Bluetooth Gateway Smart Starter Kit

Rapid Deployment Guide

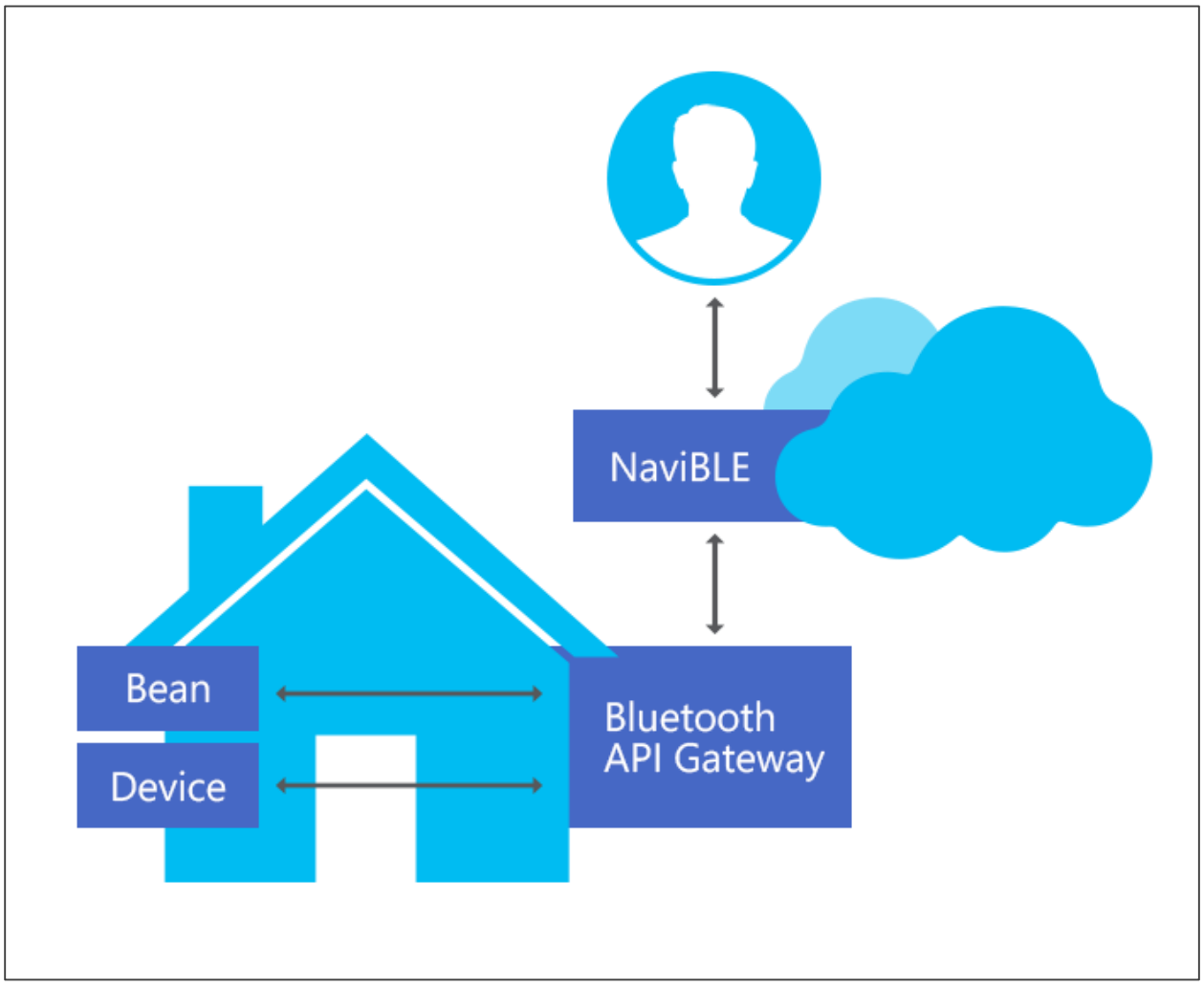
Revision History

Version	Date	Description	Author
V1.0.0	2016-02-19	First version of the Deployment Guide	VG

Contents

Overview

This guide describes how to install both the Gateway and NaviBLE.application (the frontend web server)in the Bluetooth Gateway Smart Starter Kit. You can use the NaviBLE website to explore the services and characteristics supported by any Bluetooth devices connected to your Bluetooth Gateway.



