



BB-Config



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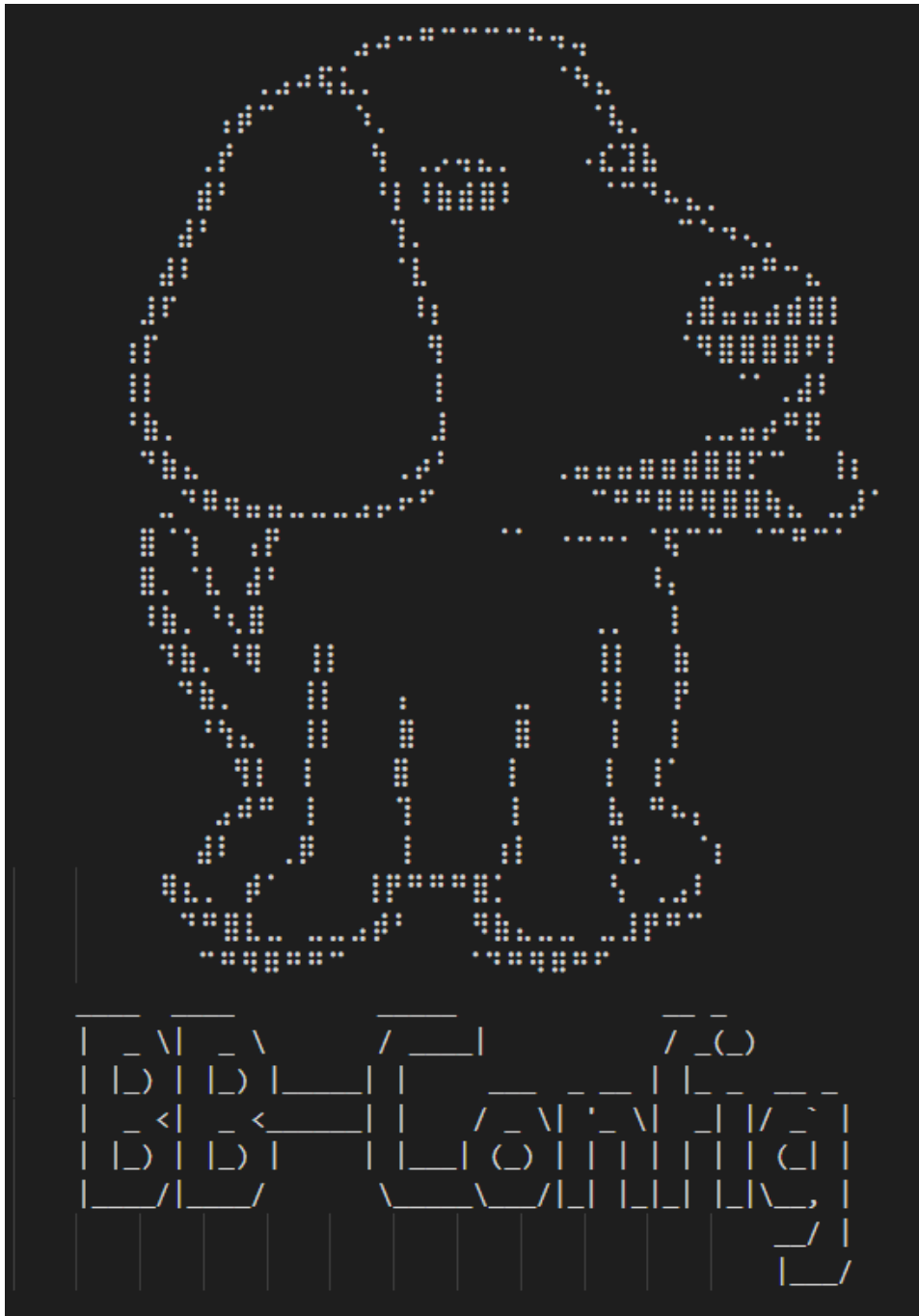
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Chapter 1

BB-Config Detail

Configure your beagle devices easily.

[Github](#)



1.1 What is BB-Config

BB-Config is software that makes the most common low-level configuration changes of beagle devices easily and provides a terminal UI.

BB-Config is using [FTXUI](#) (C++ Functional Terminal User Interface) which provides a simple and elegant looking UI.

The screenshot shows the BB-Config application interface. On the left is a sidebar menu with the following items: ↑ bb-config, [Exit], About, System (with sub-items: PRU enable/disable, GPIO, DAC, EMMC and MicroSD stats, LEDs, uEnv, Password, SSH, PinMux, Services), > ADC, Network (with sub-item: WiFi), > Internet Sharing and Client Config, Info, and > About (highlighted in green). The main content area is titled 'bb-config' and contains a table with the following information:

Application	bb-config
Description	bb-config is a tool-set, that aims to provide the functionality to make the most common low-level configuration changes in beagle devices easily
Website	https://github.com/SAtacker/bb-config
Commit	https://github.com/SAtacker/bb-config/commit/6d2332c32c5ca0e4fb51a
Version	85

Below the table is a 'View Logo' button and a large ASCII art logo for 'BB-Config'.

Chapter 2

Build from Source

2.1 Dependencies

- g++
- cmake
- glib-2.0
- libnm

2.2 Build

```
git clone https://git.beagleboard.org/gsoc/bb-config
cd bb-config
mkdir build
cd build
cmake ..
make -j$(nproc)
```

