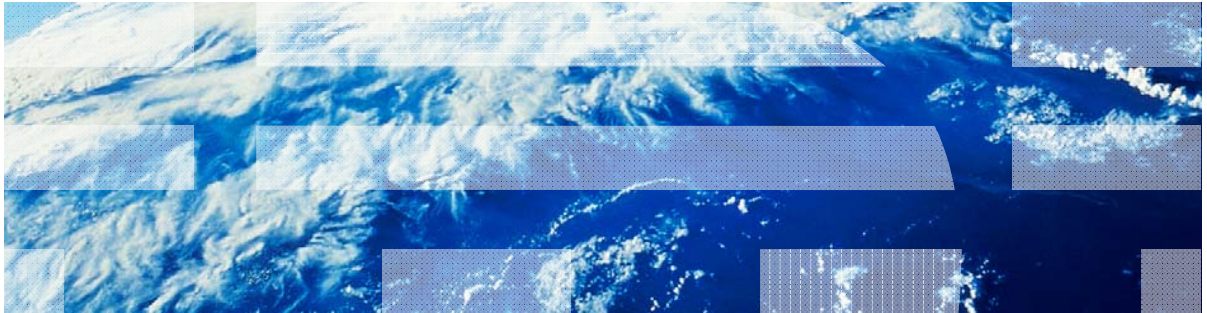


# ***IBM Worklight V6.0.0 Getting Started***

## **Debugging your applications**



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- Debugging with IBM Worklight® debugger
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## ***About Client-side Debugging***

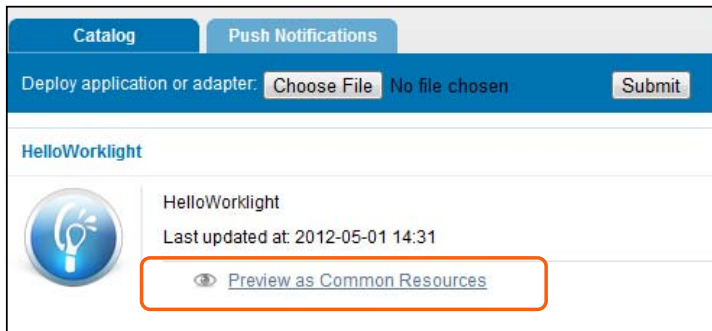
- Debugging is part of the application development process.
- Debugging is a process, which consists of finding the cause of defects in the application code and UI.
- IBM Worklight® applications consist of web-based resources and optional native code (such as Java™, Objective-C, and C#).
- You can debug 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.

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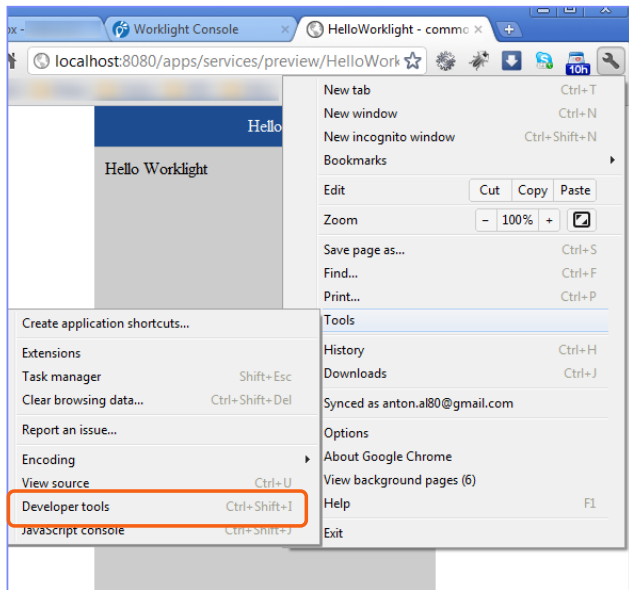
## Debugging on a Desktop Browser

- 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.



