**Browser:**

Tried executing [demo code(link)](https://googlechrome.github.io/samples/web-bluetooth/) on browsers that support web Bluetooth API **Chrome, Opera**.

Issues found during execution that gave no output.

**Issues:**

Operating system version and browser compatibility issues.

**How we Resolved**:

Tried executing same demo code in different versions of windows 10 like Enterprise edition, home basic, patch versions, professional. Its observed that the code works good in Windows 10 Creators Update (version 1703 / build 15063) with polyfill extension has to be added in browser.

**Polyfill:**

A **polyfill** is a browser fallback, made in **JavaScript**, that allows functionality you expect to work in modern browsers to work in older browsers, e.g., to support Web Bluetooth API related issues in modern browsers.

**URL:** <https://github.com/urish/web-bluetooth-polyfill>

Find version in windows in command prompt **winver** (To know your version of windows)

***Success1:***

Tried executing the demo code on windows10 Creators update version with Polyfill extension in chrome version63. It worked perfectly on the demo code. All execution is done using Simulator application

But Polyfill will work on internet mode and on offline mode it is not possible to get its full feature. So it mandated to search for new platform, such that the code will work on offline mode too.

***Success2:***

Tried executing development code on android platform **OS version above M.** executionis done using GitHub. It worked perfectly on development code. All execution is done using Simulator application

**URL:**

Link!!!!!!

***Success3:***

Tried executing development **Heart­\_Rate code** on Ubuntu platform.  executionis done using GitHub. It worked perfectly on development code. All execution is done using Simulator application

**URL:**

Link!!!!!!!

https://niranjan569.github.io/Web-bluetooth-example-Battery-Heart-rate-/

**Operating System:**

Instead of trying the demo code in windows (As there is shortage of windows version) where polyfill Extension is necessary, Other operating systems was considered as another approach. Hence we switched the operating system to **Ubuntu(64bit).** Ubuntu been installed and it worked with the sample code.

**Preparing Ubuntu platform**

Ubuntu is preferable because it has a specific software called **Wireshark,** used for monitoring network (Bluetooth, wireless, Lan, WLAN) packets transfer and identify GATT services used during Bluetooth connection**. Bluez** (Ubuntu Bluetooth driver) version 5.41 in OS has to be updated. Chrome v61 Beta is available in available only in Ubuntu 64bit.

**Warning**

During updating **Bluez** care must be taken or it may result in corruption of internal Bluetooth drivers and Bluetooth may stop working.

**Result**:

The demo program started working on chrome giving proper output.

**URL:**

<https://github.com/espruino/EspruinoDocs/blob/master/puck/Web%20Bluetooth%20On%20Linux.md>.

**BLE simulator**

All execution are done using BLE simulator can get it from

Url: <https://play.google.com/store/apps/details?id=io.github.webbluetoothcg.bletestperipheral&hl=en>

We tried it with real time device (Smart band, Glucometer, Fitness tracker) the experiment was not as we expected. As we connect through GATT, open services are accessible and not the internal services, since it needs authentication. As of now, with WebAPI we can access only the public services, to access internal services, it mandates to enable notification. This requires pairing authentication, as of now, it is not supported in Bluetooth API. Waiting for google to introduce authentication API.