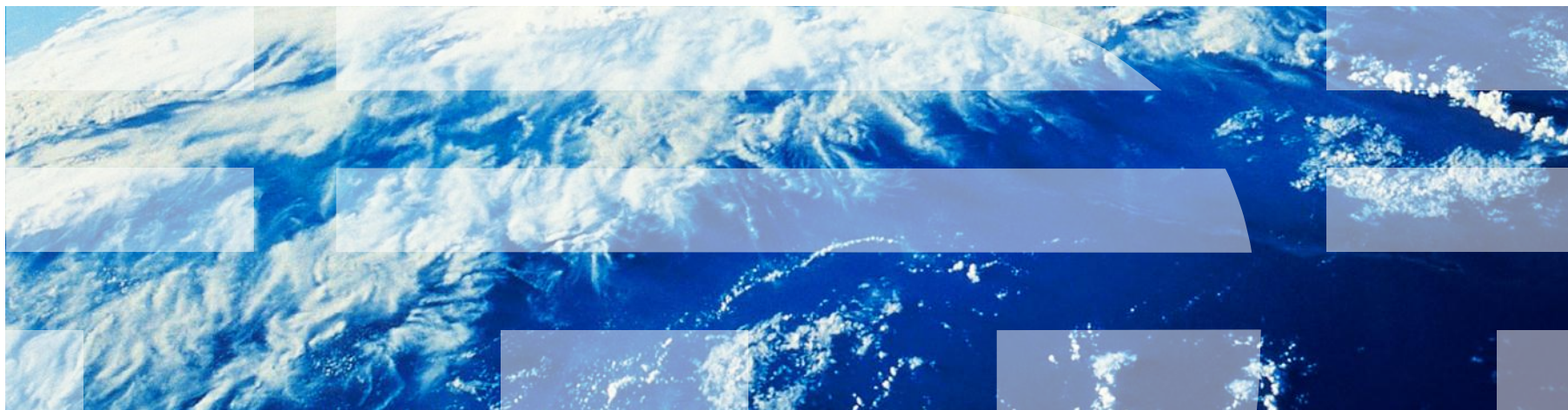


IBM Worklight Foundation V6.2.0 Getting Started

Apache Cordova overview



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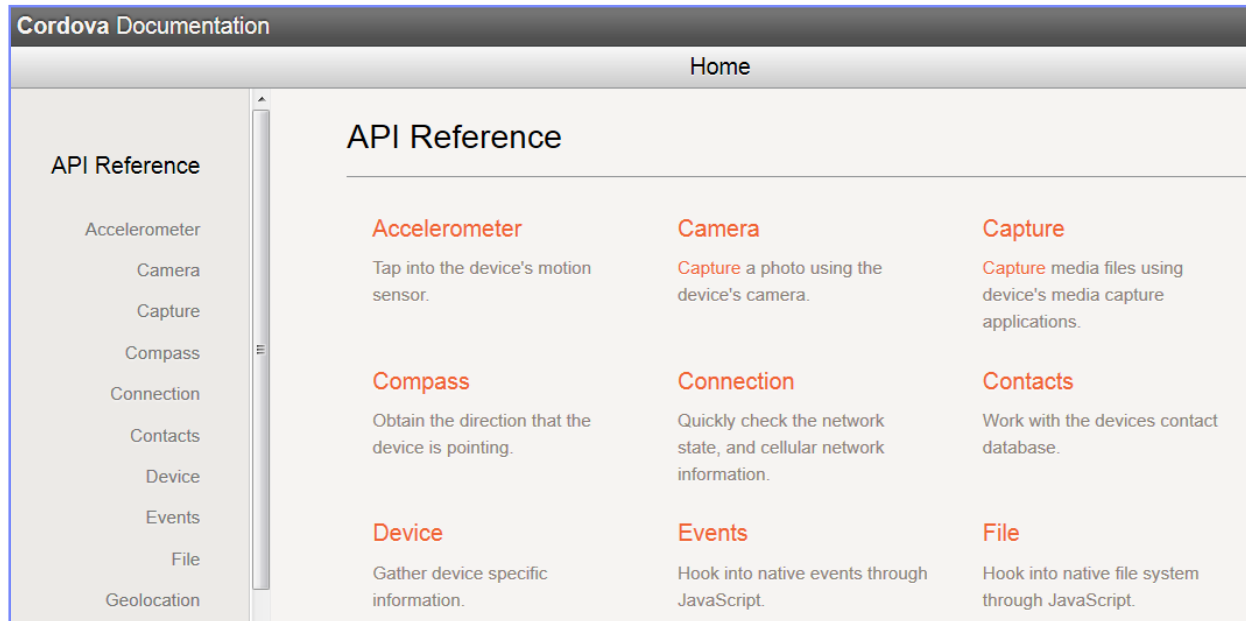
- See <http://www.ibm.com/ibm/us/en/>

