Web portal debugging on Mobile Device

- Prajwal Shankaregowda

Contents

Introduction

This document briefs about the debug setup for Web portals on Mobile devices. I have explained for Mobile place and Mobile Secure in terms of platform-browser combinations below.

Sl. No.	Platform	Browser	Method
1	Android	Chrome	Using chrome plugin
2	Android	Firefox	Using Firefox plugin
3	iOS	Safari	Using Mac in build feature to debug safari
4	Android/iOS	Chrome, Safari, Firefox	Weinre

Debugging on Android Device (Tablet/Phone)

The below steps guide us through to debug the Web portal on an Android device

Pre-requisite:

- Download the ADT bundle and extract the same
- Connect the device to PC
- Install the relevant device driver for connected device on the system
- Enable USB debugging option on the Android device

Enabling developer option:

- On android device navigate to 'Settings->About Phone->Build number'
- Tap on the build number 7 times
- Developer option on the phone will be enabled

Enabling USB debugging:

- Go to   Settings->Developer options
- Enable USB debugging

Chrome Browser on Android device

PC settings: Below are the steps to be followed for PC settings

- Type chrome://inspect from PC chrome browser
- Enable Discover USB option

- Run the Adb command in command prompt
  Cmd > adb.exe devices

➢ Once adb.exe devices is issued user will be prompted for the authentication by showing popup on the device

➢ Authenticate by clicking on the ok button
➢ Now, inspect option will be enabled on PC chrome using which user can start debugging

➢ Inspect option will provide the developer with the fallowing features
   ✓ Network request response analysis
   ✓ Line by line debugging using the debugger option
   ✓ Styling changes : CSS changes made on this console will immediately will get reflected on the device browser
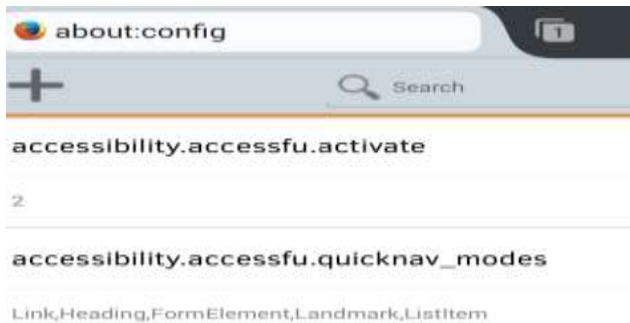
Firefox on Android device

Pre-Requisites:
Firefox should be of version-15 and above

Remote Debugging on Firefox browser of Device
Enable remote debugging on the Firefox browser installed on device
- ➢ In case if the device has Firefox version 24 or earlier, follow the below steps to enable debugging
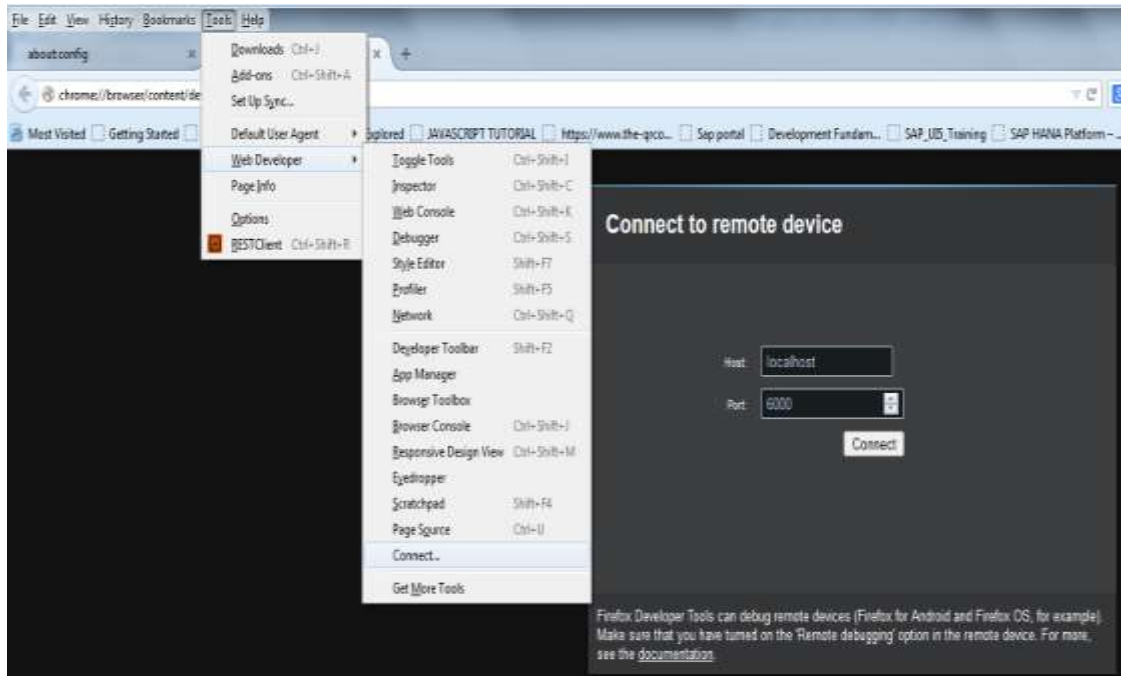   - • From browser type about:config enable devtools.debugger.remote

