient
- Invoking an IBM Worklight procedure
- Receiving a procedure response

Creating an IBM Worklight native API (1 of 4)

- IBM Worklight® provides the ability for native iOS applications to communicate with a Worklight Server by using the IBM Worklight native API library.
- To serve a native iOS application, the Worklight Server must be aware of it.
- You can find the IBM Worklight native API folder in the application folder of your IBM Worklight project.
- The IBM Worklight native API folder contains a native API library and configuration file that you must copy to your native iOS project.
- The native application contains the **application-descriptor.xml** file, where you can configure the application metadata. The native application is deployed to the server.
- In this module, you learn how to create an IBM Worklight native API and how to use its components in your native iOS application.

Creating an IBM Worklight native API (2 of 4)

- The IBM Worklight native API contains several components:



The `worklightAPI` folder is an IBM Worklight API library that you must copy to your native iOS project.

You use the `application-descriptor.xml` file to define application metadata and to configure security settings that the Worklight Server enforces.

The `worklight.plist` file contains connectivity settings that a native iOS application uses. You must copy this file to your native iOS project.

Like with any Worklight project, you create the server configuration by modifying files that are in the `server\conf` folder.

Creating an IBM Worklight native API (3 of 4)

1. In Worklight Studio, create a Worklight project, and add an IBM Worklight Native API.
2. In the **New Worklight Native API** dialog, enter your application name, and select **iOS** for the **Environment** field.
3. Right-click the **IBM Worklight native app** folder and select **Run As > Deploy Native API**.

Creating an IBM Worklight native API (4 of 4)

- Edit the `worklight.plist` file that holds the server configuration:

Key	Type	Value
Root	Dictionary	(8 items)
protocol	String	http
host	String	9.184.234.241
port	String	10080
wlServerContext	String	/NativeAPIForIOSApp/
application id	String	NativeAPIForIOSApp
application version	String	1.0
environment	String	iOSnative
wlUid	String	wY/mbnwKTDDYQUvuQCdSgg==

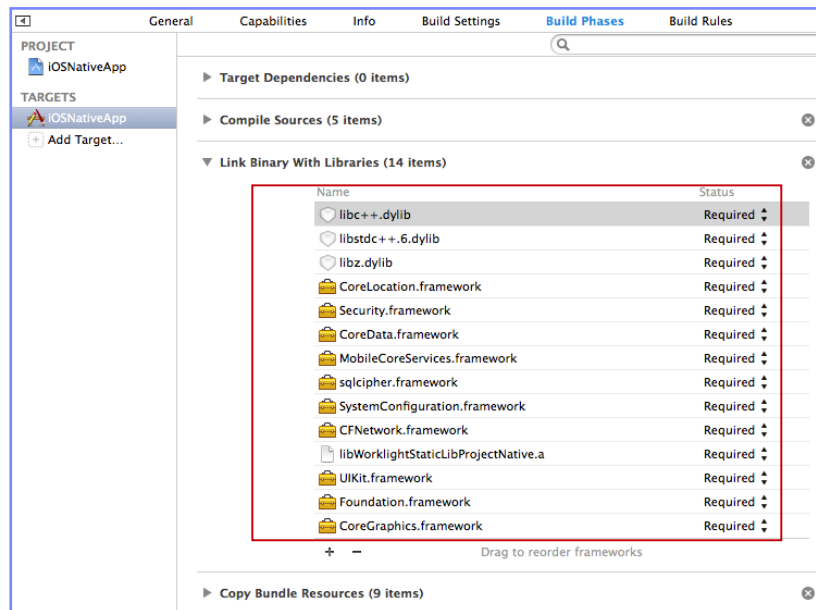
- *protocol* – The communication protocol to the Worklight Server, which is either `http` or `https`.
- *host* – The hostname of the Worklight Server.
- *port* – The port of the Worklight Server.
- *wlServerContext* – The context root path of the application on the Worklight Server.
- *application id* – The application ID as defined in the `application-descriptor.xml` file.
- *application version* – The application version.
- *environment* – The target environment of the native application (Android or iOS).

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Creating and configuring an iOS native application

- Create an Xcode project or use an existing one.
- Copy the `worklightAPI` folder and the `worklight.plist` file from the Eclipse Worklight native API to the root of your native project.
- Link the following libraries in your native iOS application: `CFNetwork.framework`, `SystemConfiguration.framework`, `MobileCoreServices.framework`, `CoreData.framework`, `Security.framework`, `libz.dylib`, `sqlcipher.framework`, `libc++.dylib`, `libstdc++.6.dylib`, and `CoreLocation.framework`.



Creating and configuring an iOS native application

- In the **Build Settings**:
 1. Add the following entry:
`$(SRCROOT)/WorklightSDK/include` for
`HEADER_SEARCH_PATH`
 2. In the **Other Linker Flags** field, enter the following value:
`-ObjC`
 3. In the **Deployment** section, select a value for the **iOS Deployment Target** field that is greater than or equal to 5.0.

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- **Initializing the WLClient**
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Initializing the WLClient (1 of 3)

- Access the WLClient functionality by using `[WLClient sharedInstance]` anywhere in your application.
- Initiate the connection to the server by using the `wlConnectWithDelegate` method.
- For most actions, you must specify a delegate object, such as a `MyConnectListener` instance in the following example:

```
MyConnectListener *connectListener = [[MyConnectListener alloc] initWithController:self];  
[[WLClient sharedInstance] wlConnectWithDelegate:connectListener];  
[connectListener release];
```

- You learn how to create it in subsequent slides.
- Remember to import `WLClient.h` and `WLDelegate.h` in your header file.

