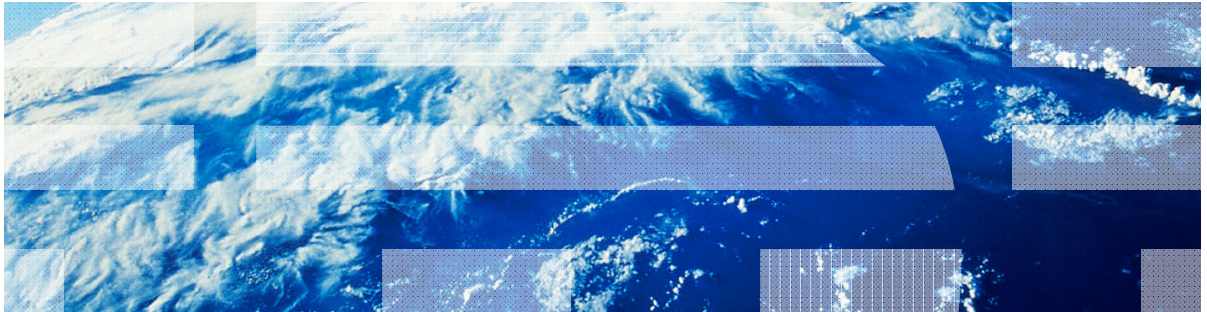


# ***IBM Worklight V5.0.5 Getting Started***

## **Module 14 – Client Side Debugging**



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# Agenda

- About
- Debugging on a desktop browser
- Debugging with IBM Worklight debugger
- Testing the adapter procedures
- Debugging with Weinre
- Debugging with iWebInspector
- Debugging with iOS Remote Web Inspector
- Debugging with Mobile Browser Simulator

## ***About Client-side Debugging***

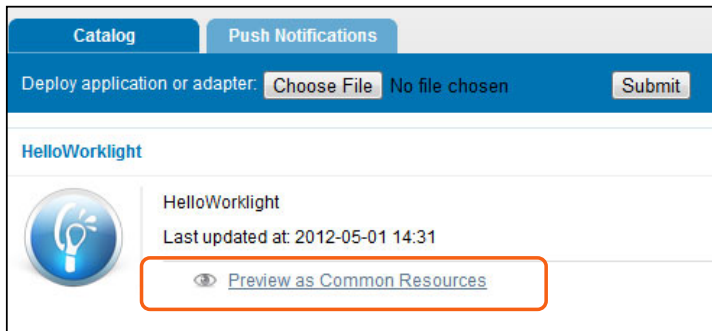
- Debugging is part of the application development process
- Debugging is a process which consists in finding the cause of defects in the application code and UI
- IBM Worklight® applications consist of web-based resources and optional native code (such as Java™, Objective-C, and C#)
- You can debug native code by using standard tools that are provided by the platform SDK, such as: Xcode, Android Logcat/ADB, Microsoft Visual studio
- This module presents how to debug web-based resources

# Agenda

- About
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- Debugging with iWebInspector
- Debugging with iOS Remote Web Inspector
- Debugging with Mobile Browser Simulator

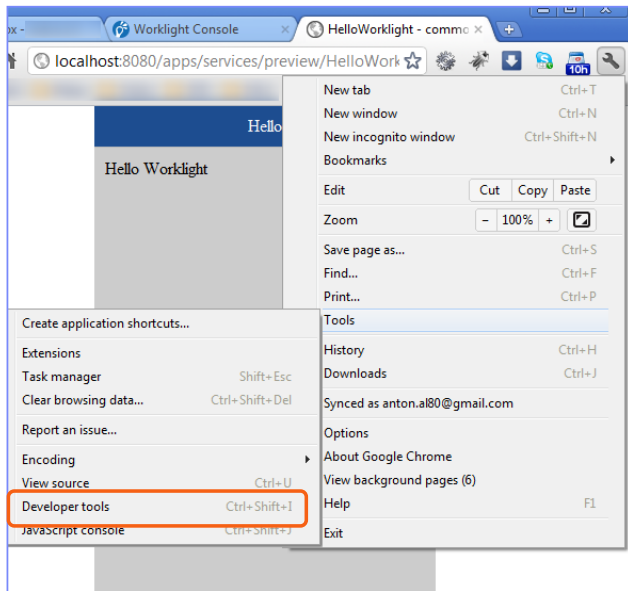
## Debugging on a Desktop Browser

- Modern browsers, such as Chrome, Firefox, Safari, Opera, or Internet Explorer, provide an easy and convenient way to debug web apps.
- As seen in the previous modules, during development, you can preview applications in a desktop browser by using the Worklight Console.