Agenda

- **What is Apache Cordova?**
- Apache Cordova in Worklight Foundation 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 framework for mobile development.
- With the JavaScript™ API provided by Cordova, developers can access native mobile device features, and even execute native code by using JavaScript.
- The Cordova framework is integrated into all Mobile environments in IBM Worklight® Foundation (iOS, Android, Windows Phone 8, Windows 8 and BlackBerry 10).

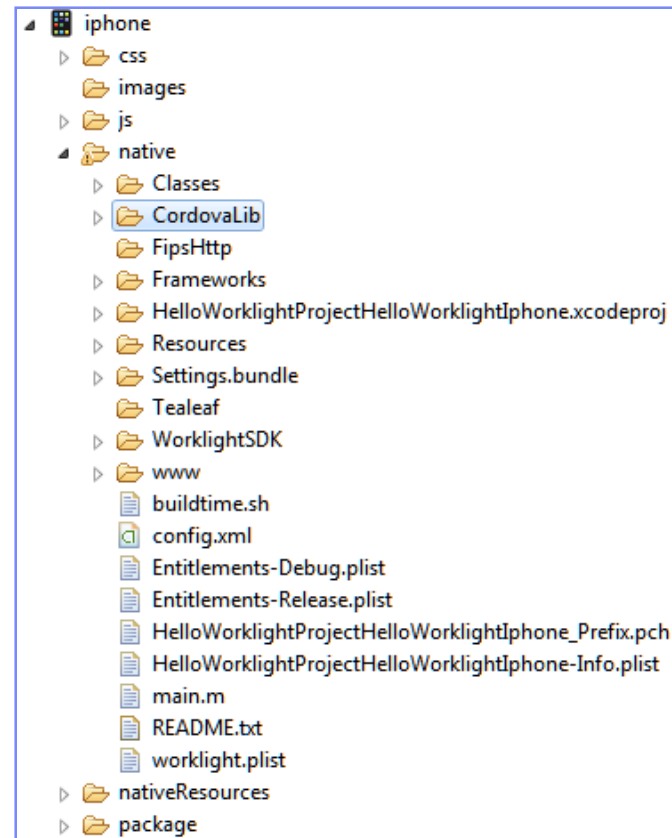
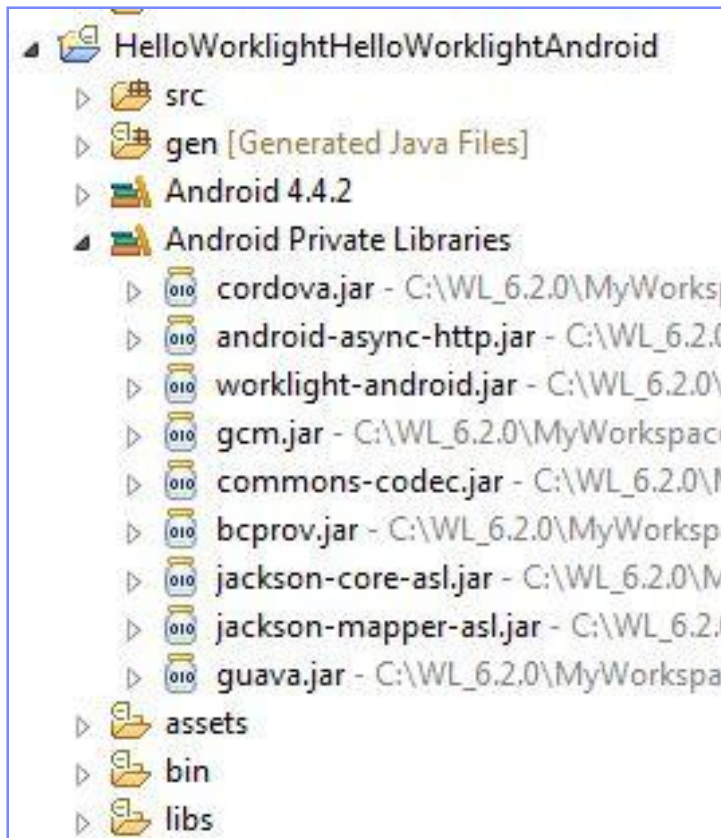