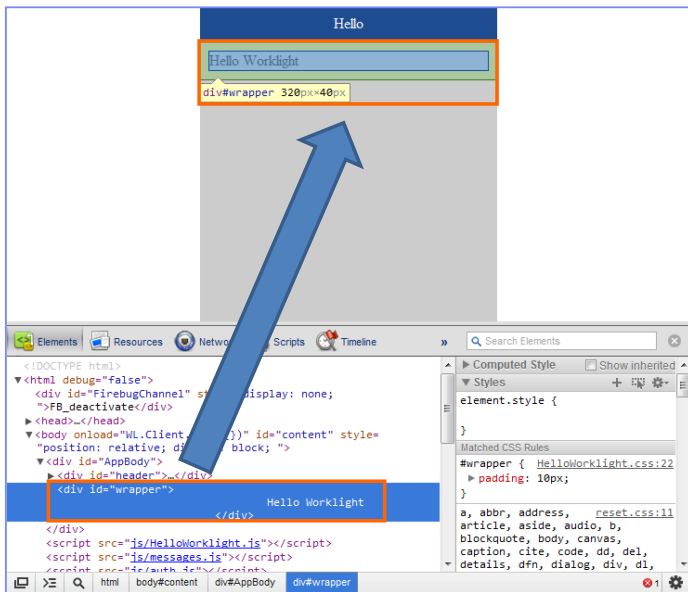
## Debugging on a Desktop Browser

- 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 are not required to install them on a mobile device.





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## *Debugging with IBM Worklight Debugger*

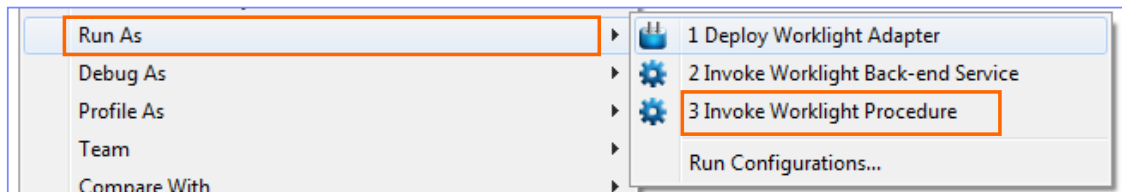
- IBM Worklight provides a `WL.Logger` object that you use to print log messages to the log for the environment used.
- Two of its methods are: **`WL.Logger.debug()`** and **`WL.Logger.error()`**
- **`WL.Logger.debug()`** and **`WL.Logger.error()`** APIs are multiplatform: the output destination changes according to the platform on which that application runs on – for example:
  - **Developer console** when it is running on a **desktop browser**
  - **LogCat** when it is running on Android device
  - **Visual Studio Output** when it is running on a **Windows Phone** device and **Windows 8 Apps**
  - **Xcode console** when it is running on an **iOS** device
- `WL.Logger` contains more methods. See [the “WL.Logger methods” topic](#) in the IBM Worklight Information Center.

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## Testing the Adapter Procedures

