

Wi-Fi Guide: Edimax USB Adapter on BBG

August 3rd 2017

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INTRODUCTION

“How is my BBG supposed to interface with the wi-fi dongle?”

“Will it just connect automatically to any open network?”

“What if there’s the network is password protected?”

These are some of the questions I’m sure most of you have. The idea of connecting your beaglebone to a wi-fi network may seem difficult but it is really straightforward and simple. In this guide we’ll not only show you how to connect to a wi-fi network but also how to have your BBG connect to a network automatically on boot! This way you can run any application you might have autonomously without needing to first connect to the network through the command line.

PARTS USED

1 x Edimax Wi-Fi Nano USB Adapter (EW-7811UnR2) N150 ... *(and 1 x Beaglebone Green)*



INTERFACING WITH ADAPTER

- Insert the wi-fi adapter into the USB slot on your beaglebone green
 - The USB port is below the ethernet port show to the right



Make sure that the adapter is recognized

- Run: ***ifconfig***

ifconfig

...

```
wlan0 Link encap:Ethernet HWaddr 74:da:38:d5:eb:5b
inet addr:192.168.1.92 Bcast:192.168.1.255 Mask:255.255.255.0
inet6 addr: fe80::76da:38ff:fed5:eb5b/64 Scope:Link
inet6 addr: 2001:569:7bae:c400:76da:38ff:fed5:eb5b/64 Scope:Global
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:33 errors:0 dropped:0 overruns:0 frame:0
TX packets:65 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:10170 (9.9 KiB) TX bytes:13698 (13.3 KiB)
```

As long as wlan0 appears, it means that your BBG recognizes the adapter

Don't worry if there isn't an assigned IP address yet

CONNECTING TO NETWORK WITH NETWORK MANAGER

- Install the network manager library to control wi-fi connections to your beaglebone green
 - Run: **apt-get install network-manager**

```
# apt-get install network-manager
```

- View available networks
 - Run: **nmcli dev wifi**

```
* SSID                MODE CHAN RATE  SIGNAL BARS SECURITY
charles              Infra 11  54 Mbit/s 54  ████ WPA1 WPA2
TELUS0556            Infra 7   54 Mbit/s 63  █████ WPA2
* TELUS0556          Infra 1   54 Mbit/s 70  █████ WPA2
TELUS2852            Infra 11  54 Mbit/s 40  ████ WPA2
zeegees-telus1      Infra 1   54 Mbit/s 34  ████ WPA2
```

*-Asterix means that you are currently connected to that wi-fi network

You shouldn't be connected to any network just yet, so you shouldn't have any * to the left of any SSID

CONNECTING TO NETWORK AUTOMATICALLY ON BOOT

- Change to the root directory of your beaglebone

```
# cd ~
```

- Write a script that connects your beaglebone to your preferred wi-fi network
 - Run : `echo "nmcli dev wifi con SSIDname password SSIDpassword" > wifi`
 - Replace SSIDname with the name of your network and SSIDpassword with the password of that network

FOR EXAMPLE:

```
# echo "nmcli dev wifi con TELUS0556 password omegalulnotmypass" > wifi
```

- Move your script into the .profile so that it runs automatically on boot
 - Run: `nano .profile`
 - Then type in the full path of your script at the bottom of .profile and save it

```
# nano .profile
```

```
...
```

```
/root/wifi
```

Reboot your system to make sure that everything works as expected, run `ifconfig` to see if your beaglebone has connected to the wi-fi and try `ping google.ca`

AND you are done!

Troubleshooting

- If you are having problems connecting to a network, try turning the wi-fi off and on again
 - Run: ***nmcli dev wifi off*** and then ***nmcli dev wifi on***
- You can reset your network settings on your BBG by running:
 - ***# /etc/init.d/networking restart***
- It also may be helpful to reboot your BBG by either hitting the reset button by your BBG micro-USB port, or typing reboot in your BBG terminal

reboot