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Apache Cordova in Worklight Foundation Projects

- The Cordova framework is automatically added to the Worklight projects, for example in iOS and Android:



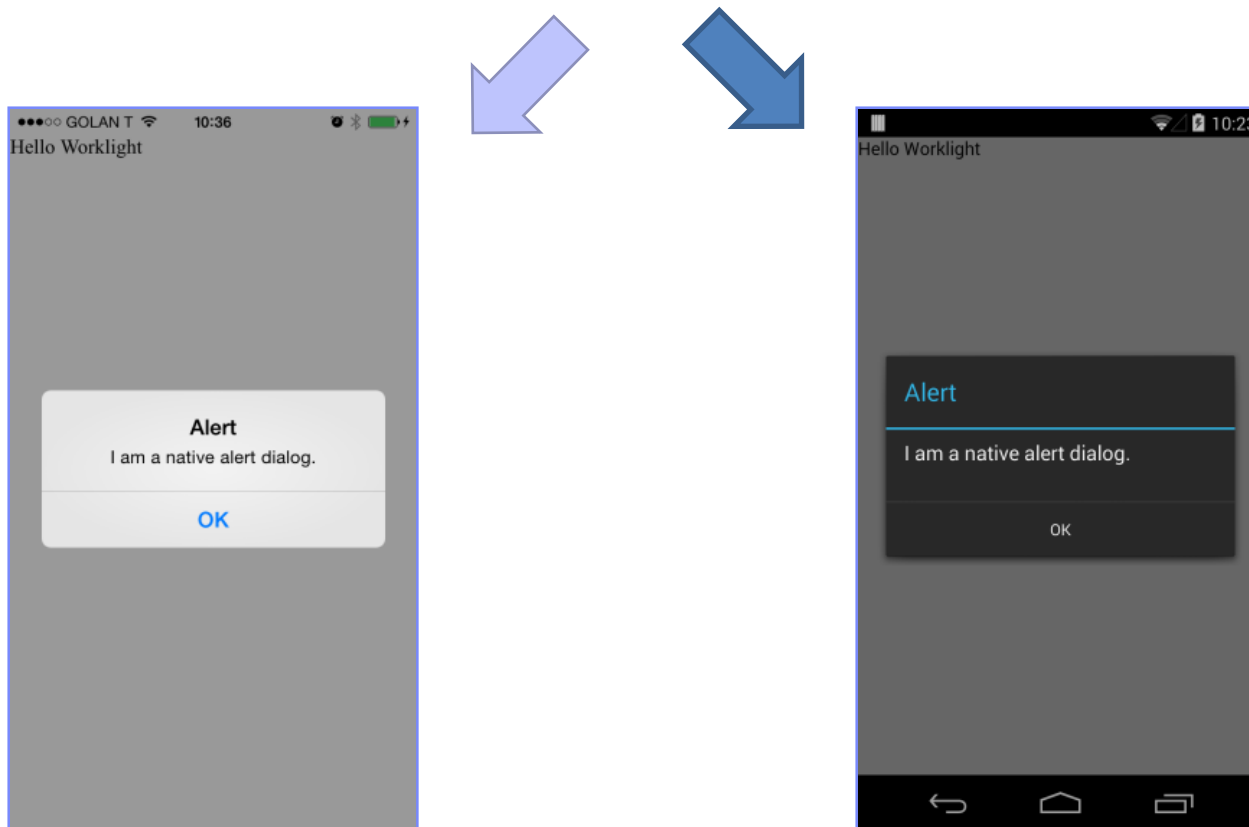
Agenda

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Apache Cordova usage samples