2.3 Install

```
sudo make install
```

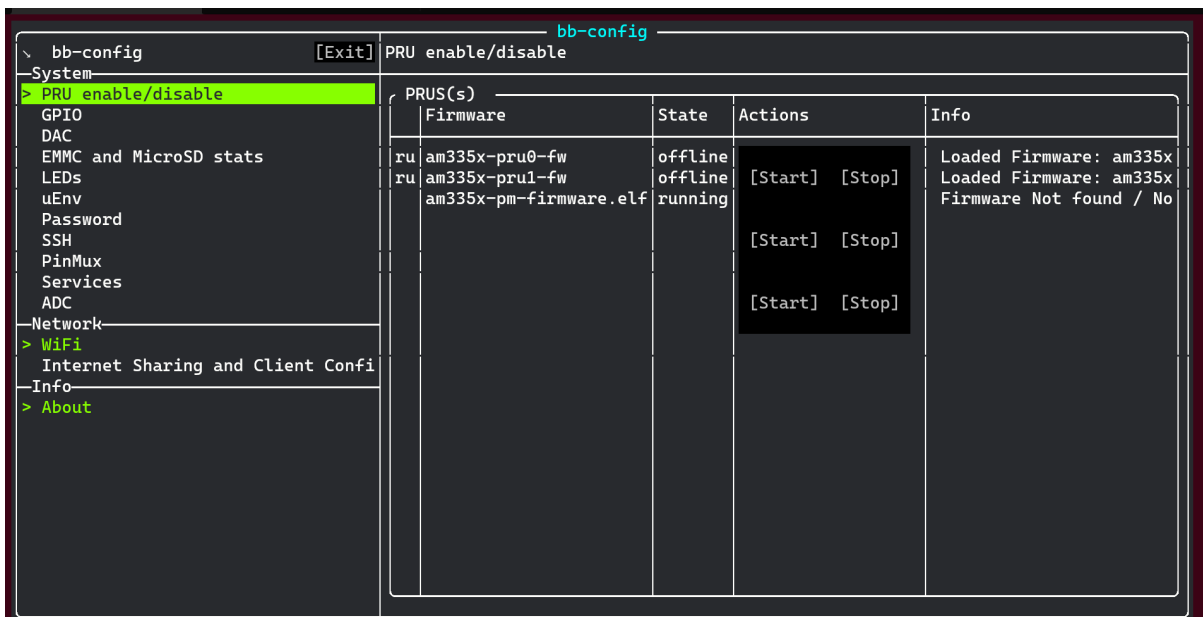

Chapter 3

Features

3.1 BB-Config v1.x

3.1.1 PRU Enable/Disable

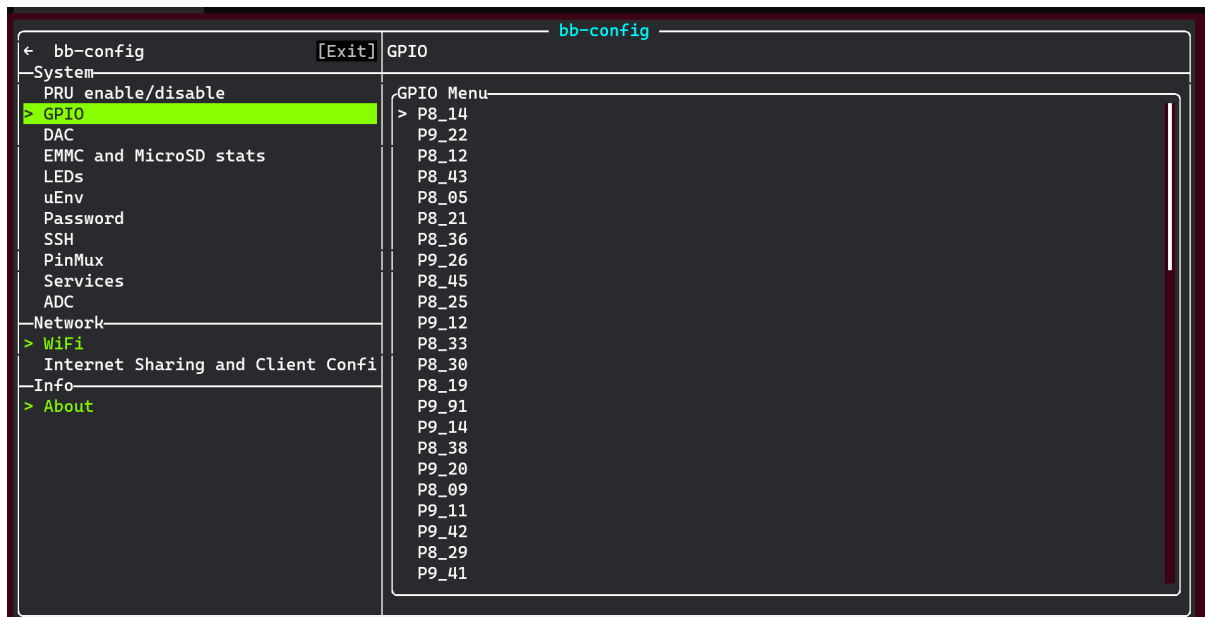
- Enable/Disable PRU



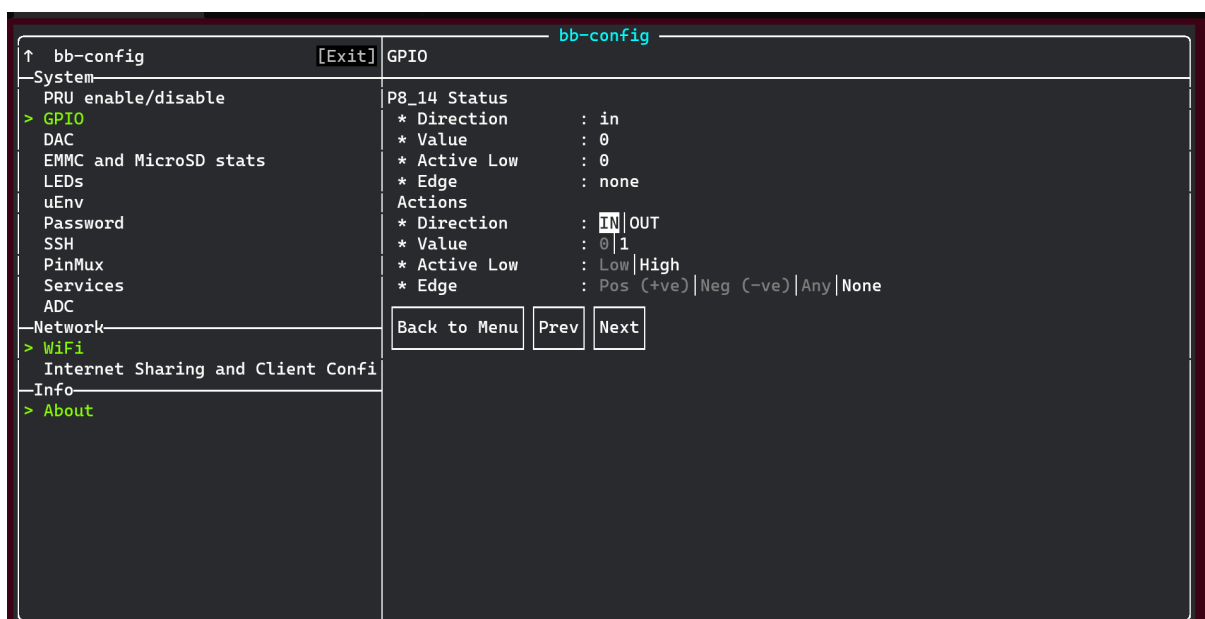
3.1.2 GPIO

- Turn On/Off gpio

GPIO Menu

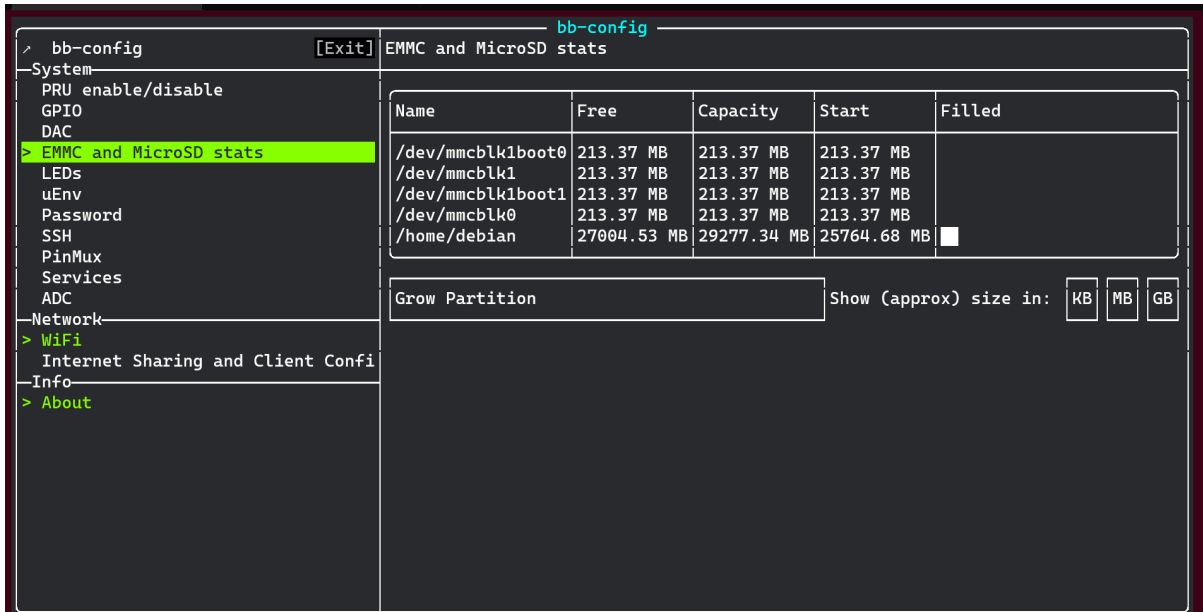


GPIO Setting



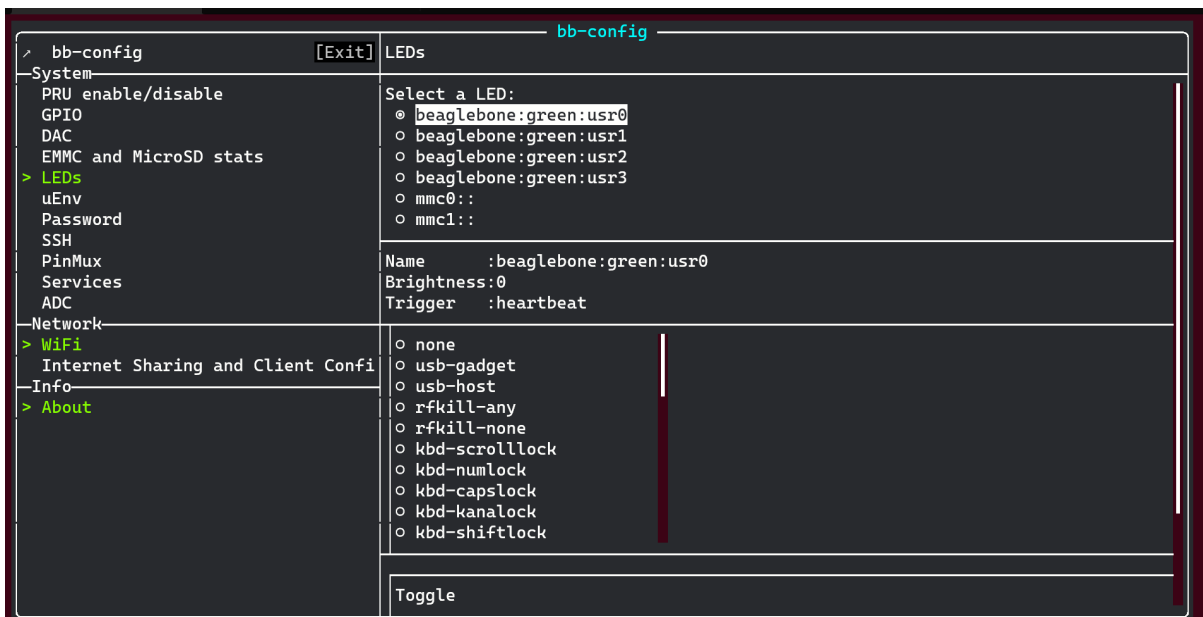