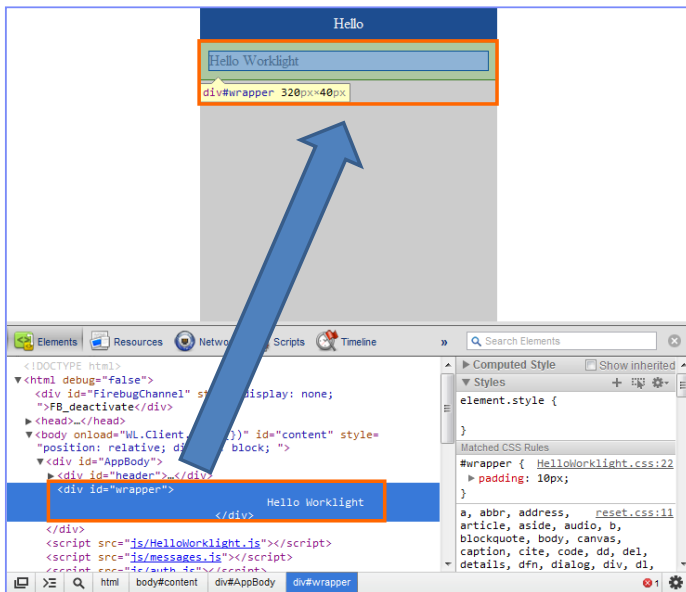
## Debugging on a Desktop Browser

- There are many web tools for debugging on various desktop browsers.
- For example:
  - **FireBug** extension for FireFox
  - **Developer tools** for Chrome (press CTRL+SHIFT+I to start)
  - **Developer tools** for Internet Explorer (press F12 to start)
  - **Dragonfly** for Opera



## Debugging on a Desktop Browser

- In early application development stages, use these tools to debug your application just like a regular website. You do not need to install them on a mobile device.





## Agenda

- About
- Debugging on a desktop browser
- Debugging with IBM Worklight debugger
- Testing the adapter procedures
- Debugging with Weinre
- Debugging with iWebInspector
- Debugging with iOS Remote Web Inspector
- Debugging with Mobile Browser Simulator

## *Debugging with IBM Worklight Debugger*

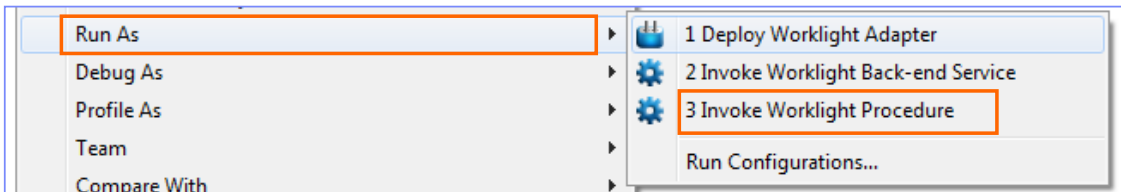
- IBM Worklight provides **WL.Logger.debug()** and **WL.Logger.error()** APIs
- **WL.Logger.debug()** and **WL.Logger.error()** APIs are multiplatform: the output destination changes according to the platform on which that application runs on – for example:
  - **Developer console** when running on a **desktop browser**
  - **LogCat** when running on Android device
  - **Visual Studio Output** when running on a **Windows Phone** device and **Windows Store Apps**
  - **Xcode console** when running on a **iOS** device

## Agenda

- About
- Debugging on a desktop browser
- Debugging with IBM Worklight debugger
- **Testing the adapter procedures**
- Debugging with Weinre
- Debugging with iWebInspector
- Debugging with iOS Remote Web Inspector
- Debugging with Mobile Browser Simulator

## Testing the Adapter Procedures

- It is possible to test adapter procedures by using the Worklight Studio
- To test a procedure, click **Invoke Worklight Procedure** from the **Run As** menu