The sample code for NaviBLE and the Bluetooth Gateway are built using Node.js running on a **Raspberry Pi 2 model B.**

This lab steps you through the following tasks:

1. Ensure you have all the hardware and software components to run this sample.
2. Installing the gateway server on a Raspberry Pi.
3. Installing the front end web server (Navible) on a Raspberry Pi.
4. Run the sample code and check the result.

1.1 Prerequisite of running this sample.

In order to run this sample application, you will need the following hardware and software packages:

Hardware:

- A **Raspberry Pi 2 model B** development board, with Raspbian Jessie operating system.https://www.raspberrypi.org/products/raspberry-pi-2-model-b/
- An internet connection for Raspberry Pi， Wifi adaptor or Ethernet cable.
- Bluetooth USB Adaptor.
- Keyboard/Mouse/Monitor/HDMI Cable

Software:

1. Node.js version 0.12.x .

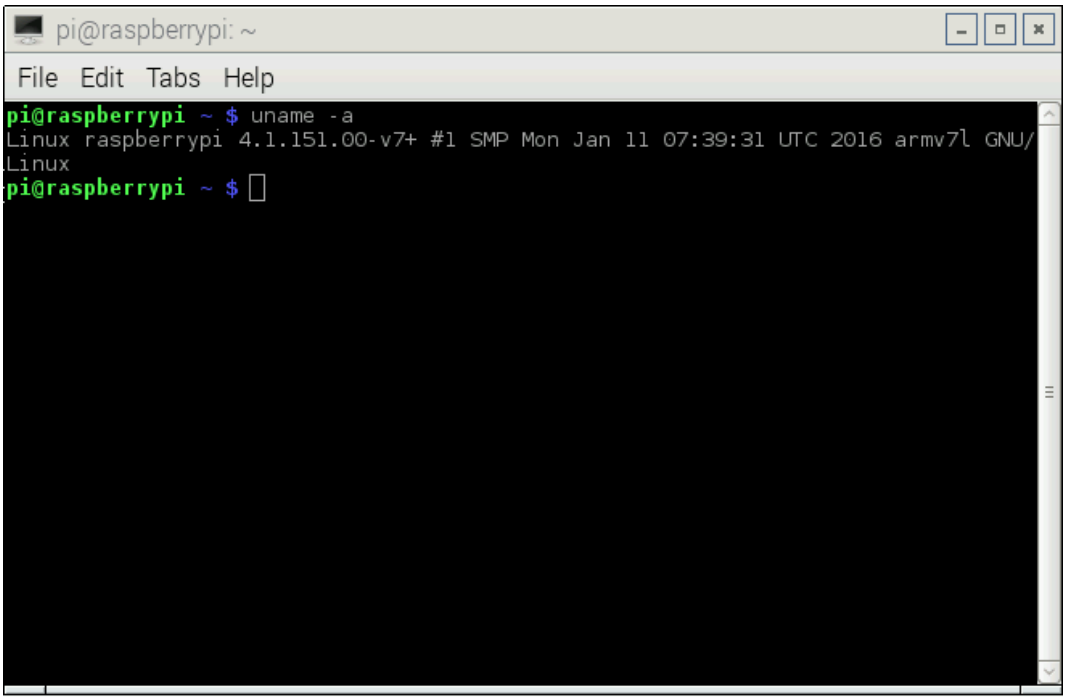
   Installation steps:

   - sudo apt-get install curl
   - curl -sL https://deb.nodesource.com/setup_0.12 | sudo bash -
   - sudo apt-get install --yes nodejs