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

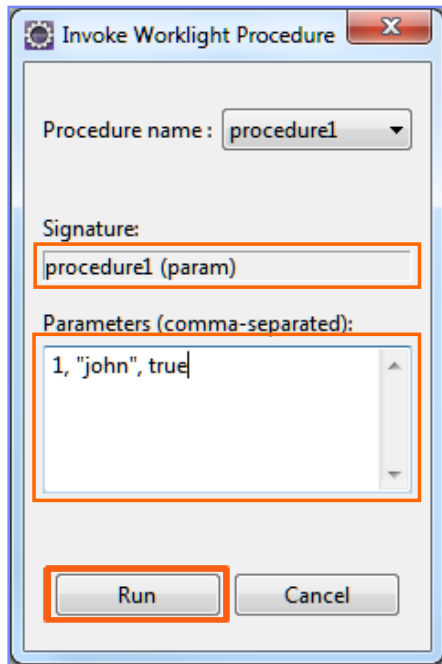


## Testing the Adapter Procedures

- 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/telex-roadster-to-return-in-2014-3-series-f",
      "pubDate": "Sun, 30 Oct 2011 05:19:00 EDT",
      "title": "Telex 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 03:19:00 EDT",
      "title": "Siri port now talking to Apple servers, avoiding Cydia"
    },
    {
      "creator": "Richard Lai",
      "link": "http://www.engadget.com/2011/10/30/lenovo-s upcoming-lephone-s2-seen-running-an",
      "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 m"
    }
  ]
}
```



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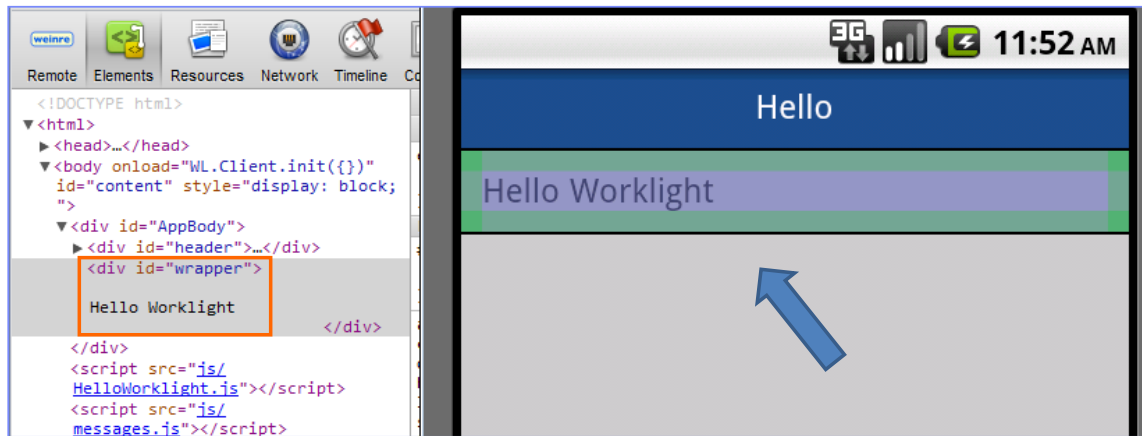
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## *Debugging with Weinre*