Initializing the WLClient (2 of 3)

- As described on the previous slide, you must supply a connection delegate (listener) to the Worklight Server invocation methods.
- Create a delegate to be used in the `wlConnectWithDelegate` method and receive the response from the Worklight Server. Name the class `MyConnectListener`.
- The header file must specify that it implements the `WLDelegate` protocol.

```
#import <Foundation/Foundation.h>
#import "WLClient.h"
#import "WLDelegate.h"
#import "ViewController.h"

@interface MyConnectListener : NSObject <WLDelegate> {
    @private
    ViewController *vc;
}

- (id)initWithController: (ViewController *)mainView;
@end
```

- The `WLDelegate` protocol specifies that the class implements the following methods:
 - The `onSuccess` method: `(WLResponse *)response`
 - The `onFailure` method: `(WLFailResponse *)response`

Initializing the WLClient (3 of 3)

- After `wlConnectWithDelegate` finishes, the `onSuccess` method or the `onFailure` method of the supplied `MyConnectListener` instance is invoked.
- In both cases, the response object is sent as an argument.
- Use this object to operate data that is retrieved from the server.

```
-(void)onSuccess:(WLResponse *)response{
    NSLog(@"\nConnection Success: %@", response);
    NSString *resultText = @"Connection success. ";

    if ([response responseText] != nil){
        resultText = [resultText stringByAppendingString:[response responseText]];
    }
    [vc updateView:resultText];
}

-(void)onFailure:(WLFailResponse *)response{
    NSString *resultText = @"Connection failure. ";

    if ([response responseText] != nil){
        resultText = [resultText stringByAppendingString:[response responseText]];
    }
    [vc updateView:resultText];
}
```

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Invoking an IBM Worklight procedure

- To invoke a procedure, use the following steps:
 - Create a `WLProcedureInvocationData` object and specify the adapter name and the procedure name.
 - Invoke the procedure by using the shared instance of the `WLClient`.

```
WLProcedureInvocationData *myInvocationData = [[WLProcedureInvocationData alloc]
        initWithAdapterName:@"RSSReader" procedureName:@"getFeeds"];
MyInvokeListener *invokeListener = [[MyInvokeListener alloc] initWithController:self];
[[WLClient sharedInstance] invokeProcedure:myInvocationData withDelegate:invokeListener];
[invokeListener release];
```

- As previously stated, you must supply a delegate object to manage the retrieved data.
 - See subsequent slides to learn how to create this object.

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Receiving a procedure response (1 of 3)

- When the procedure invocation is complete, a delegate method of `MyInvokeListener` class instance is called.
- Any delegate header file must specify that it complies with a `WLDelegate` protocol.

```
#import <Foundation/Foundation.h>
#import "WLClient.h"
#import "WLDelegate.h"
#import "ViewController.h"

@interface MyInvokeListener : NSObject <WLDelegate> {
```

Receiving a procedure response (2 of 3)

- After the procedure invocation finishes, the `onSuccess` method or the `onFailure` method of the supplied `MyInvokeListener` instance is called.
- In both cases, a response object is sent as an argument.
- Use this object to operate data that is retrieved from the server.

```
-(void)onSuccess:(WLResponse *)response {
    NSLog(@"Invocation Success: %@", response);
    NSString *resultText = @"Invocation success. ";

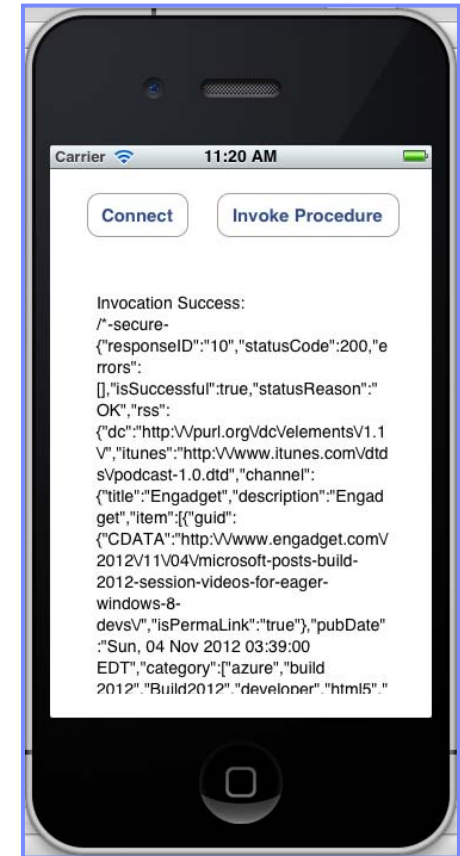
    if ([response responseText] != nil){
        resultText = [resultText stringByAppendingString:[response responseText]];
    }
    [vc updateView:resultText];
}

-(void)onFailure:(WLFailResponse *)response{
    NSLog(@"Invocation Failure: %@", response);
    NSString *resultText = @"Invocation failure. ";

    if ([response responseText] != nil){
        resultText = [resultText stringByAppendingString:[response responseText]];
    }
    [vc updateView:resultText];
}
```

Receiving a procedure response (3 of 3)

- You can find the sample for this training module in the Getting Started page of the IBM Worklight documentation website at <http://www.ibm.com/mobile-docs>.
- The sample contains two projects:
 - The `NativeAPIForIOS.zip` file contains an IBM Worklight native API that you can deploy to your Worklight server.
 - The `iOSNativeApp.zip` file contains a native iOS application that uses an IBM Worklight native API library to communicate with the Worklight Server.
- Make sure to update the `worklight.plist` file in `iOSNativeApp` with the relevant server settings.



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