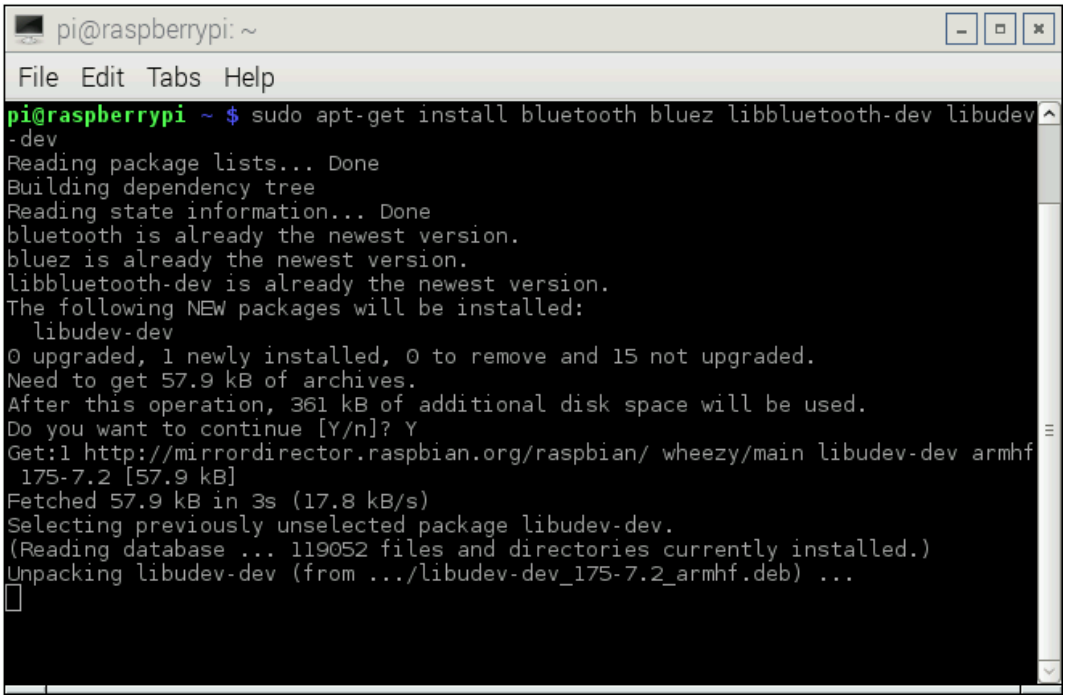
   To check your installation, run:

   node -v

2. Make sure kernel version is 3.6 or above.



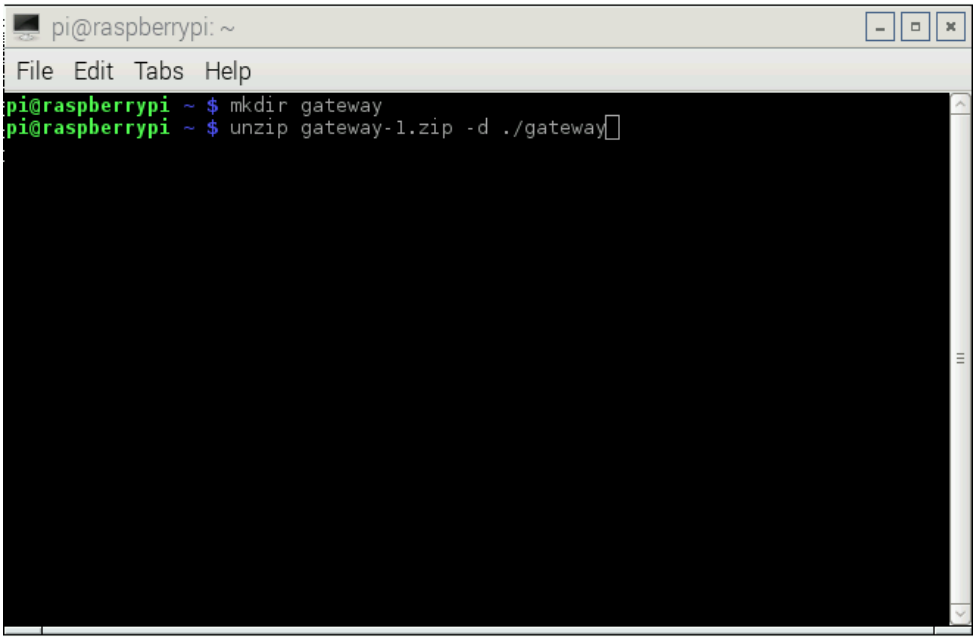
3. Install these packages on Raspberry Pi2 model B, “sudo apt-get install bluetooth bluez libbluetooth-dev libudev-dev”.