3.1.3 EMMC and MicroSD Stats

- Storage stats & grow partition



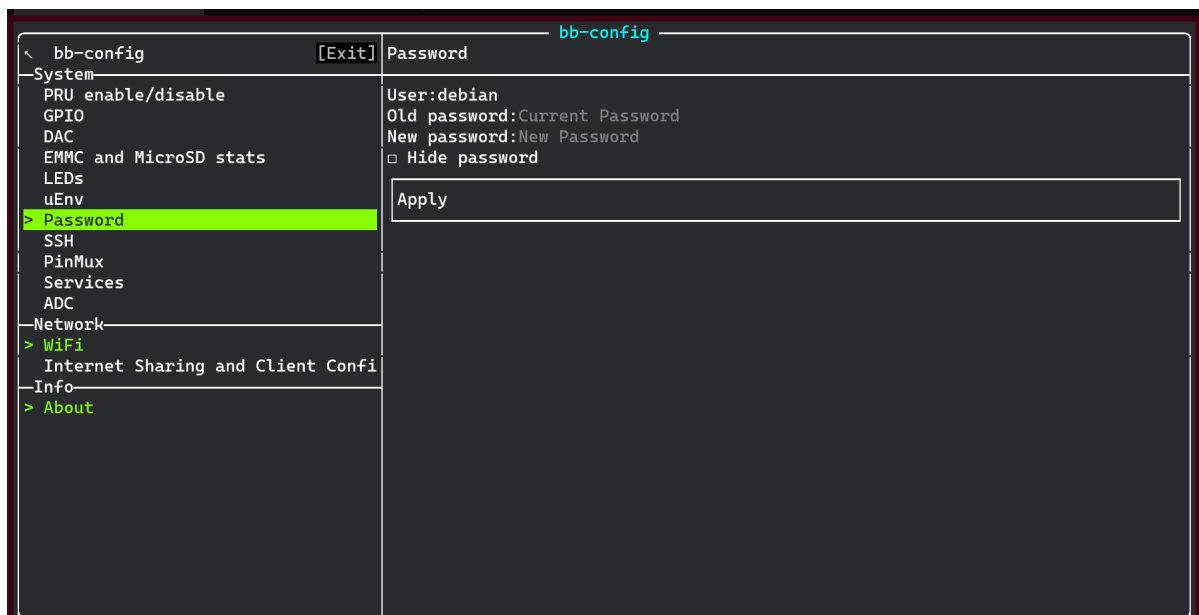
3.1.4 LEDs

- Config board build in LEDs



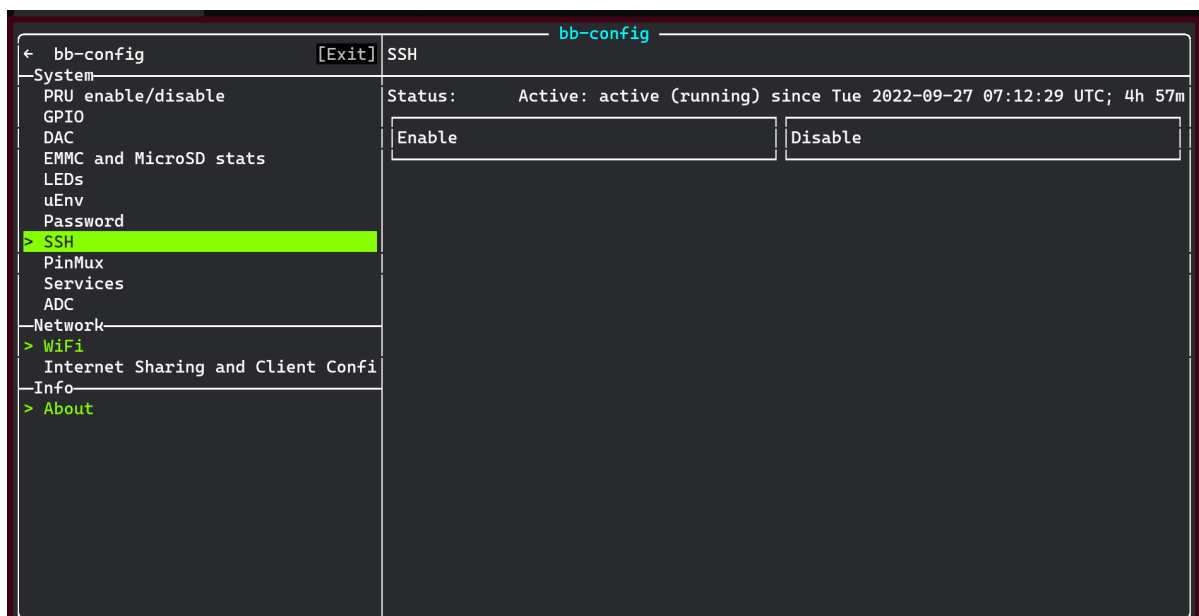
3.1.5 Password

- Change users password



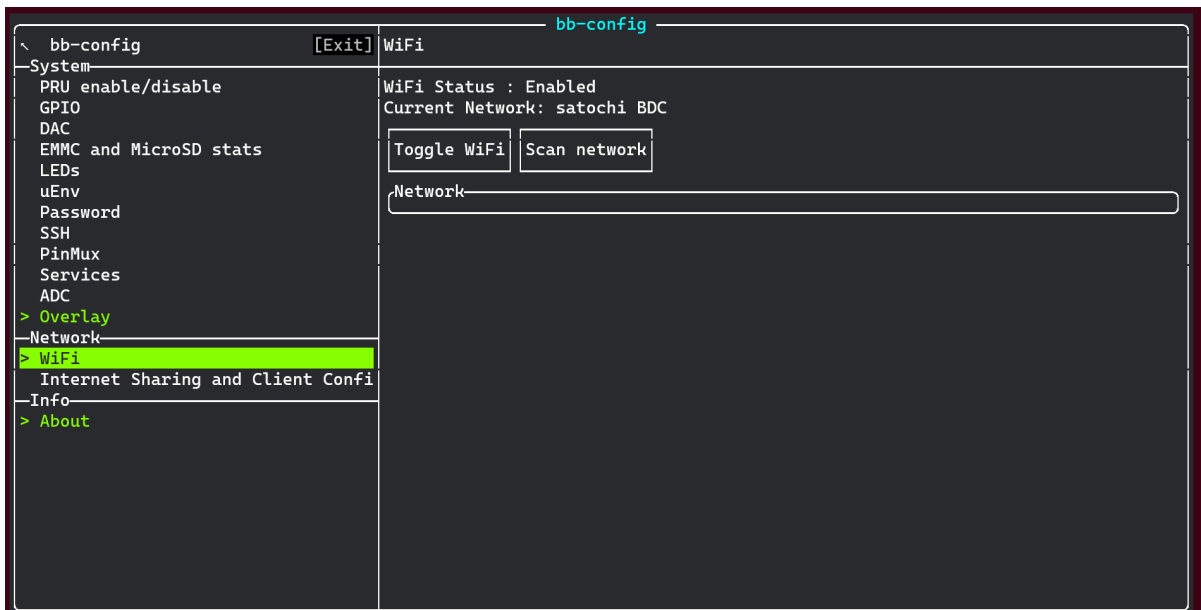
3.1.6 SSH

- Enable/Disable SSH

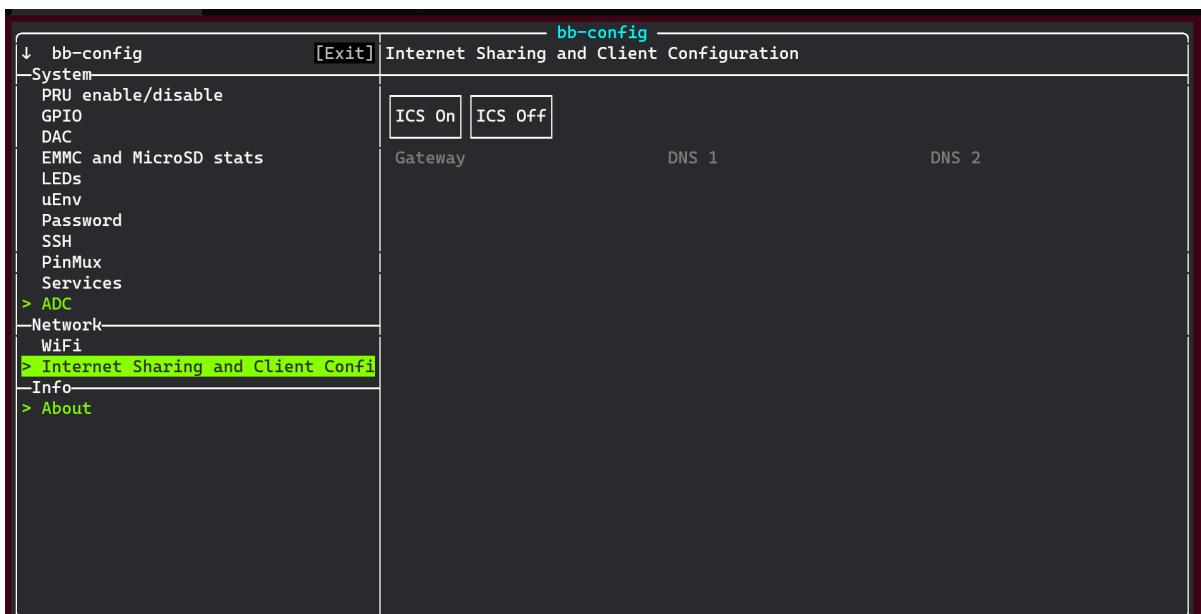


3.1.7 WiFi

- Connect to Wi-Fi



3.1.8 Internet Sharing and Client Config



