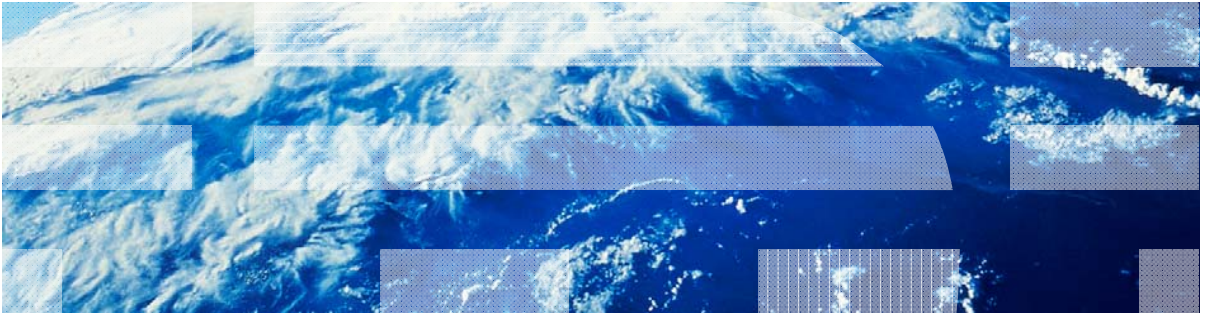


# ***IBM Worklight V5.0.6 Getting Started***

## **Apache Cordova overview**



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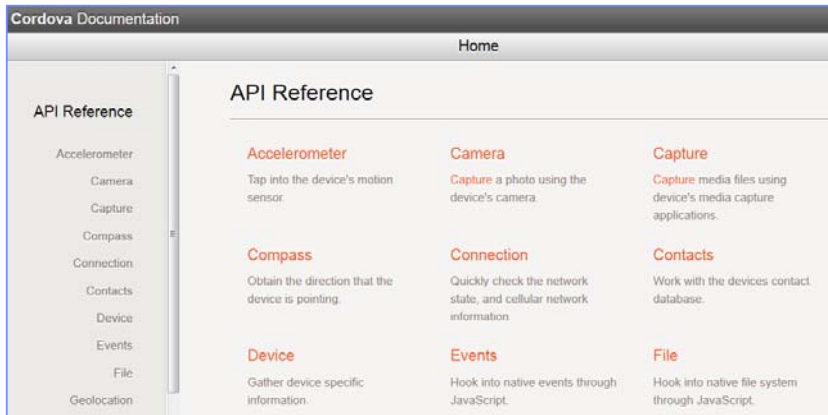
- See <http://www.ibm.com/ibm/us/en/>

# Agenda

- What is Apache Cordova?
- Apache Cordova in iOS and Android projects
- Apache Cordova usage samples
- Using native pages in hybrid applications
- Extending hybrid functionality with Cordova plug-ins

# What is Apache Cordova?

- Apache Cordova is an open source mobile development framework
- Cordova provides a JavaScript™ API that allows developers to access native mobile device features and even execute native code by using JavaScript
- The Cordova framework is integrated into IBM Worklight® iOS and Android projects

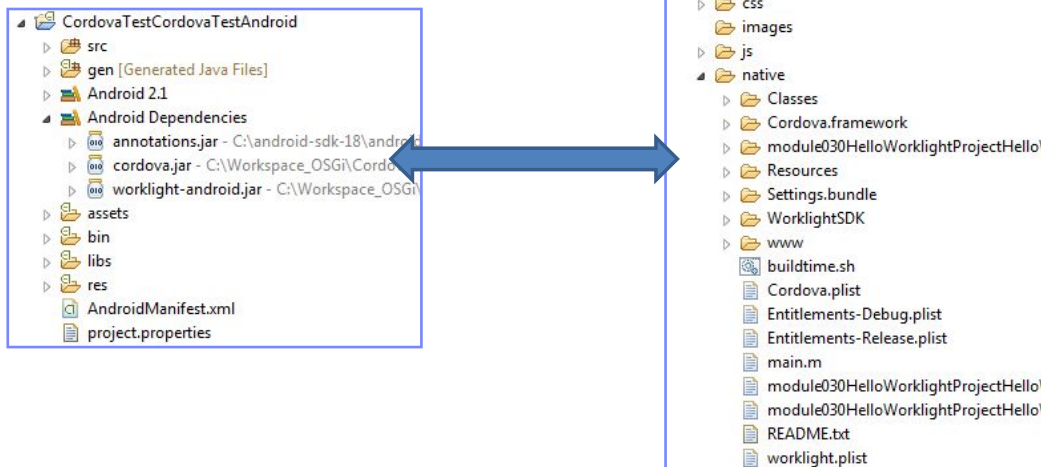


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## Apache Cordova in iOS and Android Projects

- The Cordova framework is automatically added into Worklight iOS and Android projects



