



# BB-Config



# Table of contents

<b>1 BB-Config Detail</b>	<b>1</b>
1.1 What is BB-Config	2
<b>2 Build from Source</b>	<b>5</b>
2.1 Dependencies	5
2.2 Build	5
2.3 Install	5
<b>3 Features</b>	<b>7</b>
3.1 BB-Config v1.x	7
3.1.1 PRU Enable/Disable	7
3.1.2 GPIO	7
3.1.3 EMMC and MicroSD Stats	8
3.1.4 LEDs	9
3.1.5 Password	9
3.1.6 SSH	10
3.1.7 WiFi	10
3.1.8 Internet Sharing and Client Config	11
3.1.9 About	12
3.2 BB-Config v2.x	12
3.2.1 ADC (Graph)	12
3.2.2 DAC (PWM)	13
3.2.3 uEnv	13
3.2.4 services	14
3.2.5 PINMUX	14
3.2.6 Overlay (dts)	16
3.2.7 WiFi (D-Bus)	16
<b>4 Version</b>	<b>19</b>
4.1 GSOC@21 BB-Config v1.x	19
4.2 GSOC@22 BB-Config v2.x	19

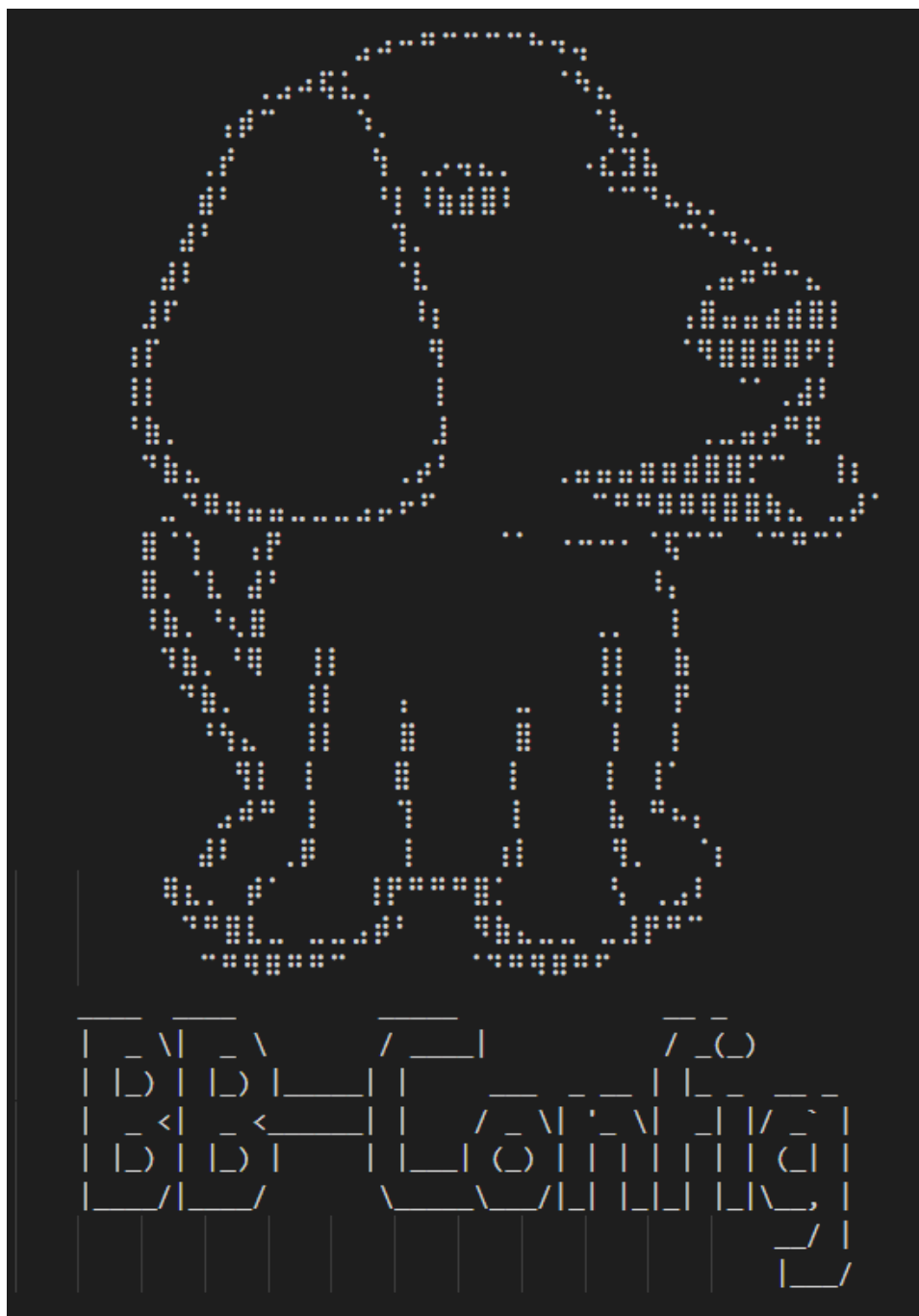


# Chapter 1

## 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 (PRU enable/disable, GPIO, DAC, EMMC and MicroSD stats, LEDs, uEnv, Password, SSH, PinMux, Services), > ADC, Network (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	<a href="https://github.com/SAtacker/bb-config">https://github.com/SAtacker/bb-config</a>
Commit	<a href="https://github.com/SAtacker/bb-config/commit/6d2332c32c5ca0e4fb51a">https://github.com/SAtacker/bb-config/commit/6d2332c32c5ca0e4fb51a</a>
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
```





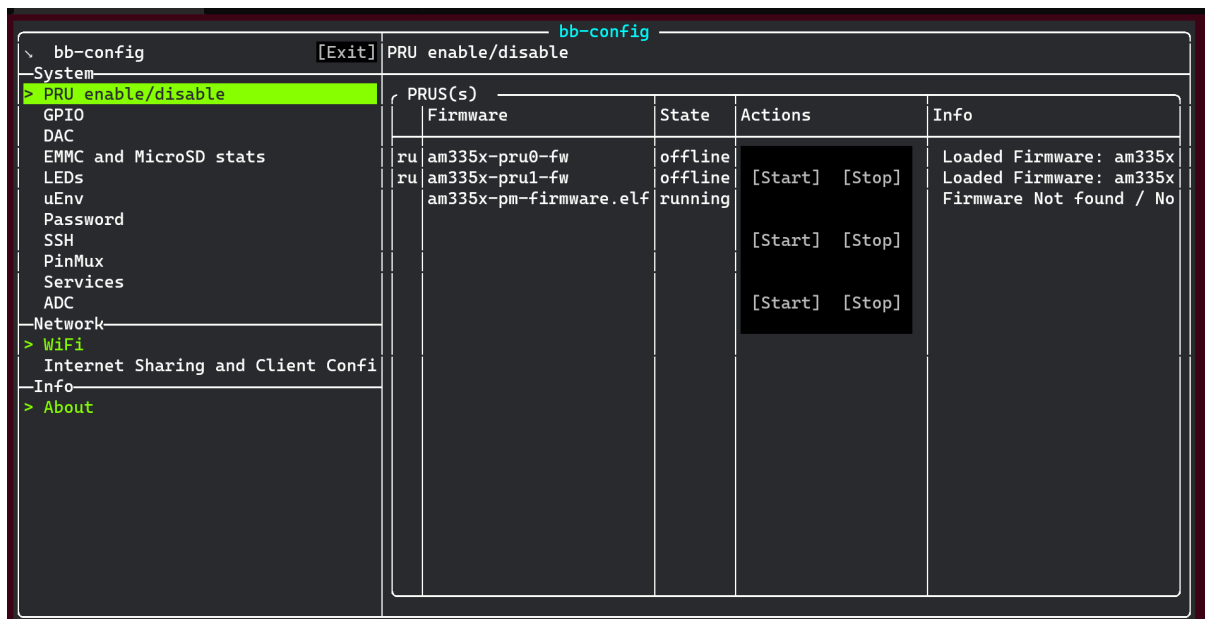