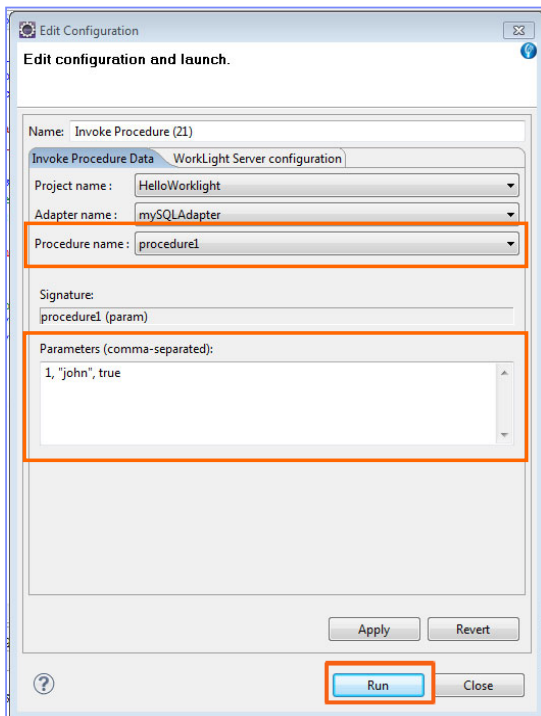


## Testing the Adapter Procedures

- Select the procedure that you want to test
- Enter the comma-separated procedure parameters
- Click **Run**
- Examine the result

Invocation Result of procedure: 'getFeedsFiltered' from the Worklight Server:

```
{
  "Items": [
    {
      "creator": "Dante Cesa",
      "link": "http://www.engadget.com/2011/10/30/tesla-roadster-to-return-in-2014-3-series-f",
      "pubDate": "Sun, 30 Oct 2011 05:13:00 EDT",
      "title": "Tesla Roadster to return in 2014, 3-Series fighter in the works"
    },
    {
      "creator": "Sean Buckley",
      "link": "http://www.engadget.com/2011/10/30/siri-port-now-talking-to-apple-servers-avoid",
      "pubDate": "Sun, 30 Oct 2011 03:34:00 EDT",
      "title": "Siri port now talking to Apple servers, avoiding Cydia"
    },
    {
      "creator": "Richard Lai",
      "link": "http://www.engadget.com/2011/10/30/lenovos-upcoming-lephone-s2-seen-running-and",
      "pubDate": "Sun, 30 Oct 2011 03:19:00 EDT",
      "title": "Lenovo's upcoming LePhone S2 seen running Android as well as Windows Phone, 1"
    },
    {
      "creator": "Darren Murph",
      "link": "http://www.engadget.com/2011/10/30/facebook-testing-trusted-friends-feature-th",
      "pubDate": "Sun, 30 Oct 2011 01:11:00 EDT",
      "title": "Facebook testing 'Trusted Friends' feature, the password unlock we hope you n"
    }
  ]
}
```



# Agenda

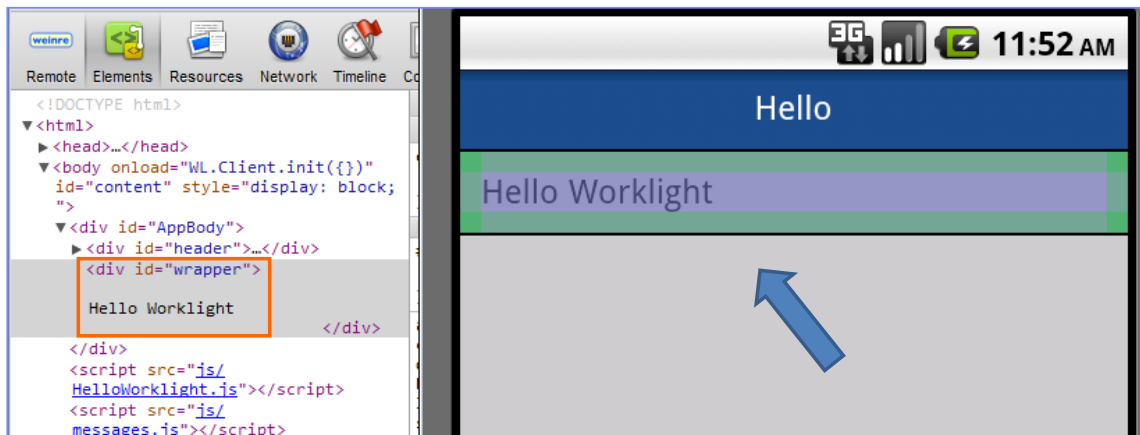
- About
- Debugging on a desktop browser
- Debugging with IBM Worklight debugger
- Testing the adapter procedures
- Debugging with Weinre
- Debugging with iWebInspector
- Debugging with iOS Remote Web Inspector
- Debugging with Mobile Browser Simulator