- 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 extra powerful tool for web-based mobile application debugging.

## Debugging with Weinre

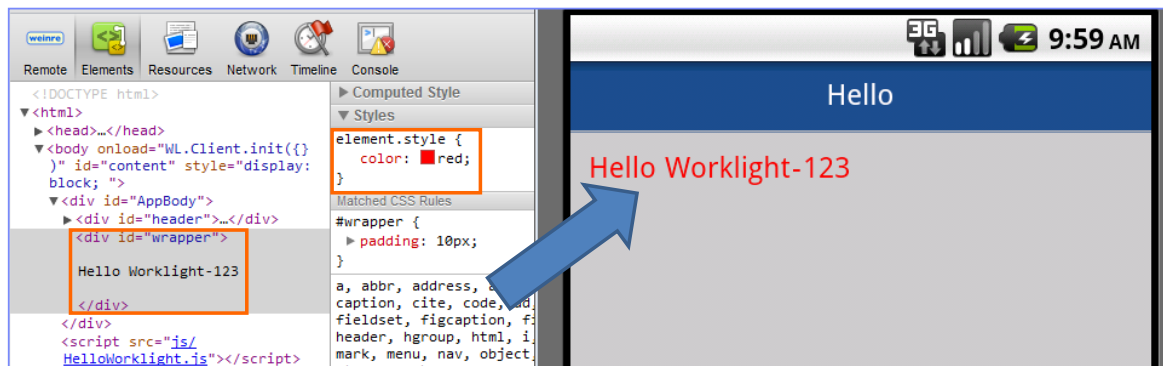
- Selecting an element in Weinre highlights it on the remote device.





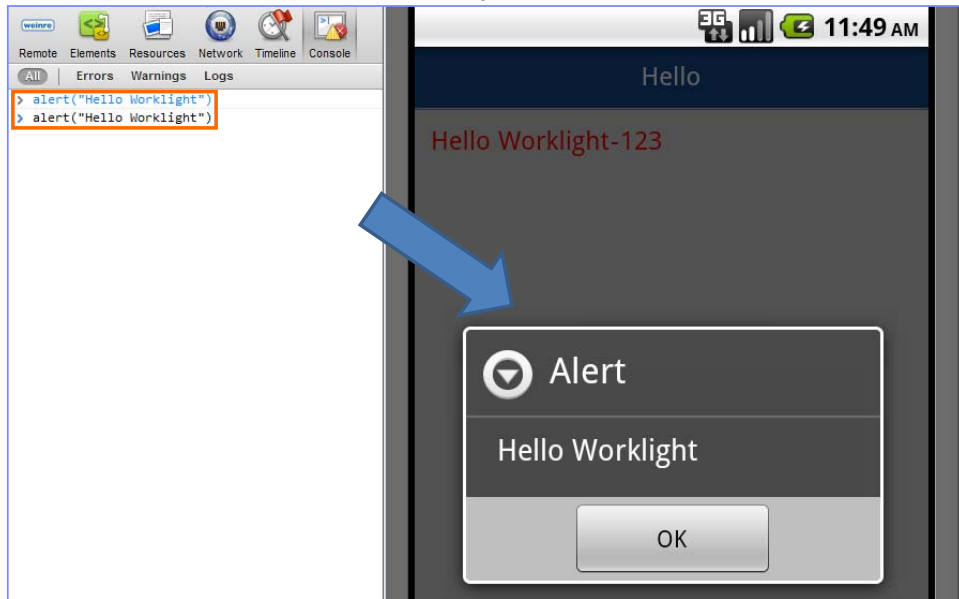
## Debugging with Weinre

- You can change values and CSS properties as you debug.



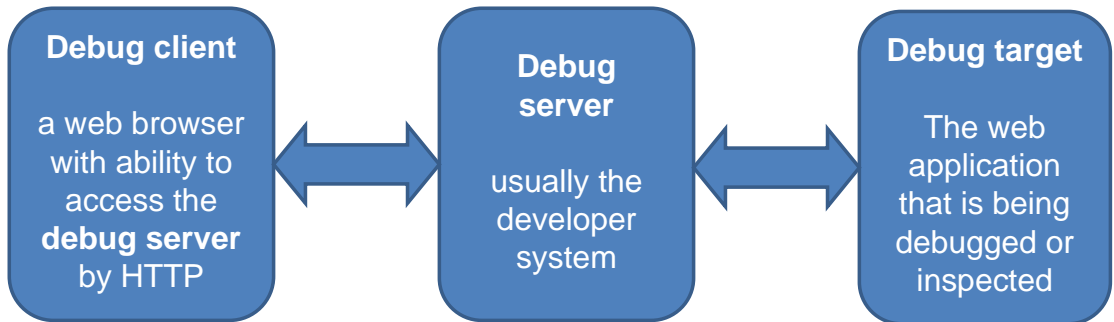
## Debugging with Weinre

- 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, run 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***

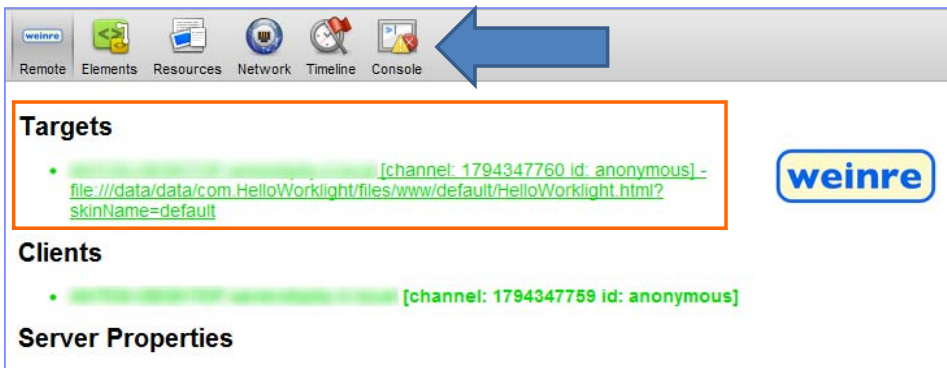
- Make sure that the Weinre server that you set up is accessible from the device that you are using for debugging.
- Add the following line to your web application (Debug Target):

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



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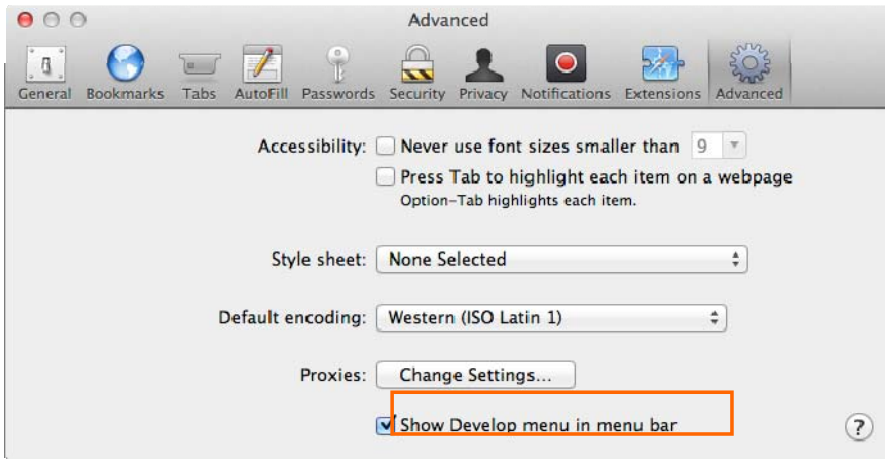