# Chapter 3

## Features

### 3.1 BB-Config v1.x

#### 3.1.1 PRU Enable/Disable

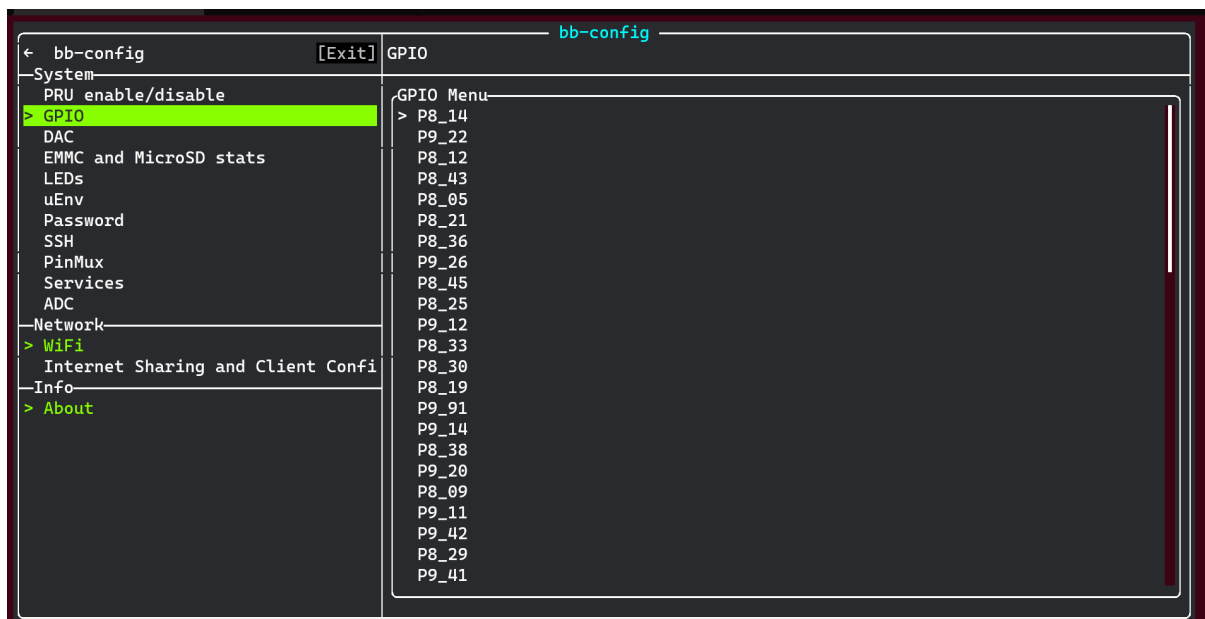
- Enable/Disable PRU



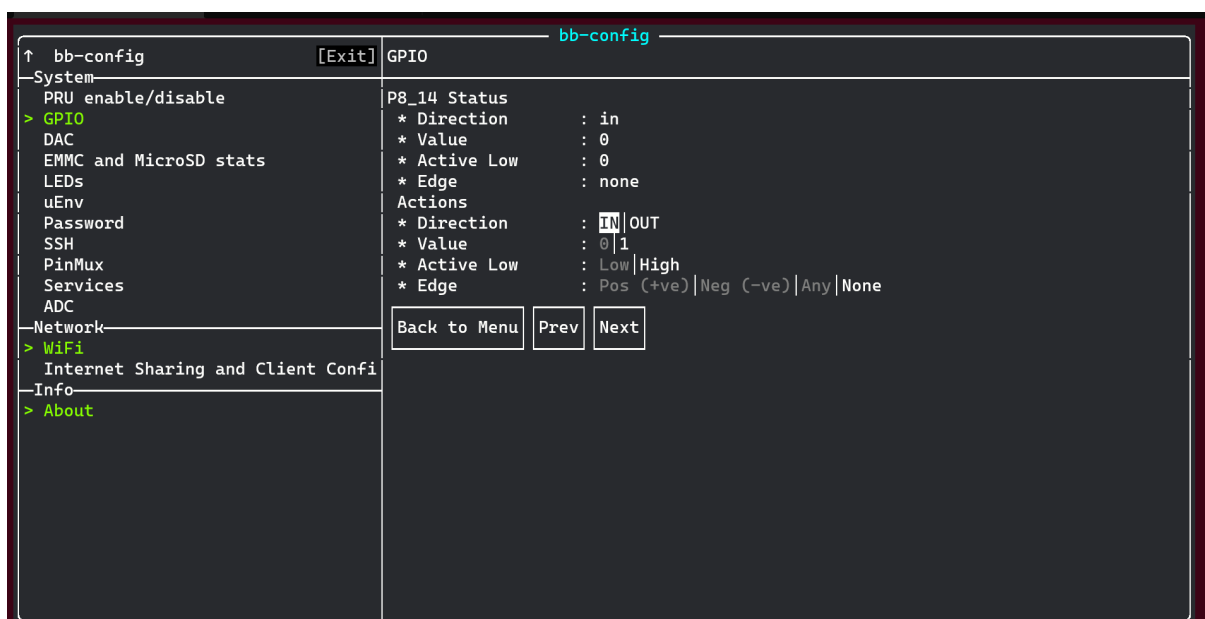
#### 3.1.2 GPIO

- Turn On/Off gpio

### GPIO Menu

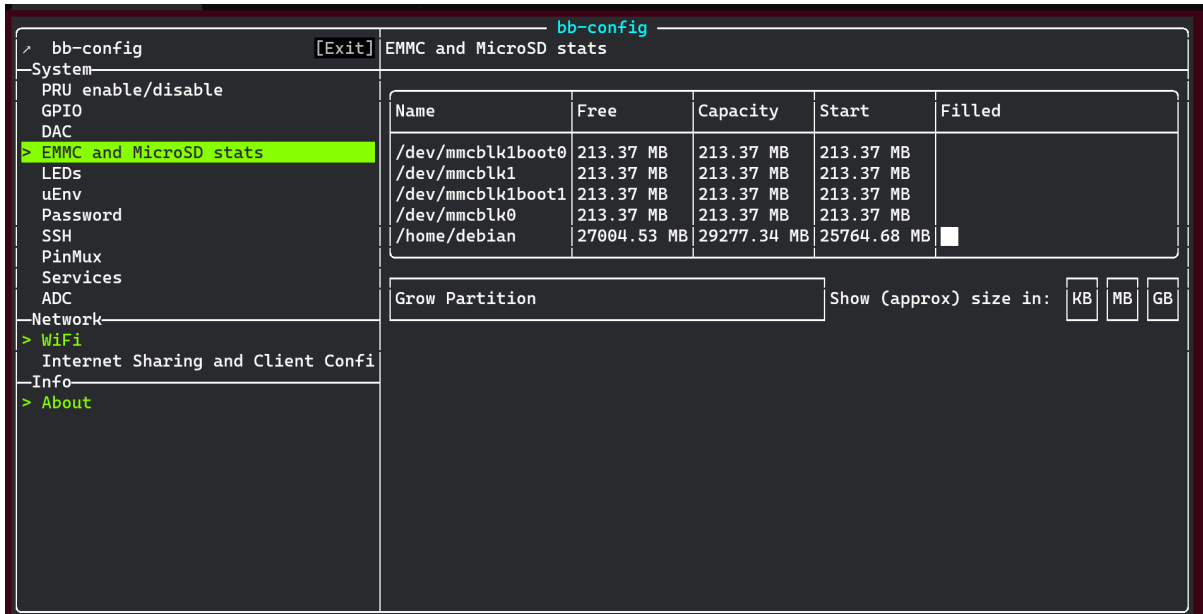


### GPIO Setting



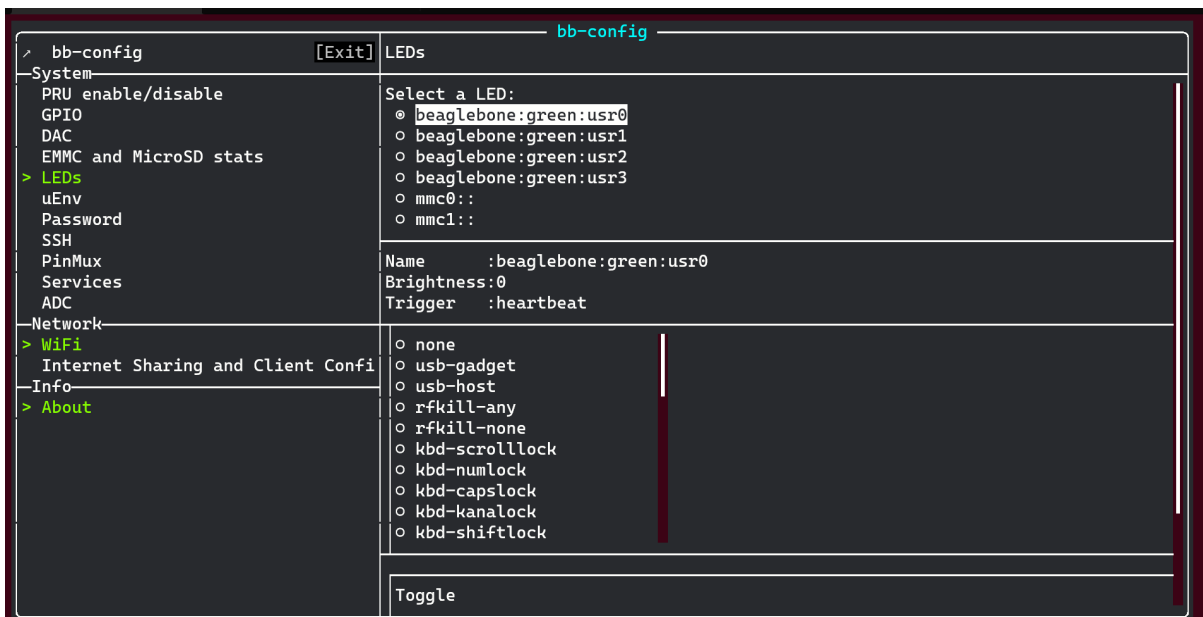
### 3.1.3 EMMC and MicroSD Stats

- Storage stats & grow partition



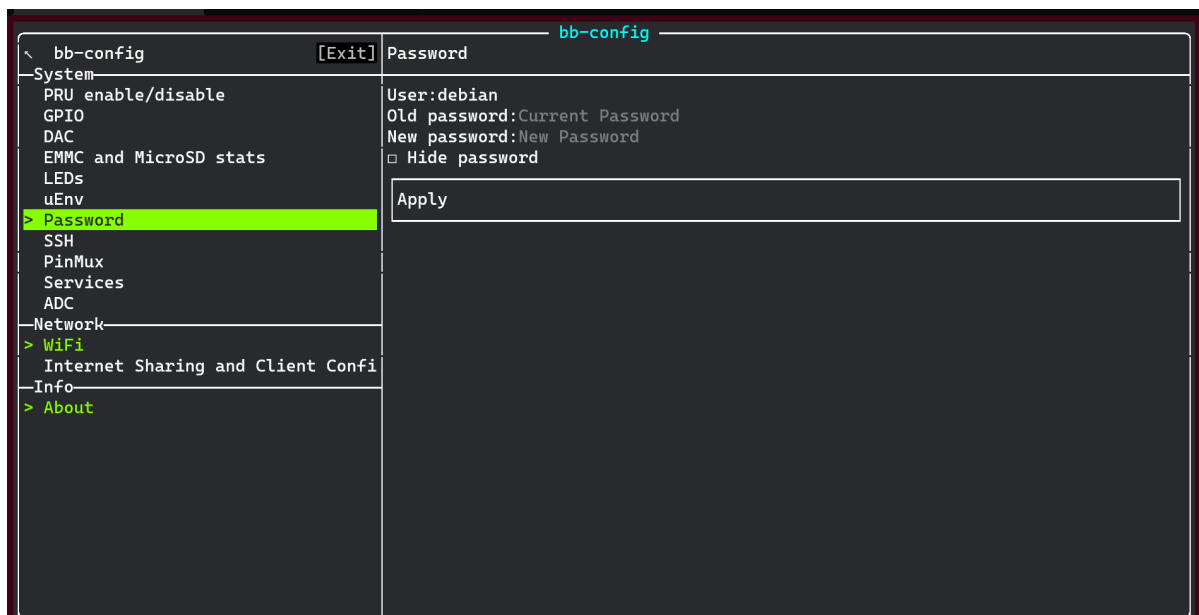