- Note: You'll have to configure your host Following is an example script:

```
echo 1 > /proc/sys/net/ipv4/ip_forward
iptables --table nat --append POSTROUTING --out-interface wlp4s0 -j MASQUERADE
iptables --append FORWARD --in-interface wlp4s0 -j ACCEPT
```

3.1.9 About

bb-config [Exit] About

Application	bb-config
Description	bb-config is a tool-set, that aims to provide the functionality to make the most common low-level configuration changes in beagle devices easily
Website	https://github.com/SAtacker/bb-config
Commit	https://github.com/SAtacker/bb-config/commit/6d2332c32c5ca0e4fb51a
Version	85

View Logo

S A T A C K E R

3.2 BB-Config v2.x

3.2.1 ADC (Graph)

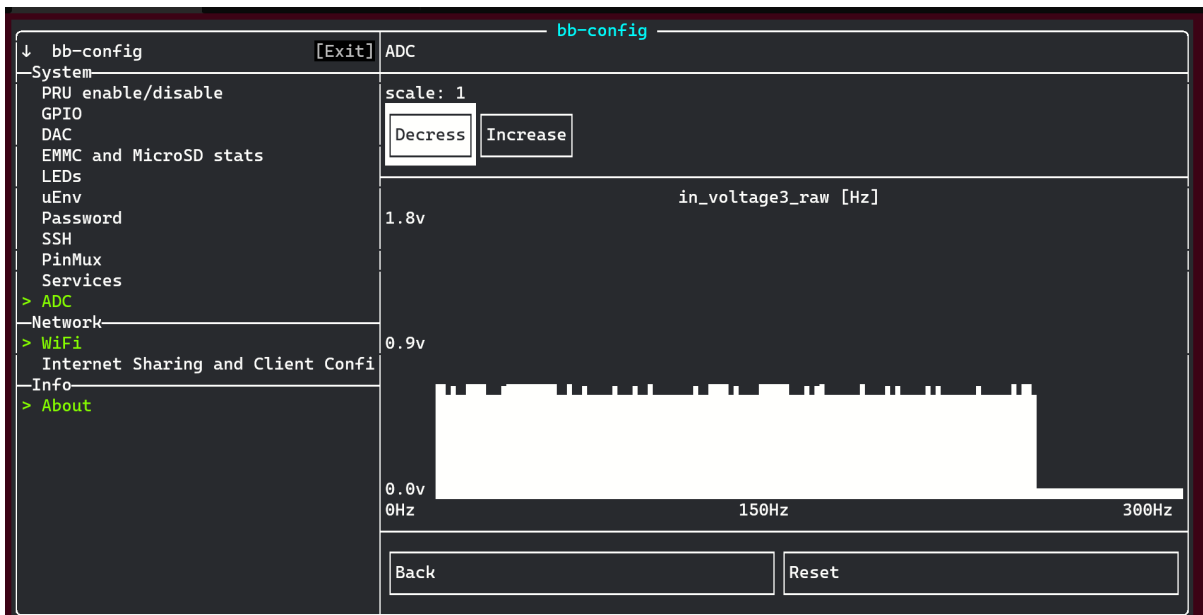
- Plot graph for Analogue pin

bb-config [Exit] ADC

Select Analog Pin :