## Debugging with iOS Remote Web Inspector

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



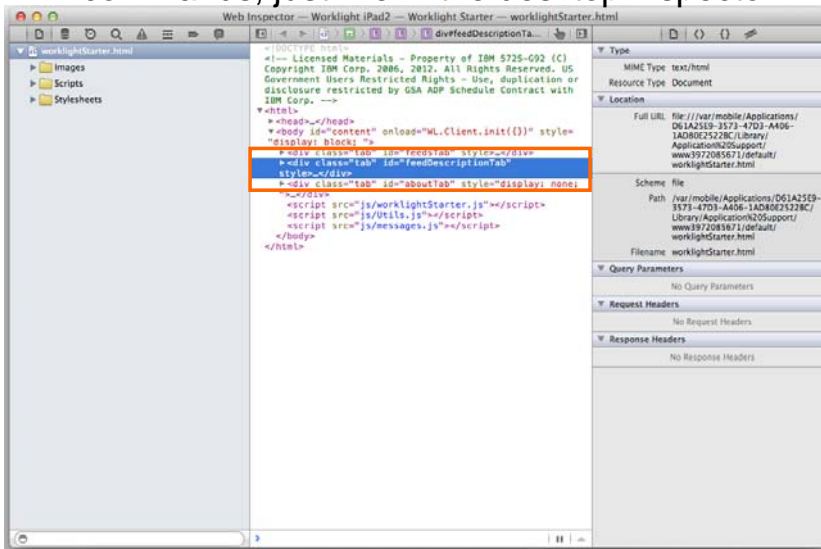
## Debugging with iOS Remote Web Inspector

- Connect the iOS device to a Mac. You must have Safari version 6.0 or higher.
- In Safari **Preferences > Advanced**, select the **“Show Develop menu in menu bar”** check box.



# Debugging with iOS Remote Web Inspector

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

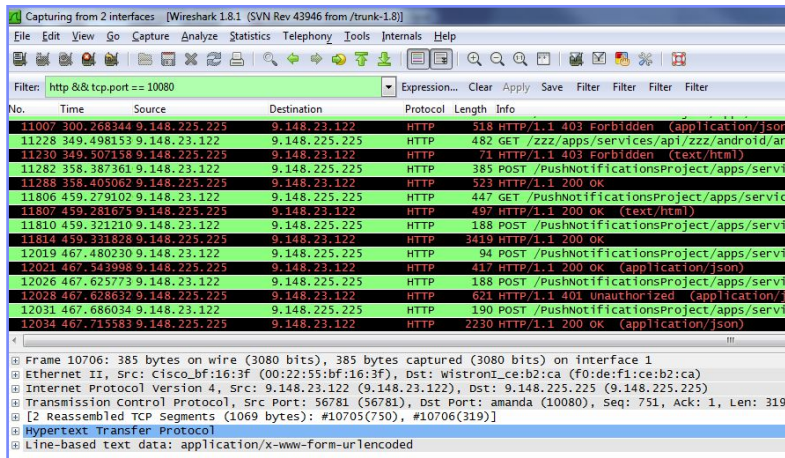


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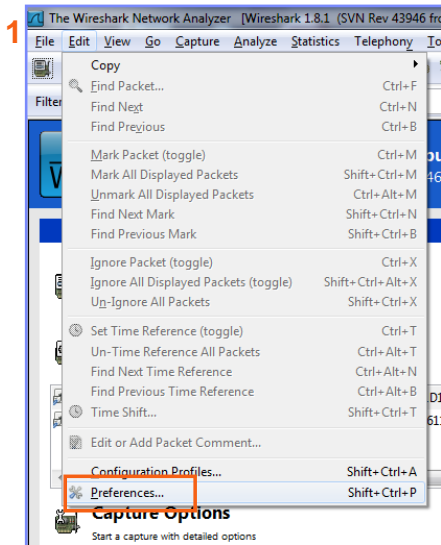
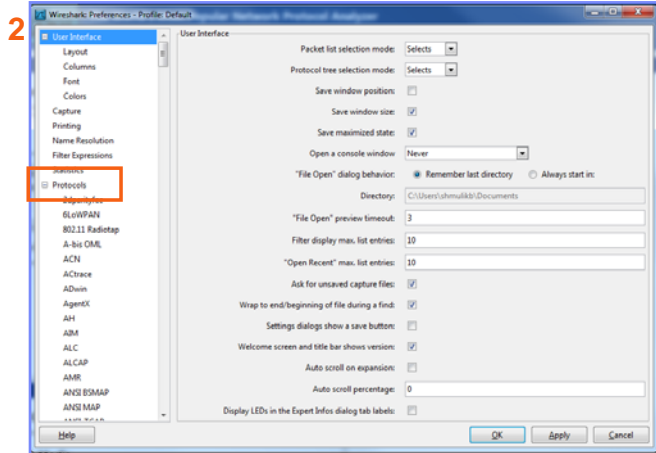
## Debugging with Wireshark (1 of 4)

- Wireshark is a network protocol analyzer that you can use to see what happens on your network at a microscopic level.
- With Wireshark, you can filter the range of traffic that you want to follow.