### 3.1.4 LEDs

- Config board build in LEDs



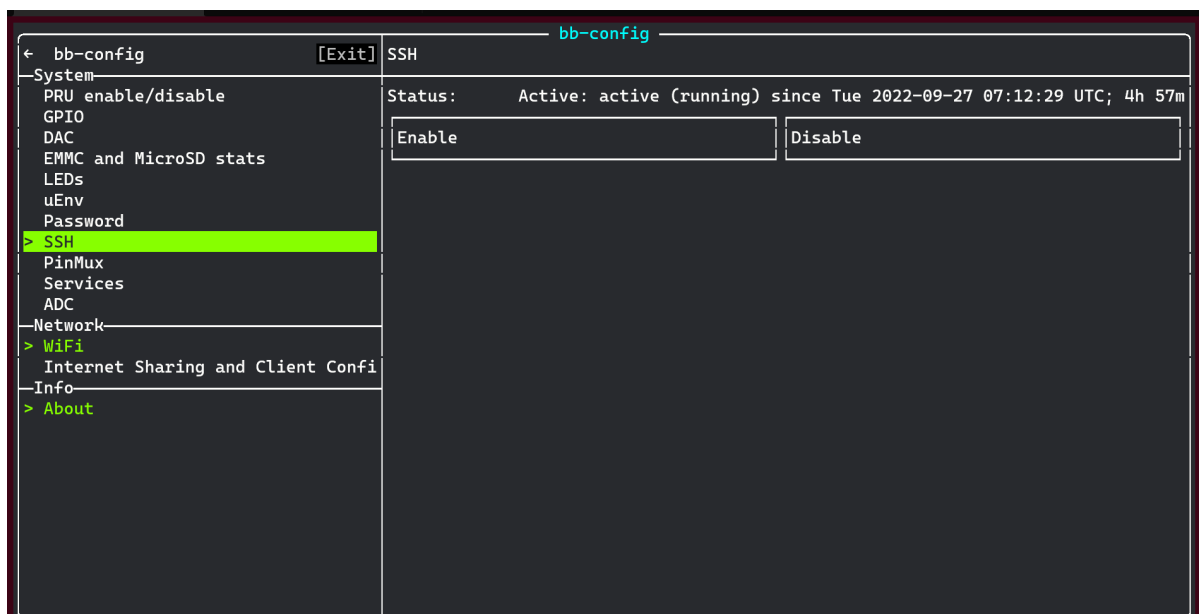
### 3.1.5 Password

- Change users password



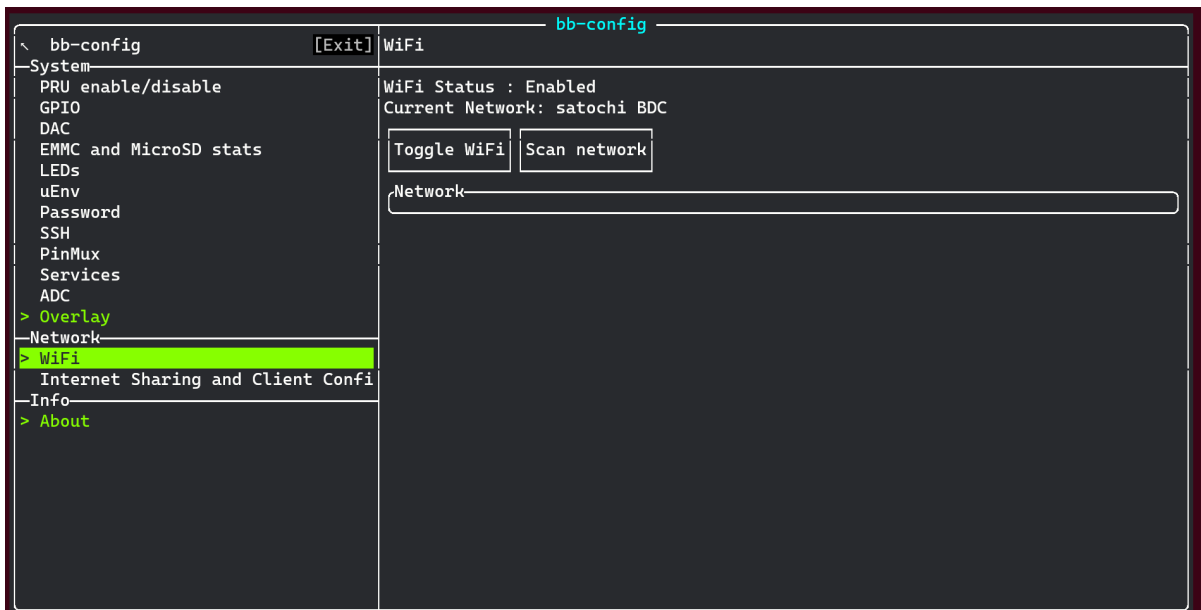
### 3.1.6 SSH

- Enable/Disable SSH

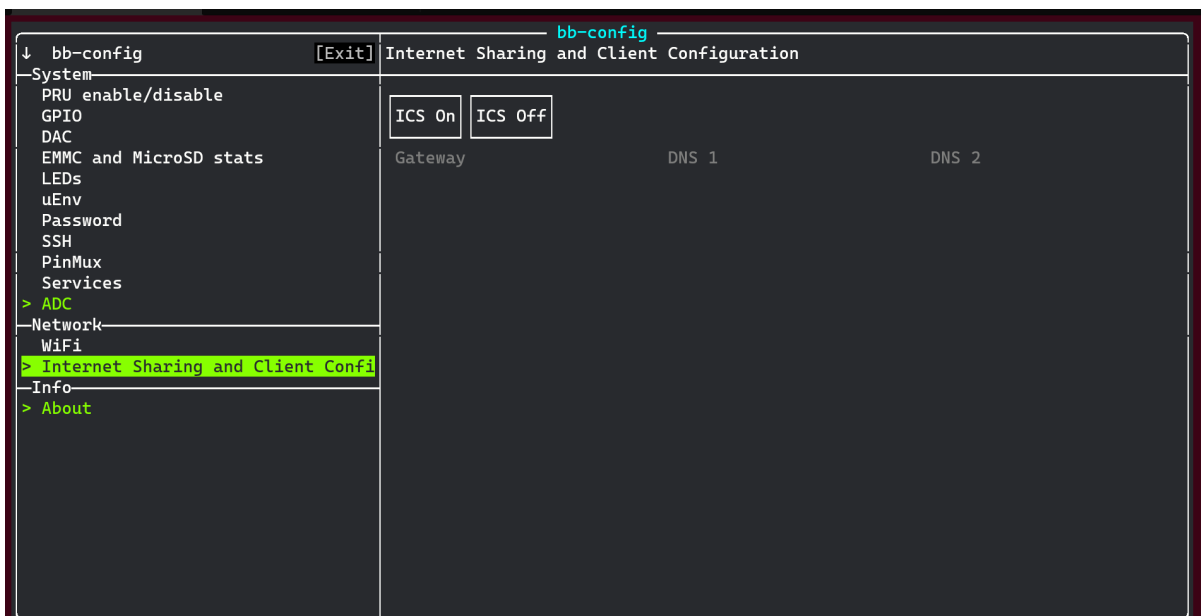


### 3.1.7 WiFi

- Connect to Wi-Fi



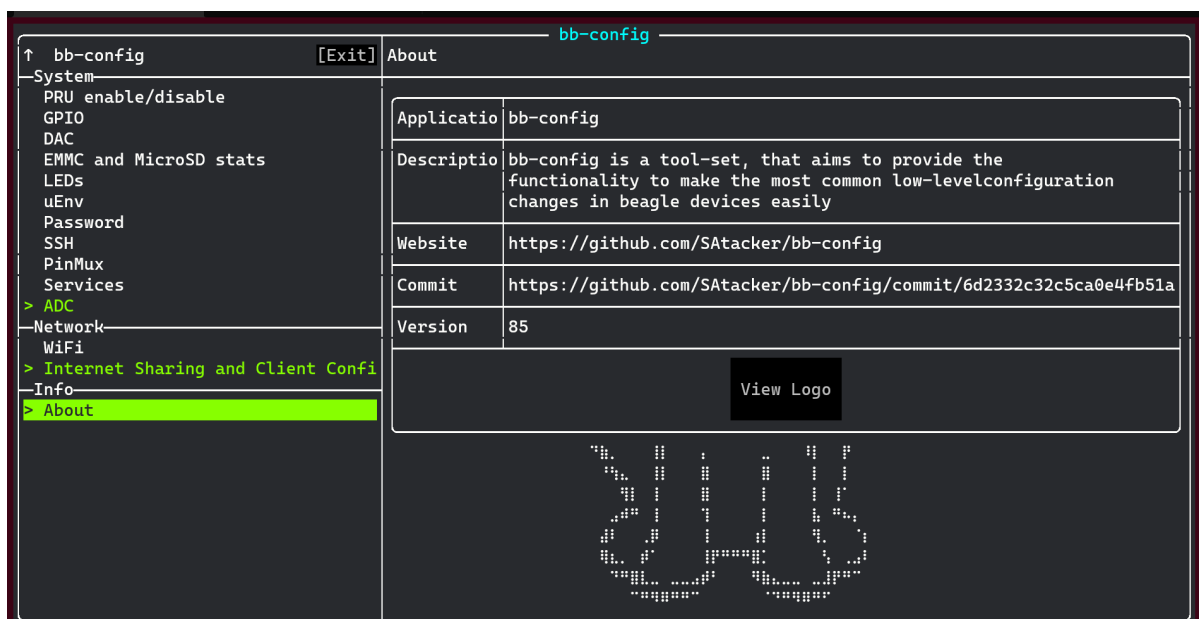
### 3.1.8 Internet Sharing and Client Config



- 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
```