- ➢ If Firefox version is 25 and above
    - • Alternatively remote debugging can be enabled from setting->developer tools -> Enable remote debugging

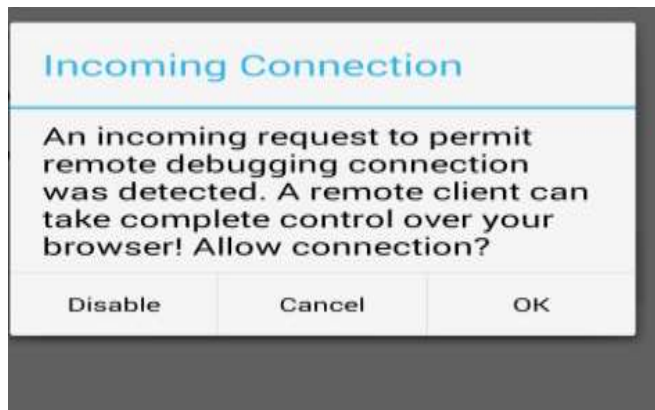### *Remote Debugging on Firefox browser of Desktop/Laptop*
Enable remote debugging on the Firefox browser installed on PC

- ➢ From browser type about:config confirm the warning message
- ➢ Enable devtools.debugger.remote
- ➢ Disable devtools.debugger.force-local
- ➢ Restart the browser on making this configuration change
- ➢ Establish a remote connection to the device using connect option on PC browser by navigating to Tools->web Developer->connect
- ➢ Page will be displayed with host and port fields
- ➢ Enter your localhost as the host name
- ➢ Enter port number as 6000 (default value)

Note: Snapshot follows below for reference

- ➢ Run 'adb' utility on the PC with port forward parameter(device should be connected to the PC via USB cable)
  Cmd> adb forward tcp:6000 tcp:6000
- ➢ Click connect from the browser(PC)
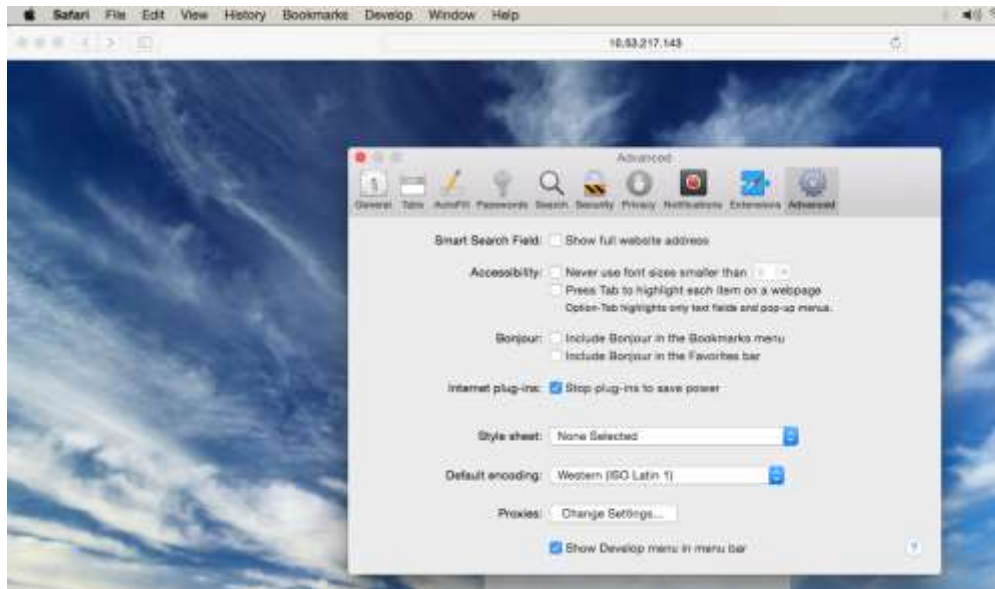- ➢ On mobile browser you will be prompted for authentication as below, click on 'OK'