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

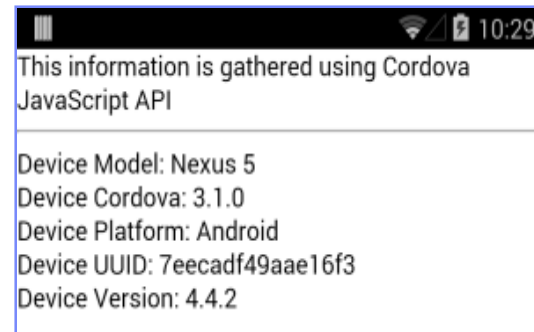
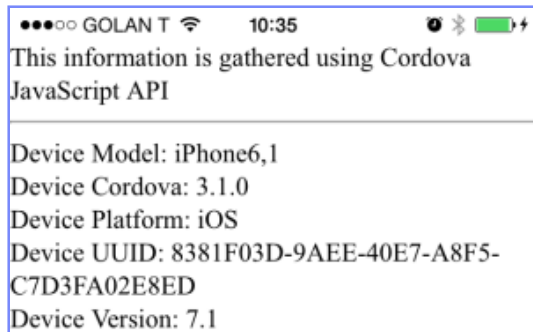
```
navigator.notification.alert("I am a native alert dialog.");
```



Apache Cordova usage samples – continued

- Getting device hardware and software information:

```
var element = document.getElementById('deviceProperties');
element.innerHTML = 'Device Model: ' + device.model + '<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 – continued

- For detailed documentation and samples, see:
 - Apache Cordova website - <http://cordova.apache.org/>
 - Apache Cordova Wiki - <http://wiki.apache.org/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

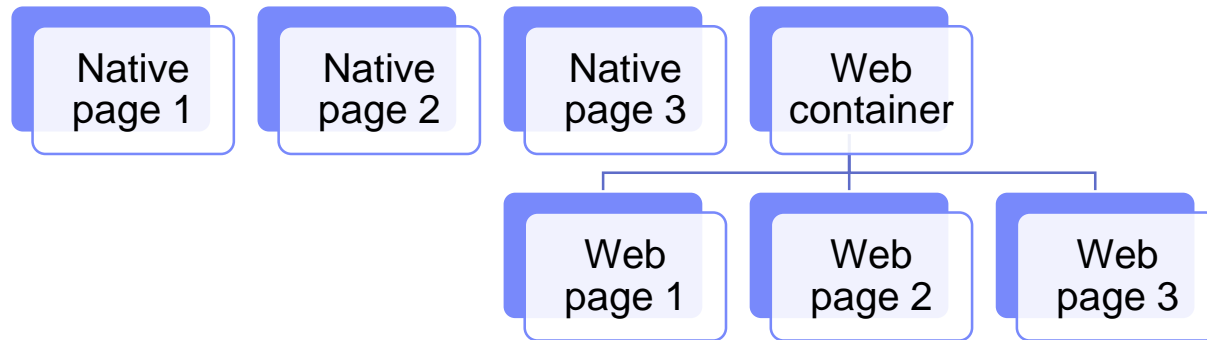


Using native pages in hybrid applications – continued

- IBM Worklight Foundation 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
- The ability to add native pages to your web application is readily available for the iOS, Android and Windows Phone 8 platforms.

Using native pages in hybrid applications – continued

- A developer writes one or more native pages.
- A developer writes one or more web pages.
- With the Worklight Foundation web API, it is possible to navigate between native and web pages, and data can be transferred back and forth.
- IBM Worklight Foundation provides a native API to communicate with the Worklight Server from the native page.
- Cookies are shared between web and native, providing seamless client-server integration.



Using native pages in hybrid applications – continued

- 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 need a native page, but you want to perform some actions using native code.
- Examples might be:
 - Retrieving device data that is not available on a JavaScript level, for example, certificates from a Java KeyStore.
 - Using a native third-party library that is embedded in the 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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