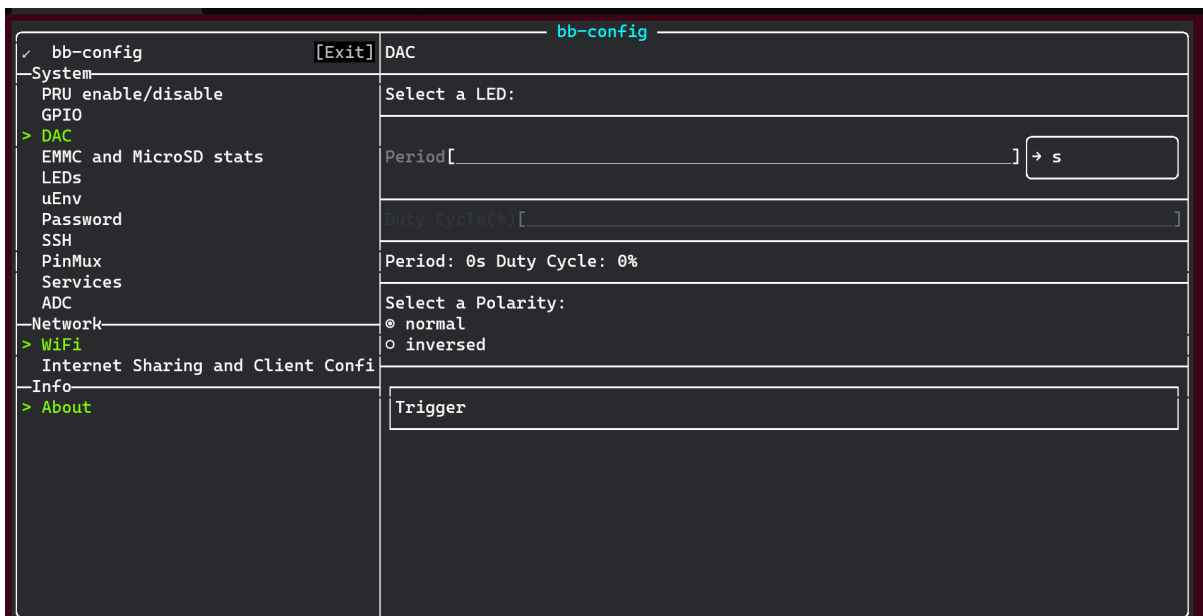
- in_voltage6_raw
- in_voltage3_raw
- in_voltage7_raw
- in_voltage0_raw
- in_voltage4_raw
- in_voltage1_raw
- in_voltage5_raw
- in_voltage2_raw

Generate



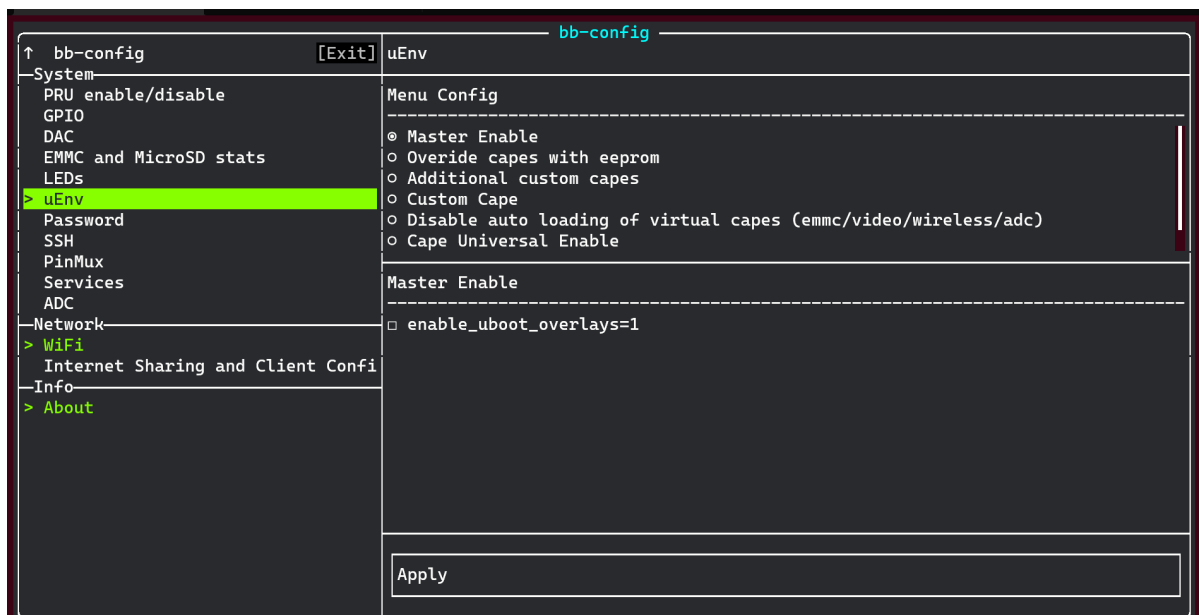
3.2.2 DAC (PWM)

