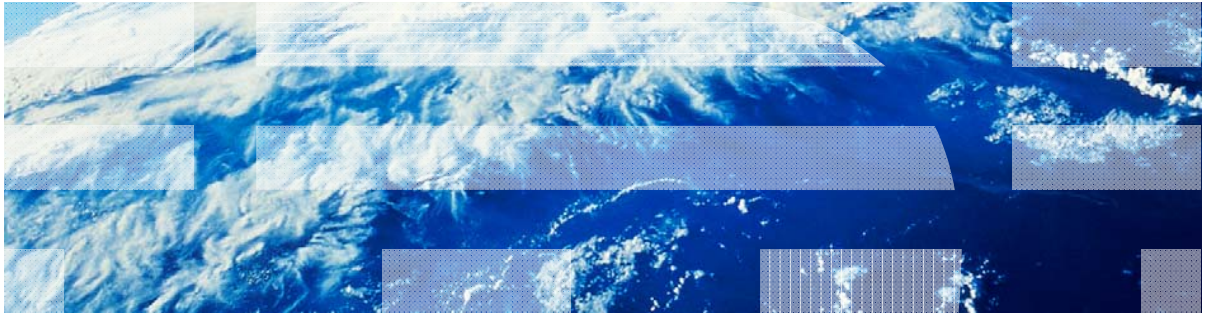


IBM Worklight V6.0.0 Getting Started

Apache Cordova overview



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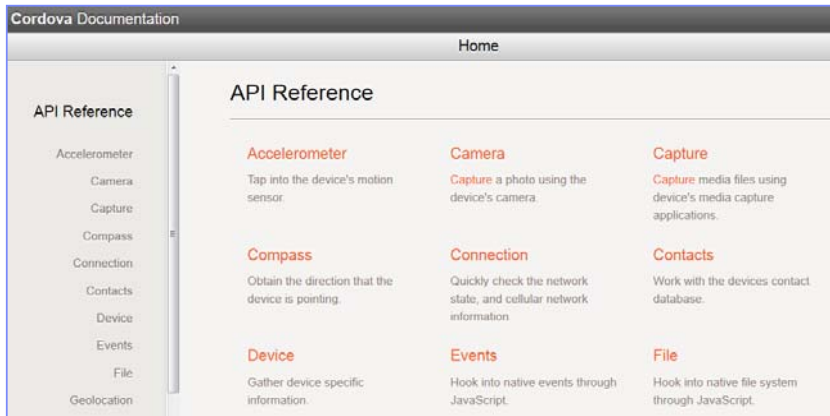
- See <http://www.ibm.com/ibm/us/en/>

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.

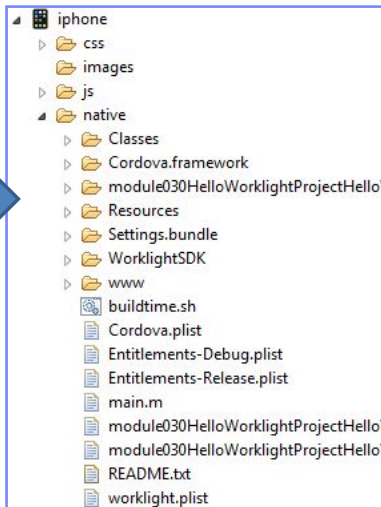
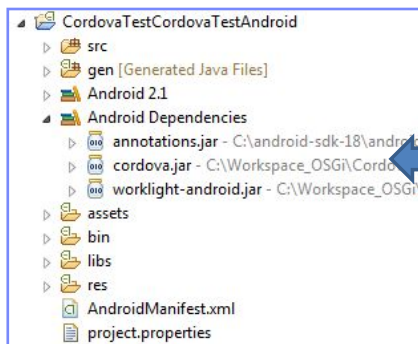


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Apache Cordova in iOS and Android Projects

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



- A developer can start it by using the JavaScript API.

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Apache Cordova usage samples

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

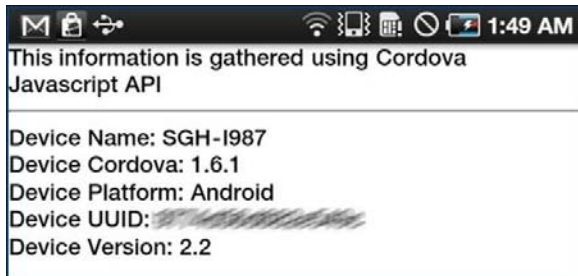
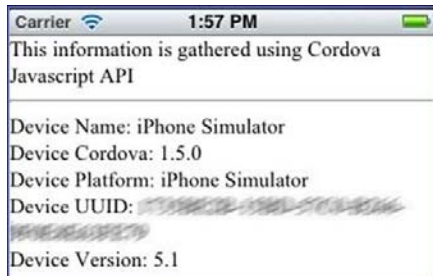
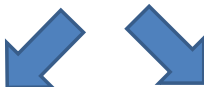
```
navigator.notification.alert("I am a native alert!!!!", null);
```



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

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Using native pages in hybrid applications (1 of 4)

- 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

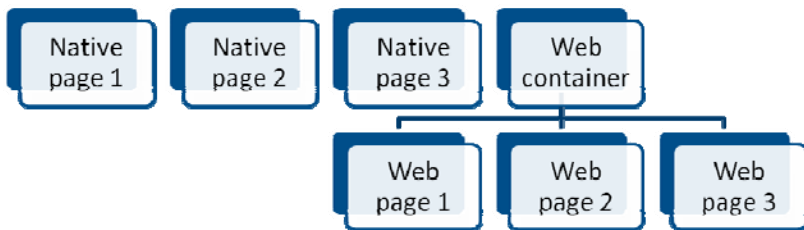


Using native pages in hybrid applications (2 of 4)

- 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 (3 of 4)

- 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 (4 of 4)

- 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

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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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