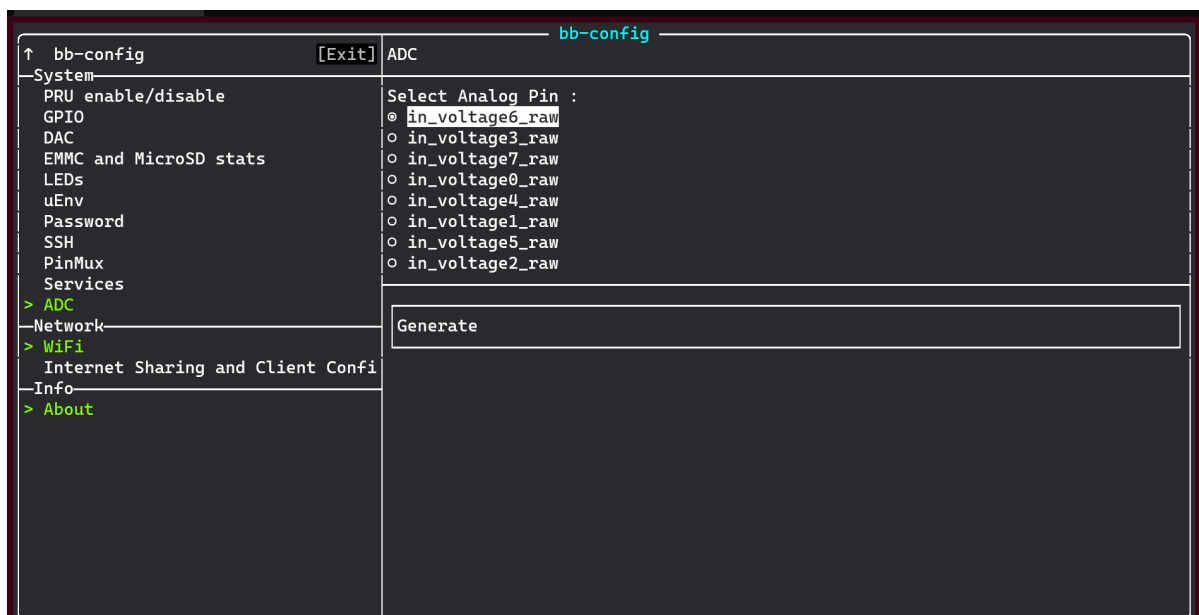
### 3.1.9 About



## 3.2 BB-Config v2.x

### 3.2.1 ADC (Graph)

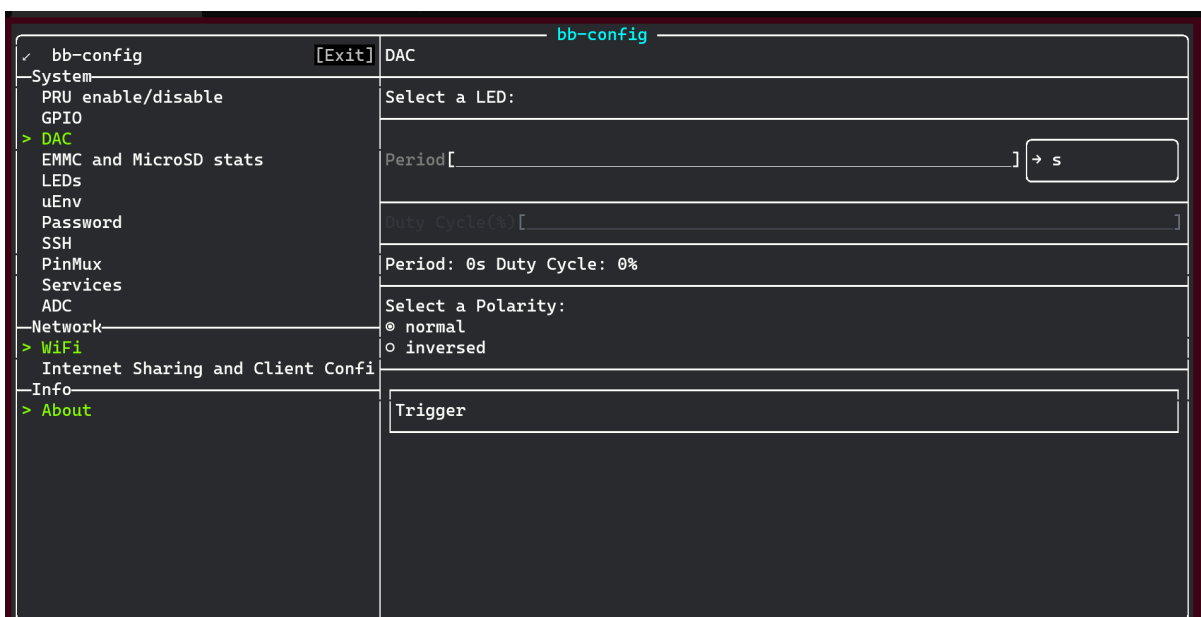
- Plot graph for Analogue pin





### 3.2.2 DAC (PWM)

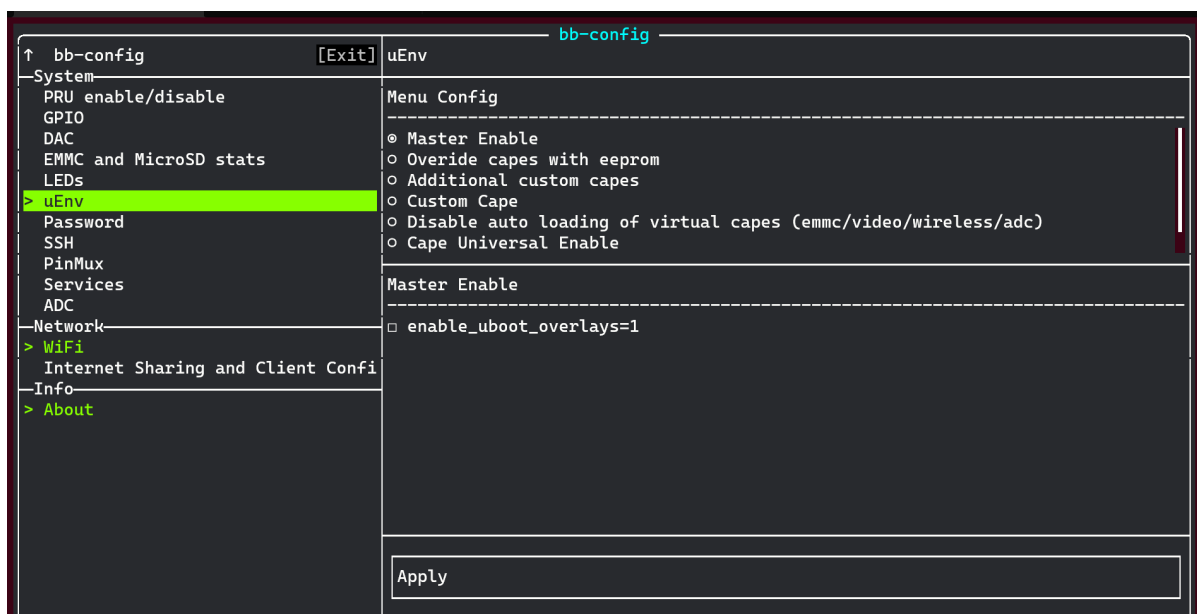