## ***Debugging with Weinre***

- Weinre stands for **Web Inspector Remote**
  - See <http://people.apache.org/~pmuellr/weinre/>
- Weinre is a debugger for web pages, like FireBug, except that it is designed to work remotely
  - In particular, it allows debugging of web pages on mobile devices such as iPhone or Android
- You can use Weinre to inspect and debug web resources such as HTML, JavaScript, CSS, and Network traffic on a remote mobile handset
- Weinre has a built-in JavaScript console that you can use as an additional powerful tool for web-based mobile application debugging

## Debugging with Weinre

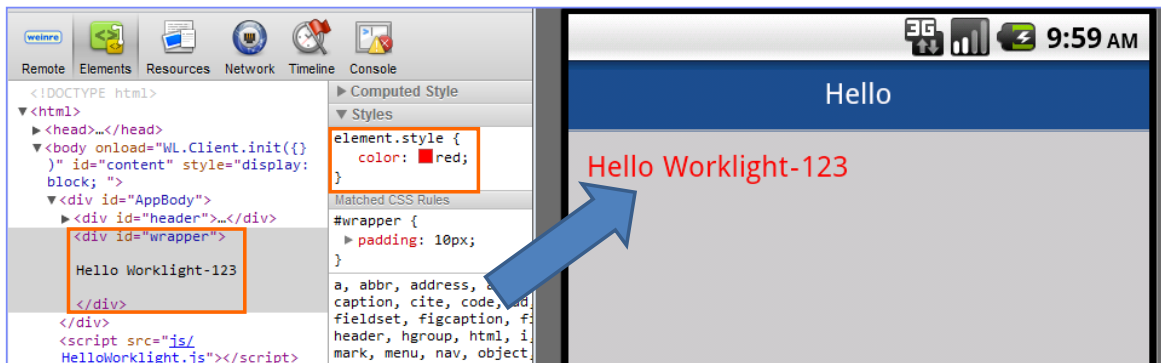
- Selecting an element in Weinre highlights it on the remote device