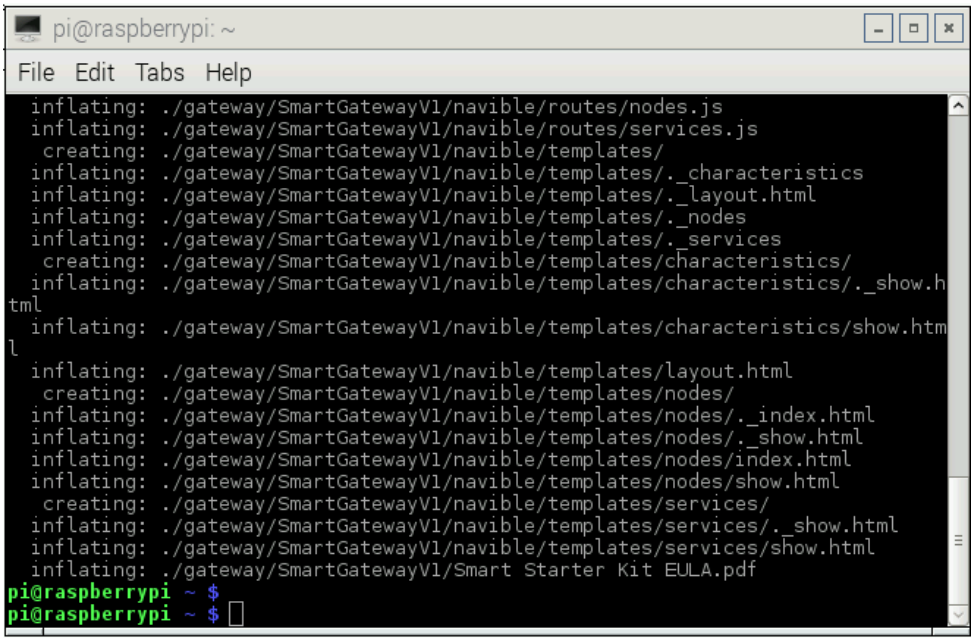


4. Download Gateway Smart Starter Kit from Bluetooth SIG's website on your Raspberry Pi2 model B, https://www.bluetooth.com/develop-with-bluetooth/developer-resources-tools

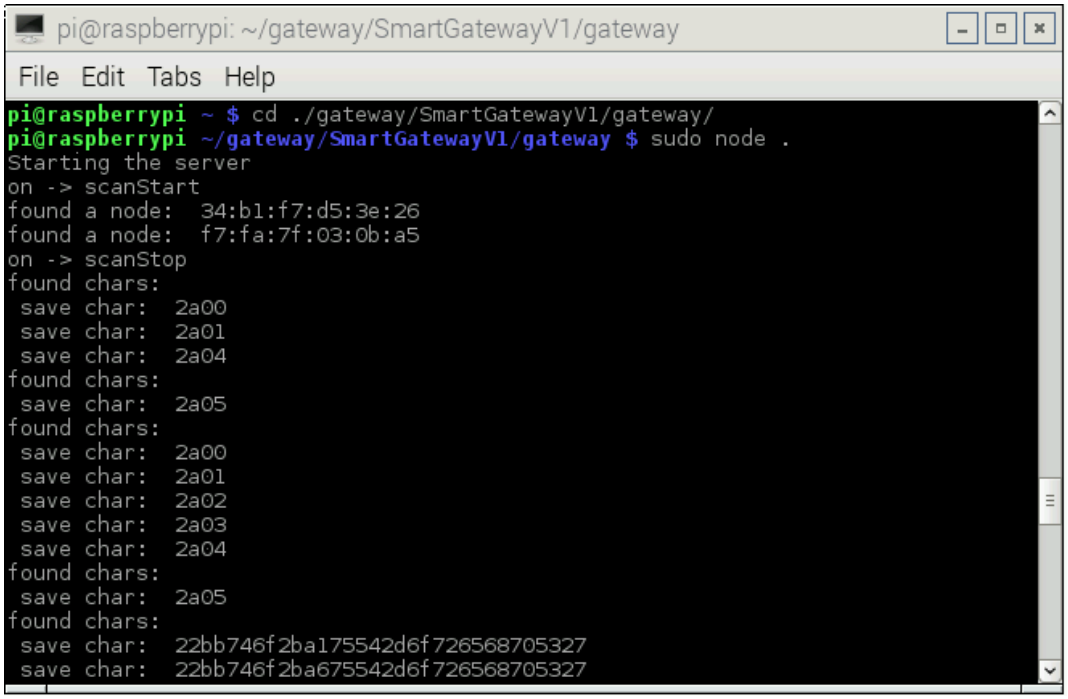
1.2 Installing the gateway solution and run

