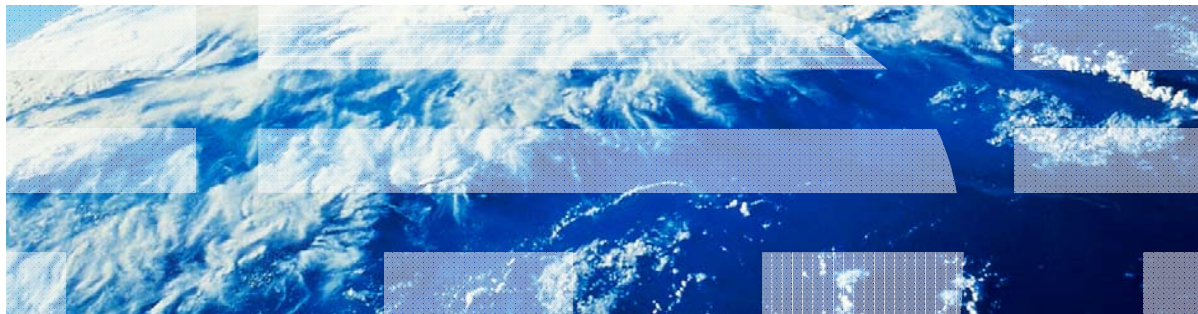


# ***IBM Worklight V5.0.6 Getting Started***

## Using Worklight API in native iOS applications



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# Agenda

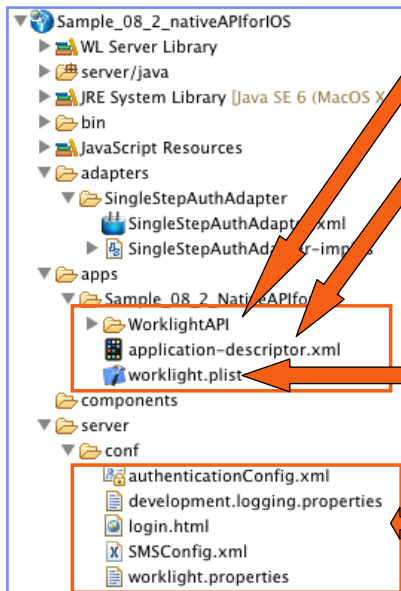
- Creating a Worklight native API
- Create and configure an iOS native application
- Initializing the WLClient
- Invoking a Worklight procedure
- Receiving a procedure response

## *Creating a Worklight native API*

- IBM Worklight® provides 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.
- The Worklight native API is located under the `apps` folder of your Worklight project.
- The Worklight native API folder serves two purposes:
  - It contains a native API library and configuration file that must be copied to your native iOS project.
  - It contains the **application-descriptor.xml** file, which you deploy to a Worklight server as an entry point, similar to a Worklight application.
- In this module, you learn how to create a Worklight native API and how to use its components in your native iOS application.

## Creating a Worklight native API

- Worklight native API contains several components:



The **WorklightAPI** folder is a Worklight API library that must be copied to your native iOS project.

The **application-descriptor.xml** file is used to define application metadata and to configure security settings to be enforced by a Worklight server.

The **Worklight.plist** file contains connectivity settings to be used by a native iOS application. This file must be copied to your native iOS project.

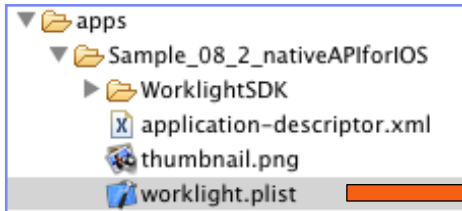
Like with any Worklight project, you create the server configuration by modifying files under the **server\conf** folder

## ***Creating a Worklight native API***

1. In Worklight Studio, create a Worklight project, and add a 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 Worklight native API folder and select **Run As → Deploy Native API**.

## Creating a Worklight native API

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



Key	Type	Value
protocol	String	http
host	String	9.148.23.13
port	String	8080
wlServerContext	String	/
application id	String	Sample_08_2_nativeAPIforiOS
application version	String	1.0
environment	String	iosnative

- **protocol** – The communication protocol to the Worklight server can be 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).

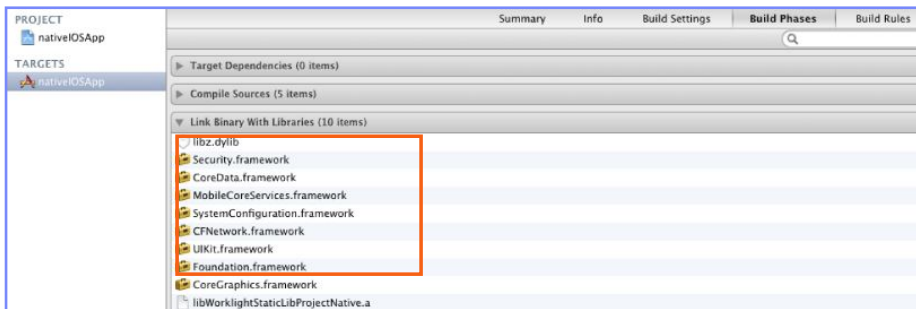
## Agenda

- Creating a Worklight native API
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## Create and configure 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, SystemConfiguration, MobileCoreServices, CoreData, Security, libz.dylib.



## Agenda

- Creating a Worklight native API
- Create and configure an iOS native application
- **Initializing the WLClient**
- Invoking a Worklight procedure
- Receiving a procedure response

## Initializing the WLCClient

- Access the WLCClient functionality by using [WLCClient sharedInstance] anywhere in your application.
- Initiate the connection to the server by using 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];  
[[WLCClient sharedInstance] wlConnectWithDelegate:connectListener];  
[connectListener release];
```

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

## Initializing the WLClient

- As described on a previous slide, you must supply a connection delegate (listener) to 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 (WLResponse \*)response***
  - The onFailure (WLFailResponse \*)response***

## Initializing the WLClient

- 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 are retrieved from 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];
}
```

## Agenda

- Creating a Worklight native API
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## Invoking a 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.

## Agenda

- Creating a Worklight native API
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## Receiving a procedure response

- When the procedure invocation is complete, a delegate method of MyInvokeListener class instance is called.
- Remember: 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

- 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 are retrieved from server

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

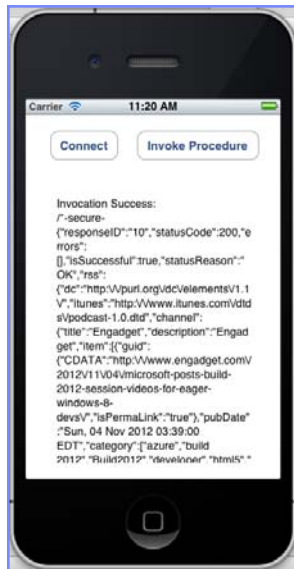
    if ([response responseText] != nil){
        resultText = [resultText stringByAppendingString:[response responseText]];
    }
    [vc updateview:resultText];
}

-(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

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



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