- A developer can start it using the JavaScript API

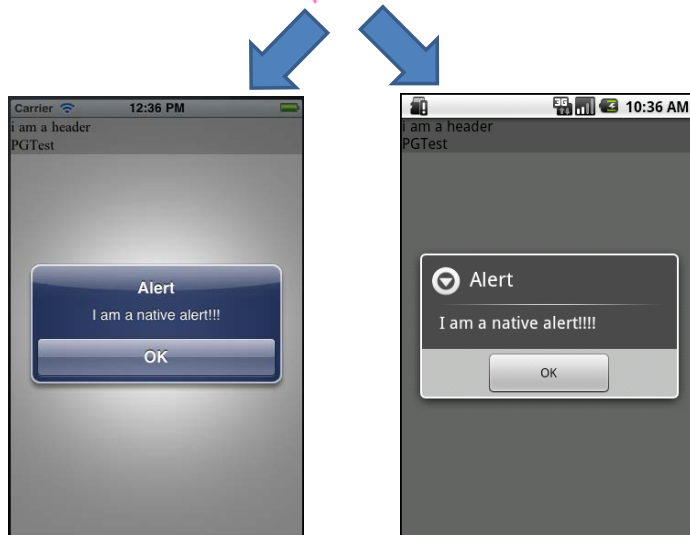
## Agenda

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## Apache Cordova usage samples

- Calling a native alert notification from JavaScript on iOS and Android devices

```
navigator.notification.alert("I am a native alert!!!!", null);
```

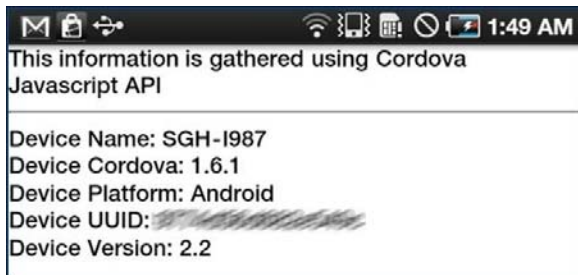
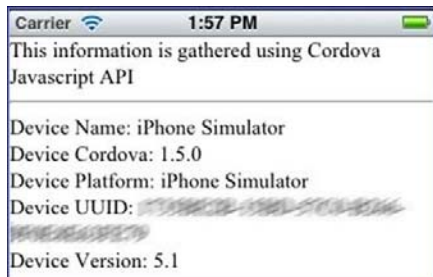
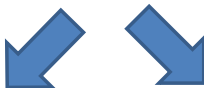




## Apache Cordova usage samples

- Getting device hardware and software information

```
element.innerHTML = 'This information is gathered using Cordova Javascript API<hr />' +  
    'Device Name: ' + device.name + '<br />' +  
    'Device Cordova: ' + device.cordova + '<br />' +  
    'Device Platform: ' + device.platform + '<br />' +  
    'Device UUID: ' + device.uuid + '<br />' +  
    'Device Version: ' + device.version + '<br />';
```



## ***Apache Cordova usage samples***

- For detailed documentation and samples see:
  - Apache Cordova website - <http://cordova.apache.org/>
  - Apache Cordova Wiki - <http://wiki.apache.org/cordova/>
  - Running the Dojo Mobile-based Apache Cordova sample

## Agenda

- What is Apache Cordova?
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## Using native pages in hybrid applications

- You can do a lot with web technologies only
- Apache Cordova provides greater flexibility, allowing JavaScript access to native phone features
- However, there are still cases where web technologies are not enough
- For example:
  - Augmented reality
  - Barcode scanner
  - Opening a native contacts page

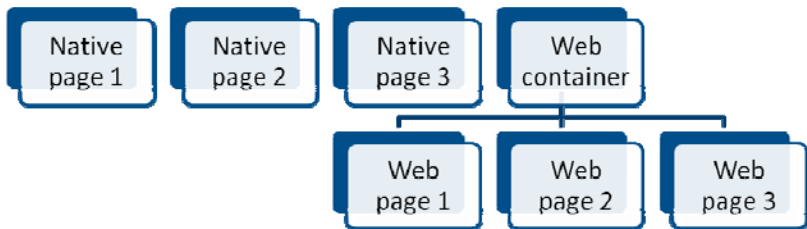


## ***Using native pages in hybrid applications***

- IBM Worklight provides ways to augment your web application with native pages
- By using Worklight hybrid coding, you can perform the following functions:
  - Navigate freely between web and native pages
  - Share data between pages
  - Share a single server session
  - Implement your own functions by creating Apache Cordova plugins
- Adding native pages to your web application is available out-of-the box for iOS and Android platforms

## Using native pages in hybrid applications

- A developer writes one or more native pages
- A developer writes one or more web pages
- The Worklight web API allows navigation to native pages and back including the passing of data back and forth
- IBM Worklight provides a native API to communicate with the Worklight Server from the native page
- Cookies are shared between web and native, allowing seamless client-server integration



## Using native pages in hybrid applications

- JavaScript API to activate native page

```
WL.NativePage.show(className, callback, data);
```

- The web page invokes the native class `className`, with the parameter `data` and calls the callback function on return
- Example:

```
WL.NativePage.show( "com.demo.NativePage",  
                    function(data) {  
                        demoApplication.returnFromNative (data)  
                    },  
                    {  
                        inputData : "Hello"  
                    }  
);
```

- The following training modules explain how to integrate native pages in hybrid applications

## Agenda

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## ***Extending hybrid functionality with Cordova plug-ins***

- In some cases, you do not require to have a native page but do want to perform some actions in a native code
- Examples might be
  - Retrieving device's data that is not available on JavaScript level, for example, certificates from keystore
  - Using native third party library that is embedded in application
  - Performing complex calculation or encryption that takes too much time in JavaScript.
- The solution for such UI-less native functionality is to implement a Cordova Plug-in
- The following training modules explain how to add native functionality to hybrid applications

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