- Create a new folder under any directory on the Pi's file system. Then extract the zip file to the new folder. You should be able to see this:


pi@raspberrypi: ~
File Edit Tabs Help
pi@raspberrypi ~ $ mkdir gateway
pi@raspberrypi ~ $ unzip gateway-1.zip -d ./gateway

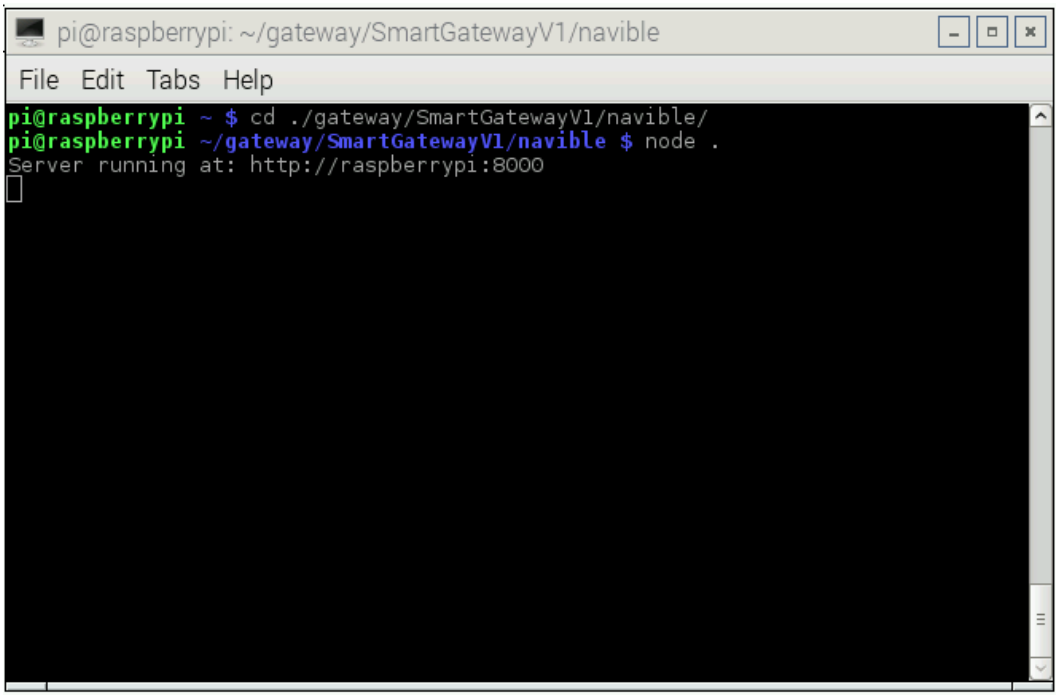

pi@raspberrypi: ~
File Edit Tabs Help
inflating: ./gateway/SmartGatewayV1/navible/routes/nodes.js
inflating: ./gateway/SmartGatewayV1/navible/routes/services.js
creating: ./gateway/SmartGatewayV1/navible/templates/
inflating: ./gateway/SmartGatewayV1/navible/templates/._characteristics
inflating: ./gateway/SmartGatewayV1/navible/templates/._layout.html
inflating: ./gateway/SmartGatewayV1/navible/templates/._nodes
inflating: ./gateway/SmartGatewayV1/navible/templates/._services
creating: ./gateway/SmartGatewayV1/navible/templates/characteristics/
inflating: ./gateway/SmartGatewayV1/navible/templates/characteristics/._show.html
inflating: ./gateway/SmartGatewayV1/navible/templates/characteristics/show.html
inflating: ./gateway/SmartGatewayV1/navible/templates/layout.html
creating: ./gateway/SmartGatewayV1/navible/templates/nodes/
inflating: ./gateway/SmartGatewayV1/navible/templates/nodes/._index.html
inflating: ./gateway/SmartGatewayV1/navible/templates/nodes/._show.html
inflating: ./gateway/SmartGatewayV1/navible/templates/nodes/index.html
inflating: ./gateway/SmartGatewayV1/navible/templates/nodes/show.html
creating: ./gateway/SmartGatewayV1/navible/templates/services/
inflating: ./gateway/SmartGatewayV1/navible/templates/services/._show.html
inflating: ./gateway/SmartGatewayV1/navible/templates/services/show.html
inflating: ./gateway/SmartGatewayV1/Smart Starter Kit EULA.pdf
pi@raspberrypi ~ $
pi@raspberrypi ~ $