- ➢ The option 'debug' on the device browser will be enabled using which developer can do
  - Network request response analysis
  - Line by line debugging
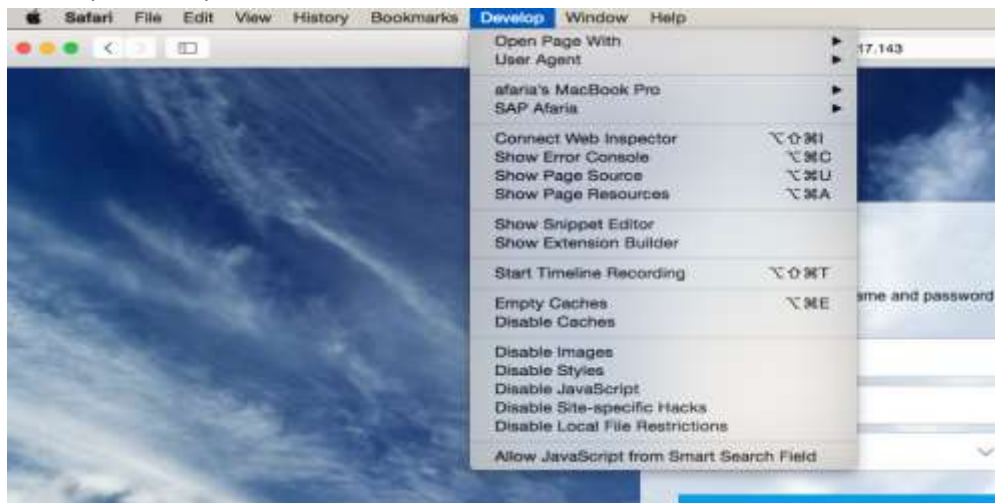 - Styling changes(CSS) changes

Debugging safari on iOS Devices (Tablet/Phone)

Enable debugging option on the iOS device

- ➢ Connect the iOS device to MAC
- ➢ Open safari on iOS device
- ➢ Enable web inspector option on iOS device by navigating to Settings->Safari->Advanced->Web inspector
- ➢ Enable Develop option on Mac Safari by navigating to safari->prefrences->Advanced->show develop menu in menu bar

- ➢ Develop menu option will be shown in the menu bar of safari browser on MAC.

- ➢ Open the web page need to be debug on iOS device
- ➢ The web page will get listed in the Develop option of MAC safari browser
- ➢ Select the web page
- ➢ Now, the user will be able to record the request-response data using record option

➢ User will be able to debug line by line on the mobile device by hovering the debugger

Debugging on Mobile Devices (tablet/phone) using Weinre)

Weinre (web inspector remote) is a remote debugging utility using which the developer can remotely debug web portal running on android and iOS device browsers like Chrome, Firefox, Safari, android native browser etc.

Note: Source specific to Weinre is all licensed under the Apache License, Version 2.0.

Setup on PC

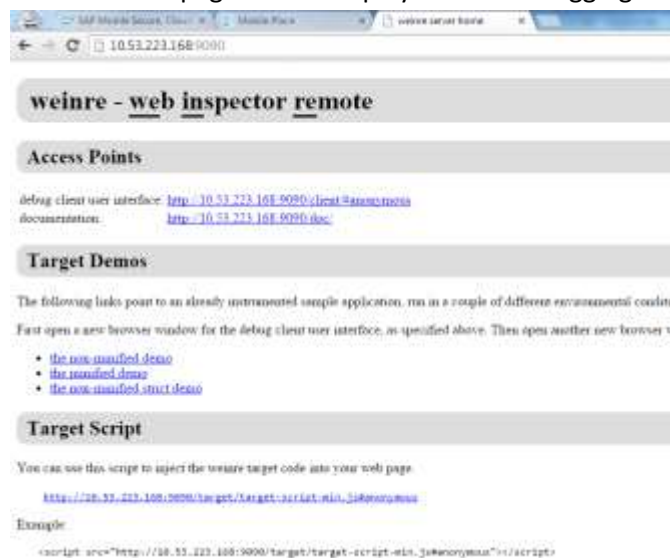➢ Install Weinre on PC using the fallowing command from the terminal

CMD> npm –g install weinre

➢ This will install weinre server on your PC
➢ Start the weinre server
➢ From the command prompt issue fallowing command

> **$ weinre --boundHost <IP> --httpPort <port number>**
> IP   - IP of the PC
> Port number   - use any unused port number
> E.g.: $ weinre --boundHost 127.0.0.1 --httpPort 9090

➢ Once the server is started, terminal will display a message as below:
2013-01-28T10:42:40.498Z weinre: starting server at http://127.0.0.1:9090
➢ From PC browser type the URL <ip >:<port number>

E.g.: http://127.0.0.1:9090

➢ Weinre home page will be displayed with debugging information

➢ Copy the Target Script tag shown in Weinre home page to index page of your web portal.

Setting up the target

Weinre target is the web page to be debugged on the device.

➢ If you need to debug mobileplace, script tag in index file, on mobileplace which is home.html
➢ Script tag will be displayed in weinre home page

<script src="http ://< PC IP> :< port no>/target/target-script-min.js#anonymous"></script>

➢ Open the web site that needs to be debugged on the device
➢ On Weinre home page, DOM will be made available for the page loaded on mobile device
➢ Network request response can be analyzed using this
➢ Styling (CSS) related changes made on Weinre console will immediately reflect on the device browser

References

https://developer.chrome.com/devtools/docs/remote-debugging

https://hacks.mozilla.org/2012/08/remote-debugging-on-firefox-for-android/

https://developer.mozilla.org/en-US/docs/Tools/Remote_Debugging

https://developer.mozilla.org/en-US/docs/Tools/Remote_Debugging/Firefox_for_Android

https://developer.mozilla.org/en-US/Firefox_OS/Platform/Gaia/Weinre_As_Remote_Debugger