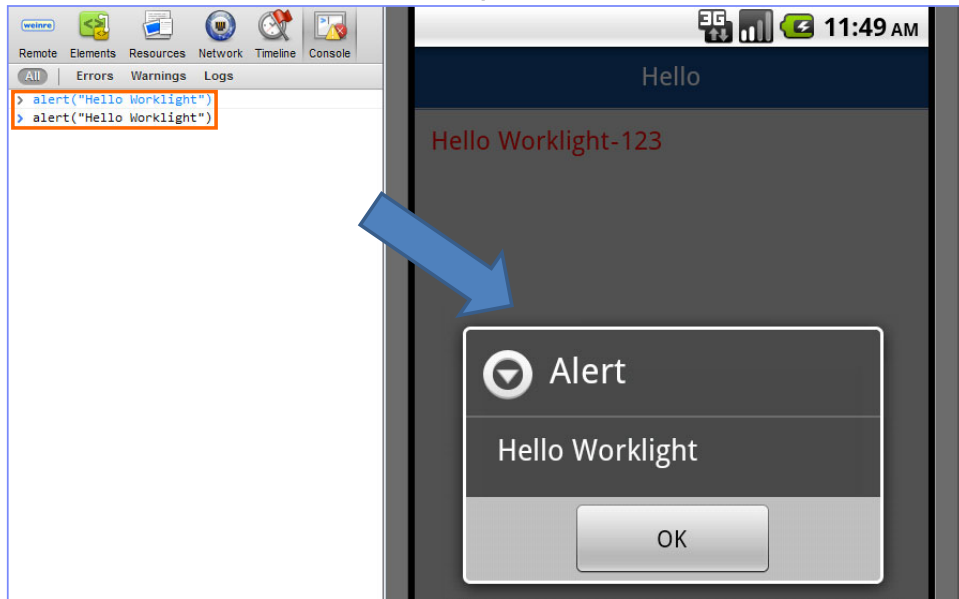
## Debugging with Weinre

- You can change values and CSS properties as you debug



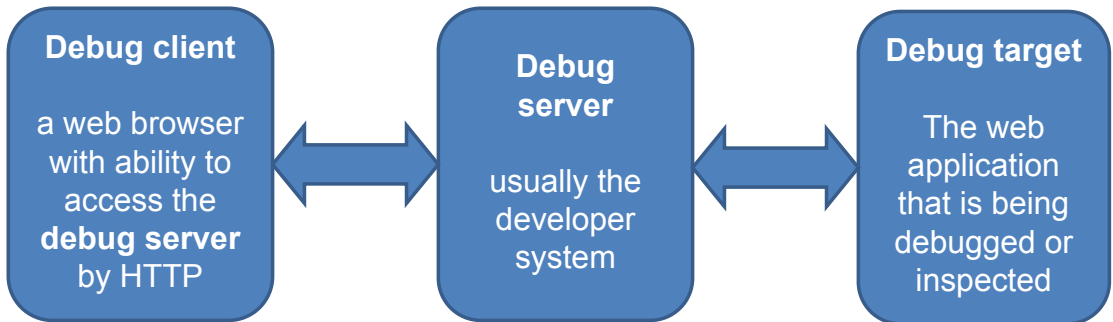
## Debugging with Weinre

- You can execute custom JavaScript from a console



## Debugging with Weinre: Set-up

- To set up Weinre, first download it from
  - <http://people.apache.org/~pmuellr/weinre/>
- The Weinre architecture includes:



- The debug server can run on either a Windows or Mac platform and requires a Java™ Virtual Machine (JVM) to be available

## Debugging with Weinre: Windows Set-up

- To run Weinre from the JAR file found in the downloaded package, execute the following command from the command prompt:

```
java -jar weinre.jar --httpPort 8888 --boundHost -all-
```

- This command starts a Weinre server on port 8888:

```
C:\dev\weinre>java -jar weinre.jar --httpPort 8888 --boundHost -all-  
2011-11-07 14:08:17.993:INFO::jetty-7.x.y-SNAPSHOT  
2011-11-07 14:08:18.022:INFO::Started SelectChannelConnector@0.0.0.0:8888  
2011-11-07 14:08:18.023:INFO:weinre:HTTP server started at http://localhost:8888
```

- You must specify port 8888 because the default Weinre port 8080 collides with the one that is used by the Worklight Server

## ***Debugging with Weinre: Mac Set-up***

- To configure the Weinre debug server, create a `~/.weinre/server.properties` file
- Add the following lines to the created file:
  - `boundHost: -all-`
  - `httpPort: 8888`
- Start Weinre Server .app from the downloaded Mac Package
- You must specify port 8888 because the default Weinre port collides with the one that is used by the Worklight Server

## ***Debugging with Weinre: Debug Target***

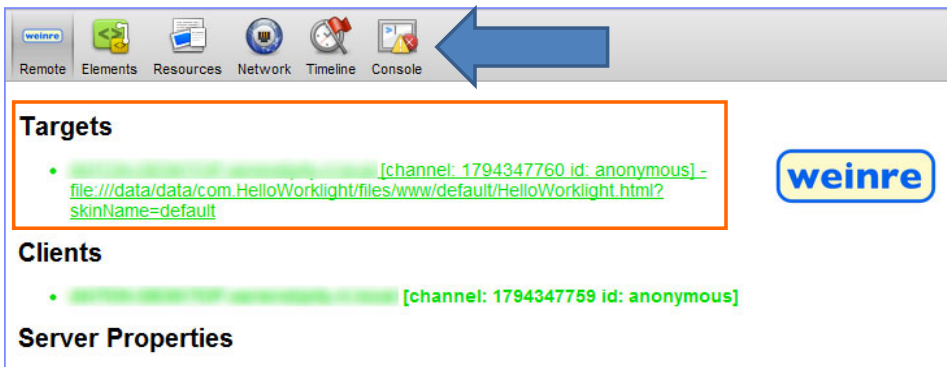
- Make sure that the Weinre server that you set up is accessible from the device that you are using for debugging
- Add the following line to your web application (Debug Target):

```
<script src='http://192.168.53.40:8888/target/target-script-min.js'></script>
```