- Generate PWM waveform



### 3.2.3 uEnv

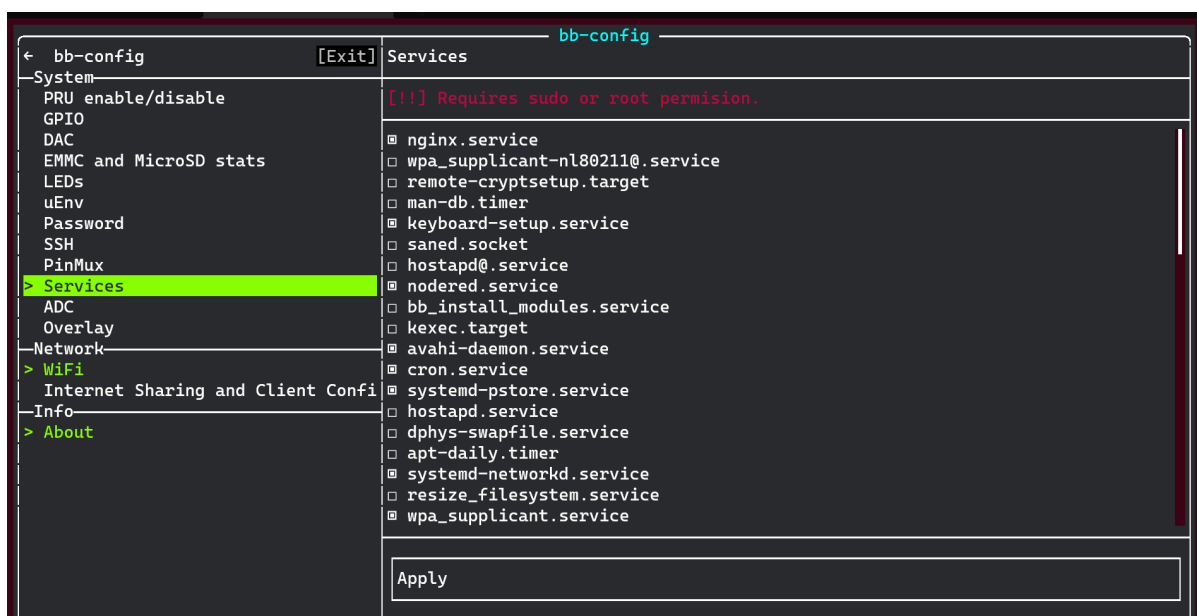
- Enable/Disable boot configuration





### 3.2.4 services

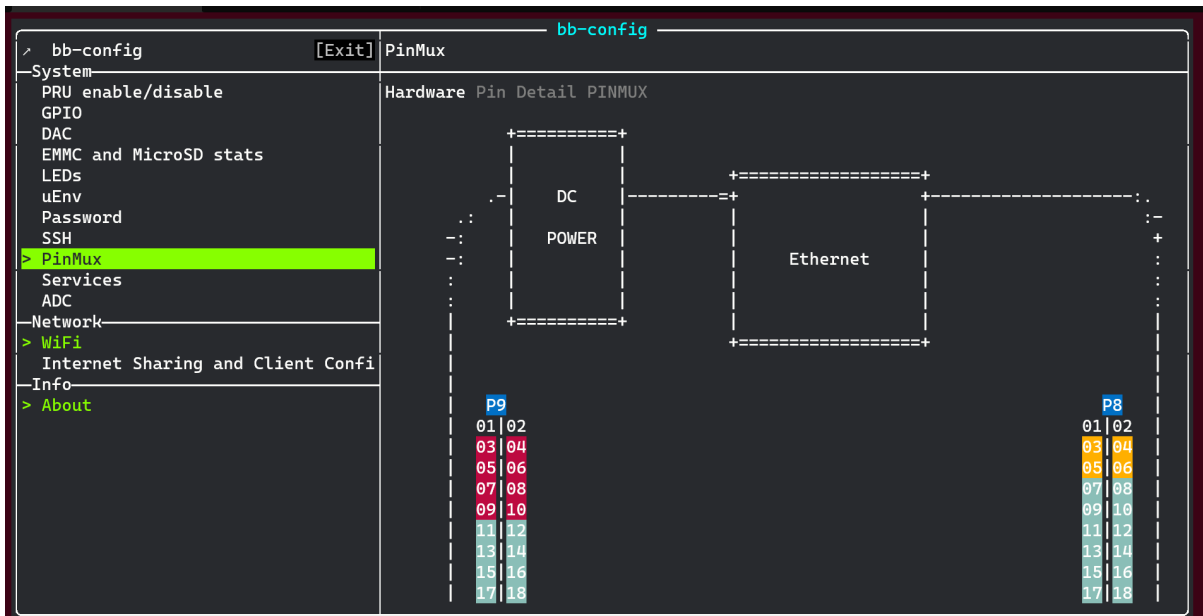
- Enable/Disable services startup at boot