- Go to “gateway” folder and type “node .” or “node index.js” in the console, you can see like below. It’s clear that you see the log on the console: gateway start to scan; when scan finished, try to connect with scanned peripherals and discovery their service and characteristics.



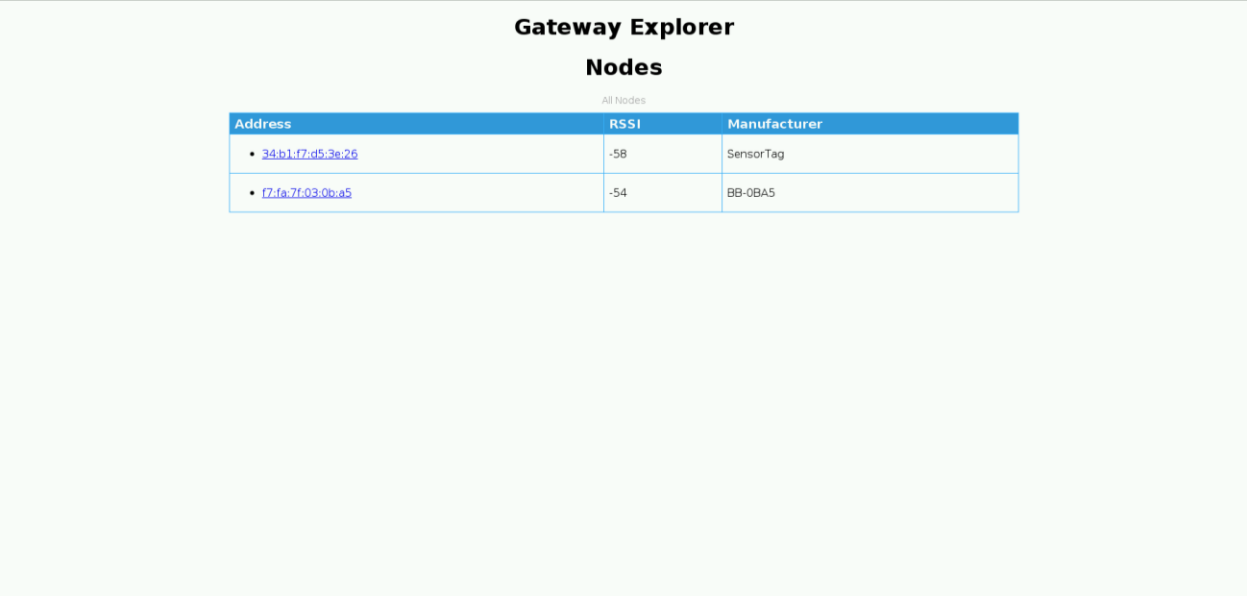
1.3 Installing the NaviBLE web application and run

Once you have extracted the zip file to your new folder, you will see a sub-folder named “Navible”. It contains the front end solution for the gateway. You don’t need extra steps to install the Navible server.
Please go to “navible” folder and type “node .” to start server. The following screenshot shows the result from the terminal window.



1.4 Running the solutions.

You can visit front-end server through browser with Raspberry Pi2 IP address plus port number: 8000 like this: http://192.168.1.222:8000. (Your device's ip address may vary).When everything is OK, you can see below webpage and click Bluetooth peripherals' address to start service and characteristic routing.


Gateway Explorer
Nodes
All Nodes
Address
RSSI
Manufacturer
34:b1:f7:d5:3e:26
-58
SensorTag
f7:fa:7f:03:0b:a5
-54
BB-0BA5