- Change the server URL to the one that you are working with

## Debugging with Weinre: Debug Client

- Browse to <http://<your-server-url-or-ip>:8888/client/>
- Open the web application that you want to debug (the one to which you added a Weinre <script> element)
- Wait for the **Debug Target** to connect, and start debugging with Weinre



## ***Debugging with Weinre***

- You can find additional information, including installation manual, running instructions and educational videos, at the Weinre home page.
  - See <http://people.apache.org/~pmuellr/weinre/>



# Agenda

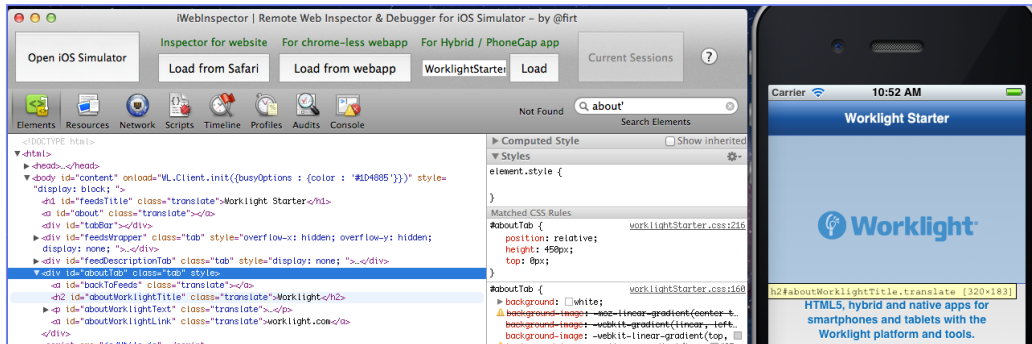
- About
- Debugging on a desktop browser
- Debugging with IBM Worklight debugger
- Testing the adapter procedures
- Debugging with Weinre
- **Debugging with iWebInspector**
- Debugging with iOS Remote Web Inspector
- Debugging with Mobile Browser Simulator

## ***Debugging with iWebInspector***

- iWebInspector is a tool to debug, profile, and inspect web applications that are running on iOS Simulator (iPhone or iPad)
- As if you were on Safari for Desktop, Chrome, or Firebug, you can:
  - Check resources
  - See and change HTML and CSS
  - Use breakpoints on JavaScript code
  - And more
- iWebInspector requires Mac OS 10.6+, Xcode 4.2 with iOS 5 SDK
- You can download iWebInspector at <http://www.iwebinspector.com/>