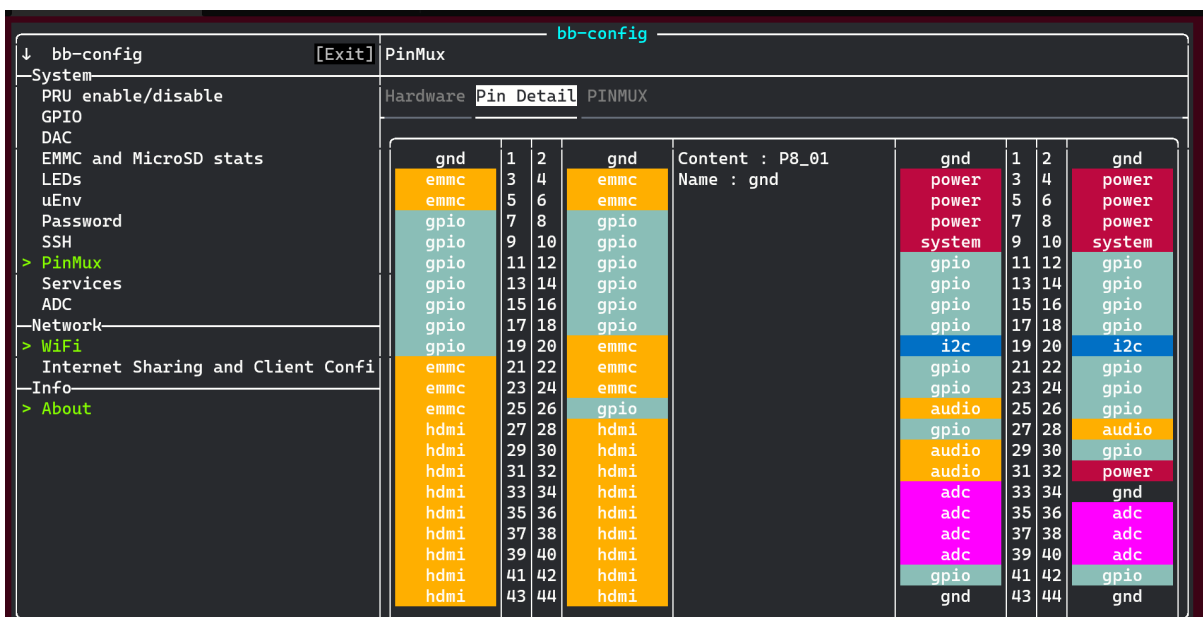
### 3.2.5 PINMUX

- Display PIN I/O detail
- Config PINMUX

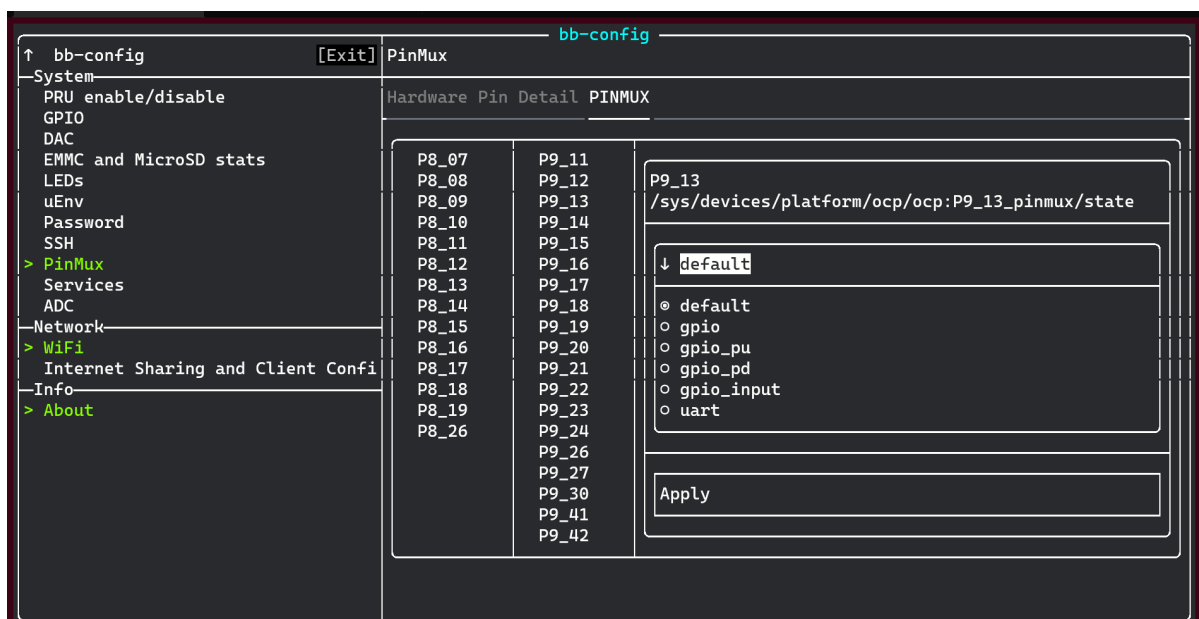
### Hardware Display



### Pin Table References



### 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](https://youtu.be/V_Euk5uWY1o)