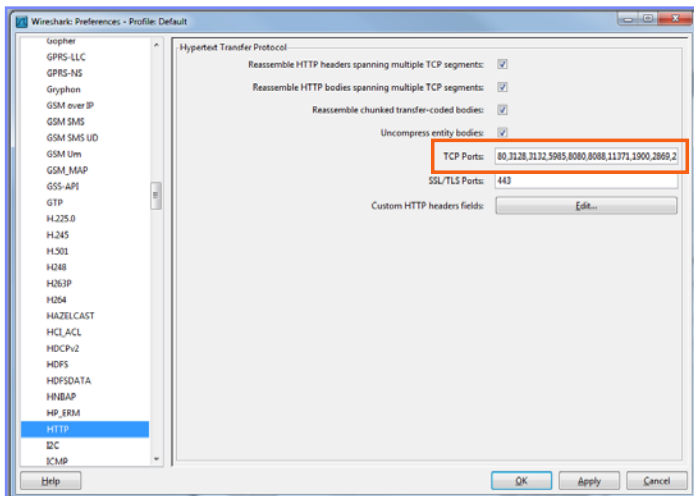
## Debugging with Wireshark (2 of 4)

- Open **Edit > Preferences**.
- Expand **Protocols**.



## Debugging with Wireshark (3 of 4)

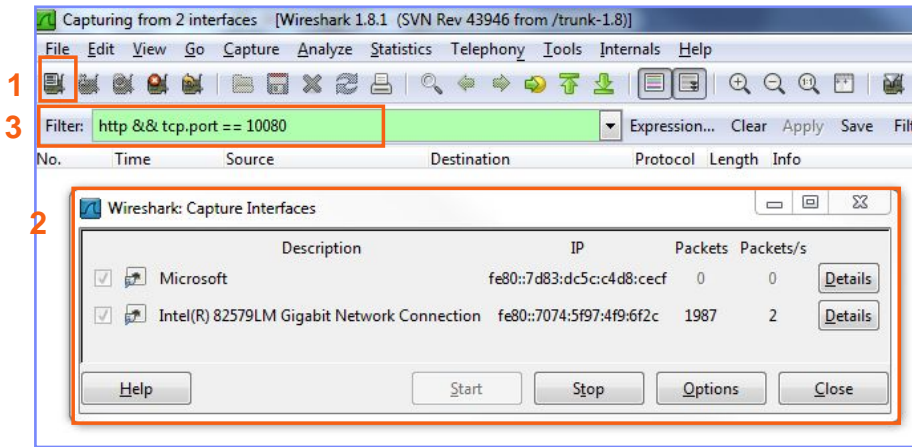
- Select **HTTP** and add port 10080 to the **TCP Ports** list.





## Debugging with Wireshark (4 of 4)

1. Click the left button (list the available capture interfaces...)
2. Select the capture interface that you want to follow.
3. Create a filter (protocol && TCP Port).



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## *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.
- The Mobile Browser Simulator also simulates Cordova APIs, so you can test these APIs without having to use an emulator, simulator, or device.
- Notice that this simulation **does not replace** tests on a physical device.

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