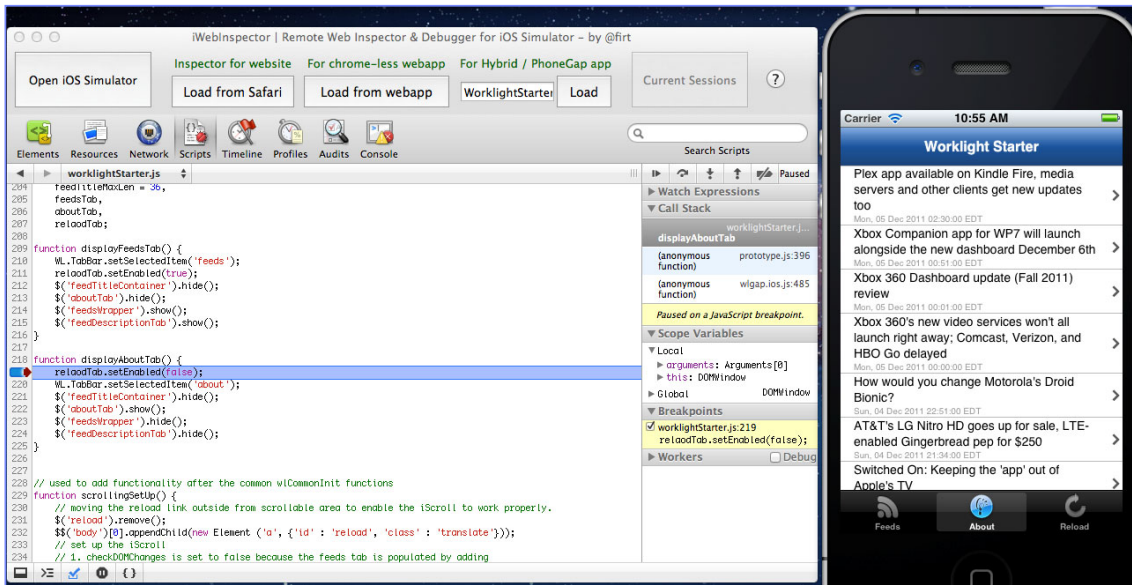
# Debugging with iWebInspector

- Run **iWebInspector**
- Click **Open iOS Simulator**
- Start the application that you want to debug in the iOS Simulator
- In **iWebInspector**, type the name of the application, and click **Load**
- You can inspect and change elements



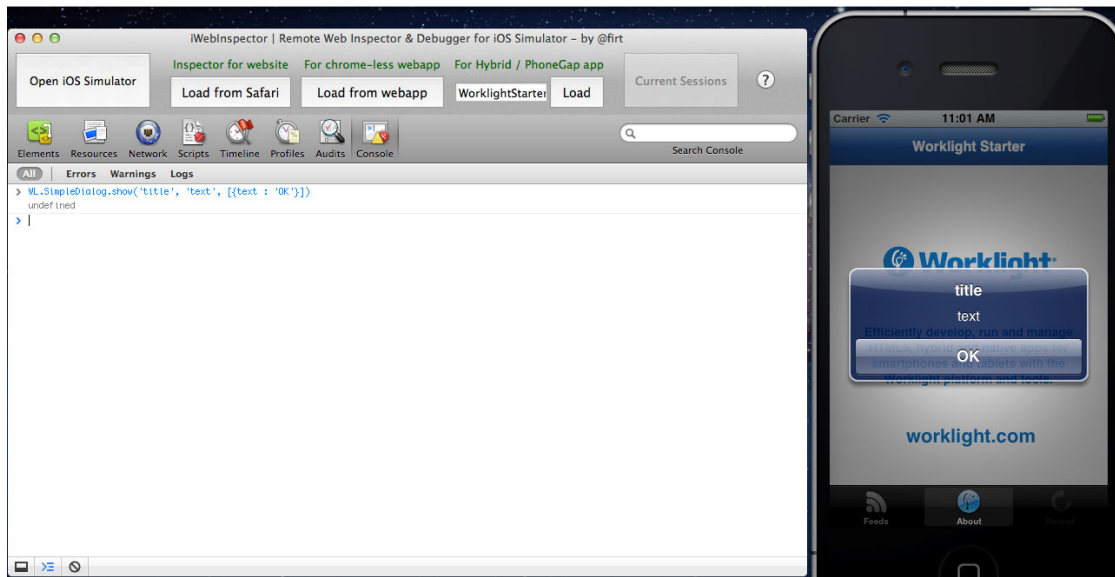
# Debugging with iWebInspector

- You can inspect and set breakpoints, and debug JavaScript



## Debugging with iWebInspector

- You can execute JavaScript code from the Console



# Agenda

- About
- Debugging on a desktop browser
- Debugging with IBM Worklight debugger
- Testing the adapter procedures
- Debugging with Weinre
- Debugging with iWebInspector
- Debugging with iOS Remote Web Inspector
- Debugging with Mobile Browser Simulator