- Generate PWM waveform



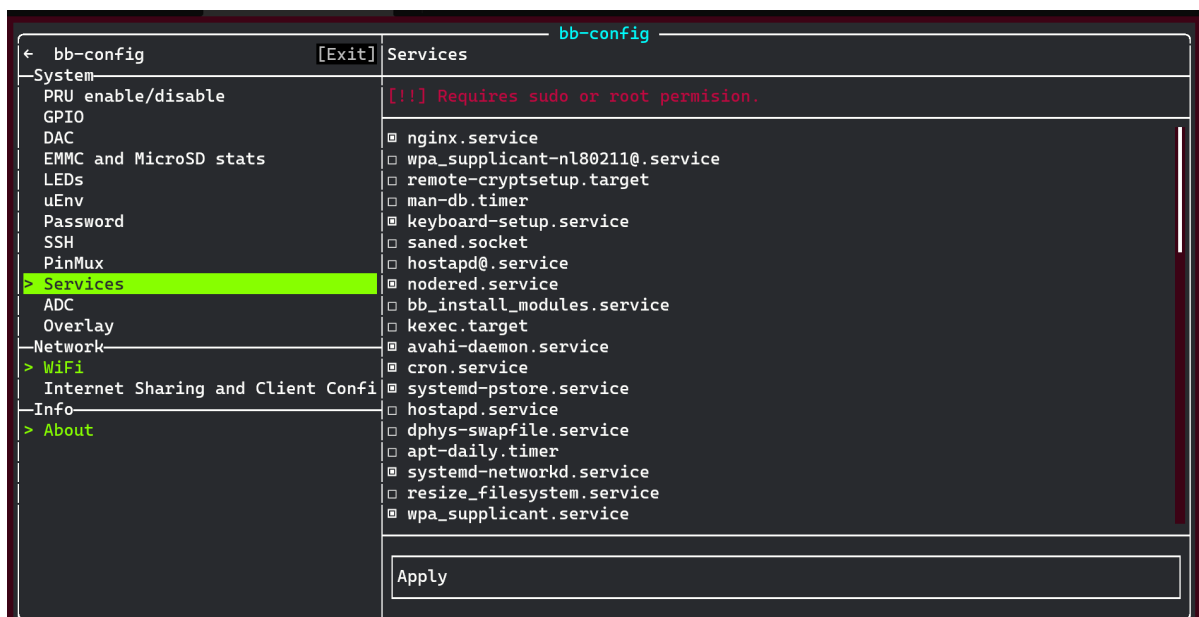
3.2.3 uEnv

- Enable/Disable boot configuration



3.2.4 services

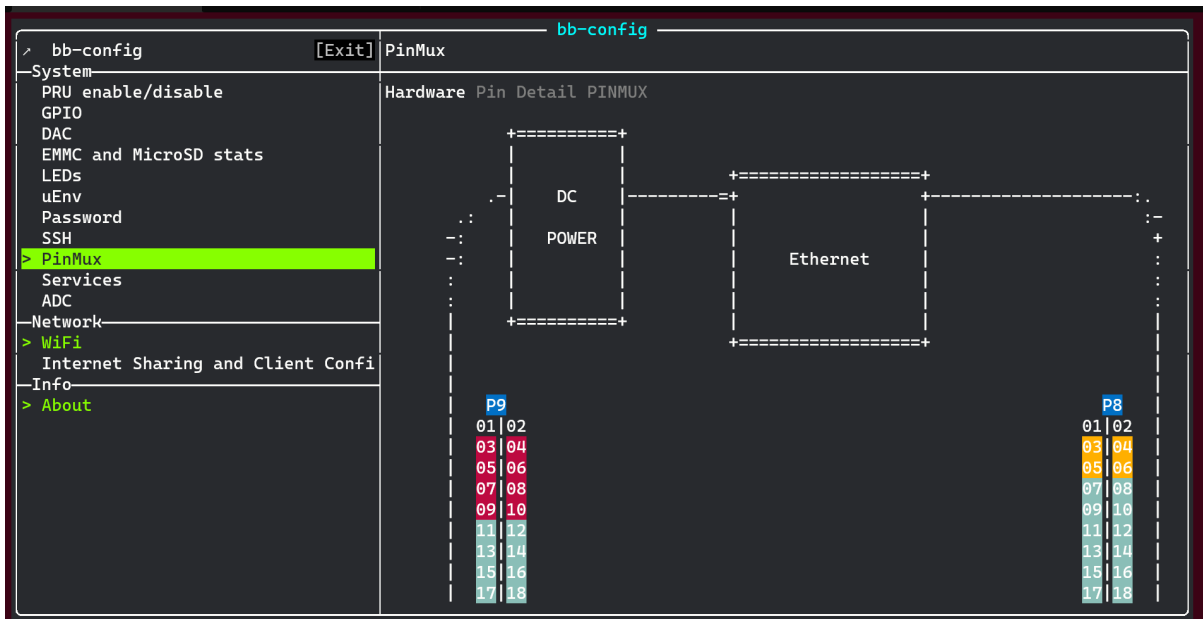
- Enable/Disable services startup at boot



3.2.5 PINMUX

- Display PIN I/O detail
- Config PINMUX

Hardware Display

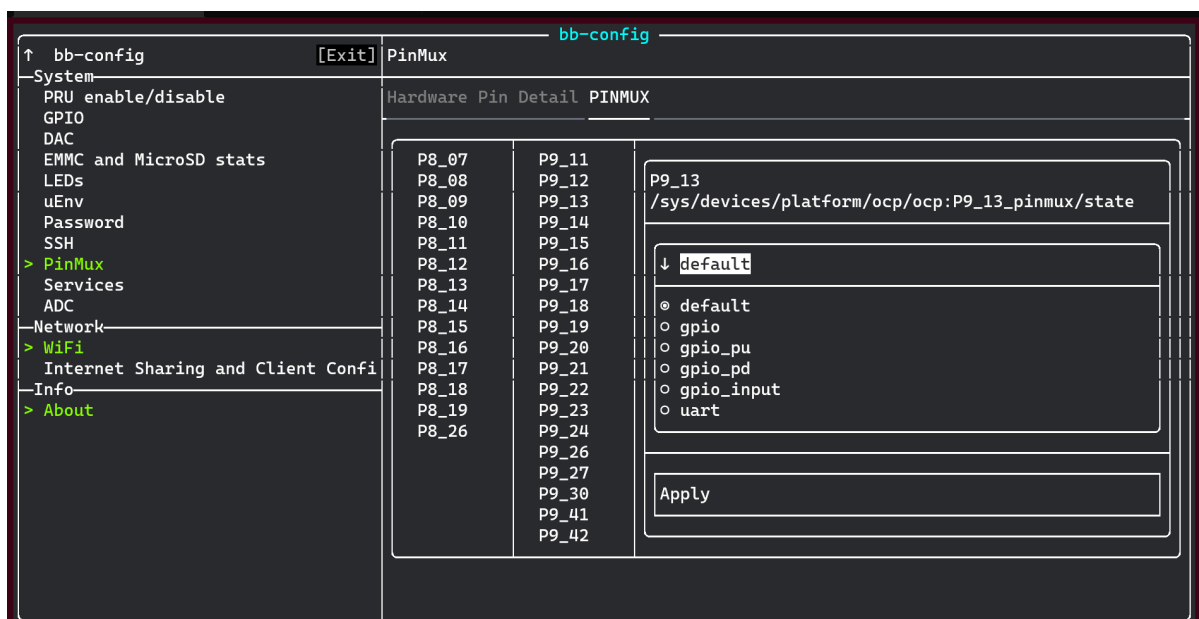


Pin Table References

The screenshot shows the 'bb-config' interface with the 'PinMux' menu selected. The left sidebar is the same as in the previous image. The main display area shows 'Hardware Pin Detail PINMUX' with a detailed pin table. The table has columns for pin numbers (1-44) and content references. The content references include 'gnd', 'emmc', 'gpio', 'hdmi', 'power', 'system', 'i2c', 'audio', and 'adc'. The table is color-coded by function: gnd (yellow), emmc (orange), gpio (teal), hdmi (light blue), power (red), system (dark red), i2c (blue), audio (orange), and adc (magenta).