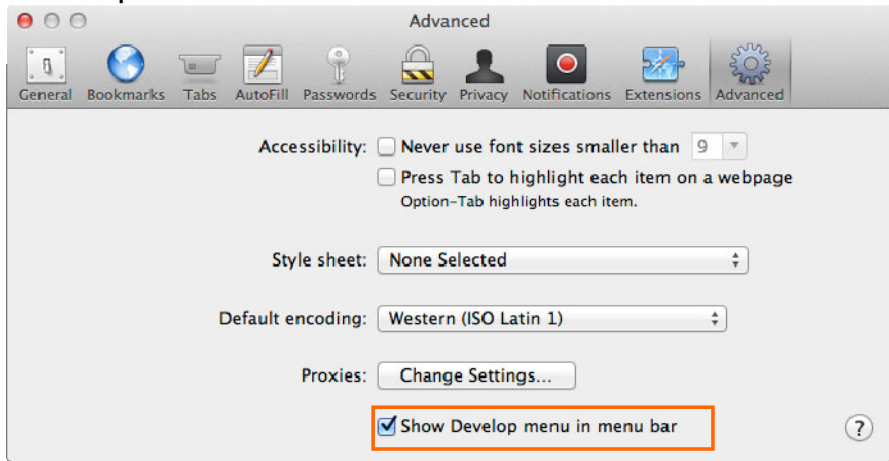
## Debugging with iOS Remote Web Inspector

- In iOS6, Apple has introduced a remote web inspector for debugging web applications on iOS devices.
- In order to enable it, go to Settings > Safari > Advanced and turn the Web Inspector ON.



## Debugging with iOS Remote Web Inspector

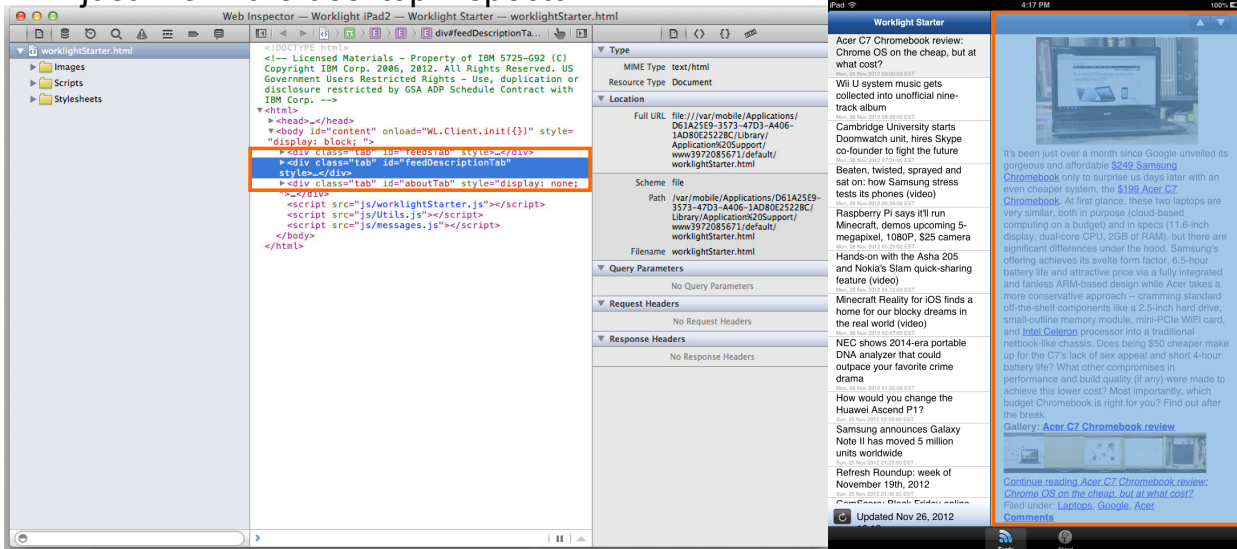
- Connect the iOS device to a Mac. You need Safari version 6.0 or higher.
- In Safari Preferences > Advanced check the “Show Develop menu in menu bar” checkbox.





# Debugging with iOS Remote Web Inspector

- Go to Safari > Develop > your iDevice ID > your application HTML file.
- Now you can inspect the DOM, modify CSS, run JavaScript commands, just like in the desktop inspector.



# Agenda

- About
- Debugging on a desktop browser
- Debugging with IBM Worklight debugger
- Testing the adapter procedures
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- Debugging with iWebInspector
- Debugging with iOS Remote Web Inspector
- Debugging with Mobile Browser Simulator

## ***Debugging with the Mobile Browser Simulator***

- You can also use the IBM Worklight mobile browser simulator to preview and debug Worklight applications in Android, iPhone, and iPad environments.

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