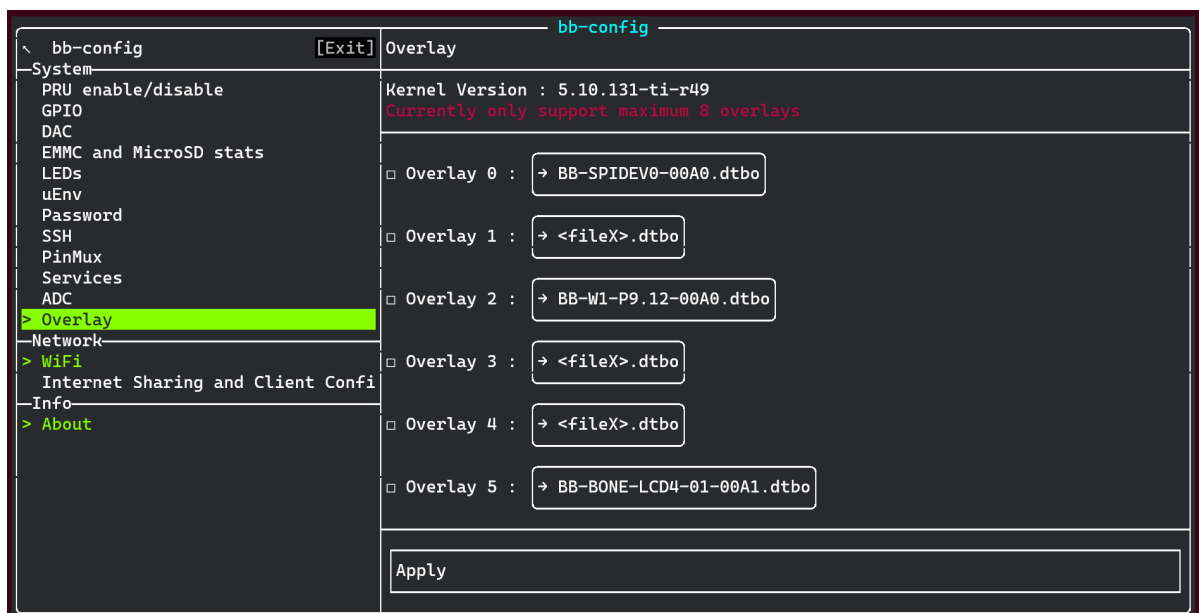
Pin	Content	Pin	Content
1	gnd	21	emmc
2	gnd	22	emmc
3	emmc	23	emmc
4	emmc	24	emmc
5	emmc	25	gpio
6	emmc	26	gpio
7	gpio	27	hdmi
8	gpio	28	hdmi
9	gpio	29	hdmi
10	gpio	30	hdmi
11	gpio	31	hdmi
12	gpio	32	hdmi
13	gpio	33	hdmi
14	gpio	34	hdmi
15	gpio	35	hdmi
16	gpio	36	hdmi
17	gpio	37	hdmi
18	gpio	38	hdmi
19	emmc	39	hdmi
20	emmc	40	hdmi
21	emmc	41	hdmi
22	emmc	42	hdmi
23	emmc	43	hdmi
24	emmc	44	hdmi
25	gpio		
26	gpio		
27	hdmi		
28	hdmi		
29	hdmi		
30	hdmi		
31	hdmi		
32	hdmi		
33	hdmi		
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35	hdmi		
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39	hdmi		
40	hdmi		
41	hdmi		
42	hdmi		
43	hdmi		
44	hdmi		

Pin Config



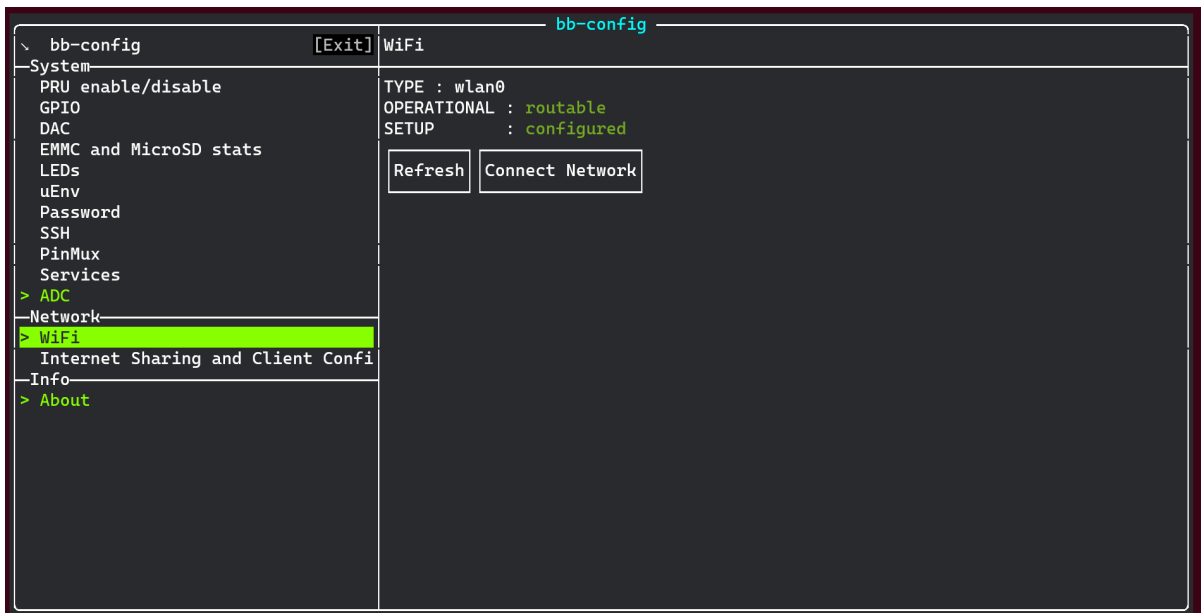
3.2.6 Overlay (dts)

- Enable/Disable Device Tree Overlay in Boot option
- Select dtbo file and automate update in uEnv.txt



3.2.7 WiFi (D-Bus)

- Connect to WiFi with wpa_supplicant
- Support for Debian 11



Chapter 4

Version

4.1 GSOC@21 BB-Config v1.x

- Name: Shreyas Atre
- Mentors: Arthur Sonzogni, Abhishek Kumar, Deepak Khatri.
- Organization: BeagleBoard.org
- Code: <https://github.com/SAtacker/beagle-config>
- Project Page: <https://summerofcode.withgoogle.com/projects/#6718016412188672>
- Progress Log: <https://satacker.github.io/gsoc-log/>
- Kanban: <https://github.com/SAtacker/beagle-config/projects/1>
- Initial Video: <https://youtu.be/vFUWCzqE6xl>

4.2 GSOC@22 BB-Config v2.x

- Name: Seak Jian De
- Mentors: Shreyas Atre, Vedant Paranjape, Vaishnav Achath.
- Organization: BeagleBoard.org
- Code: <https://git.beagleboard.org/gsoc/bb-config>
- Project Page: <https://summerofcode.withgoogle.com/programs/2022/projects/2DbiYPIY>
- Progress Log: <https://forum.beagleboard.org/t/weekly-progress-report-bb-config-improvements-gpio-benchmark/32357/2>
- Initial Video: https://youtu.be/V_Euk5uWY1o