

- 1: Reset
- 2: Network Interface
- 3: Power Interface

#### 1.1 Network Interface

The AB BLE Gateway V4 network interface supports CAT-5/CAT-5E to transmit data and POE Power Supply(voltage range is 44~ 57V).

The ethernet port has a green LED and a YellowLED.

Color	Description
Green	Blink when ethernet start
Yellow	Turn on when it got IP address

#### 1.2 Power Interface

The AB BLE Gateway V4 power interface supports DC\_5V input, input voltage range is 5-5.5 V, and the current is greater than 2000Ma. The voltage interface adopts the Micro usb .the input voltage of the 5V power adaptor is AC 100-240V and 50/60Hz, output voltage is 5V 2A.

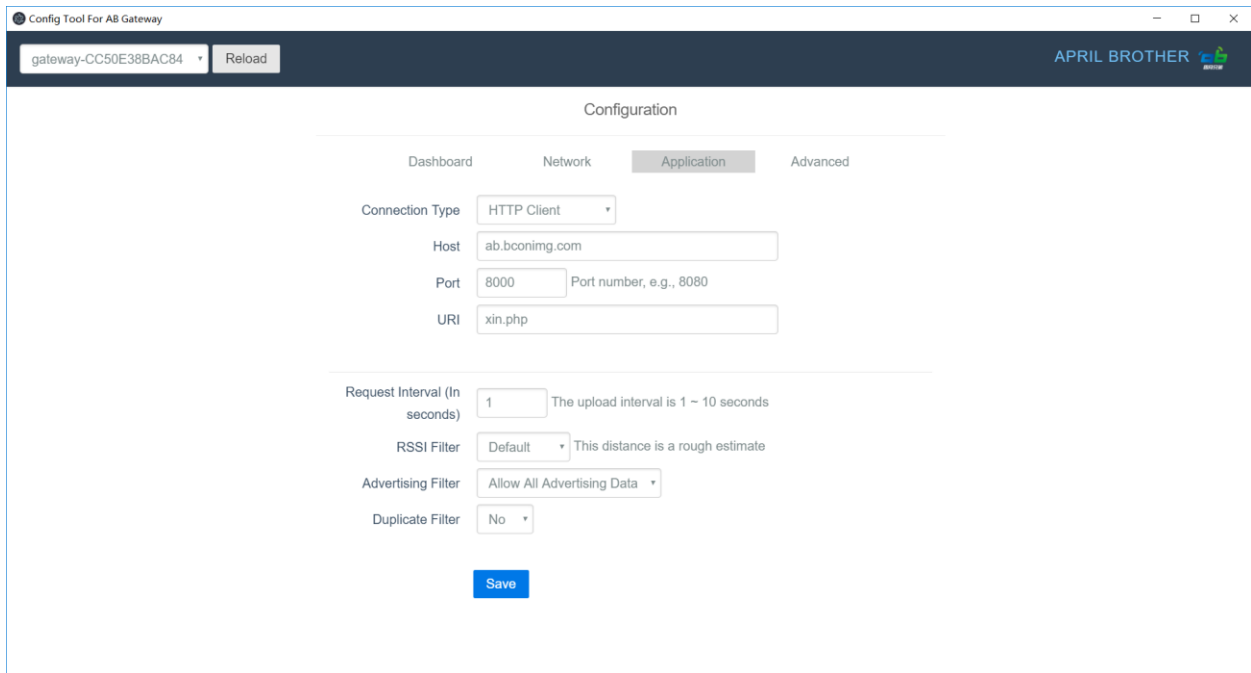
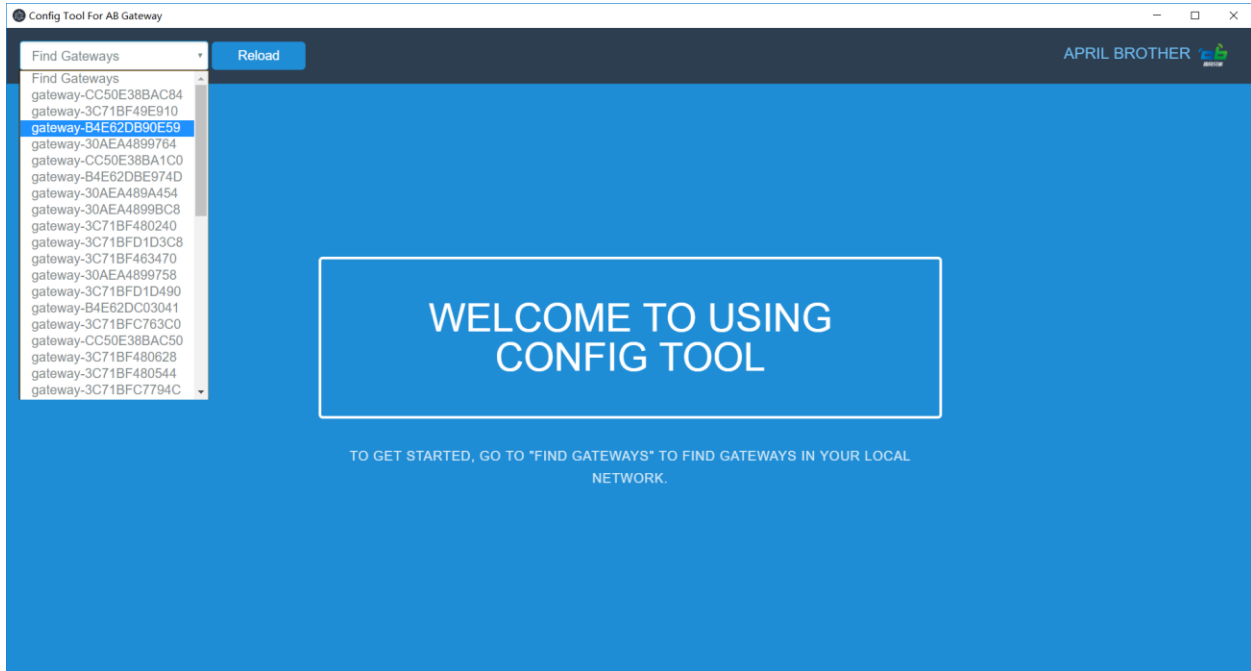
#### 1.3 Reset

Long press the reset button for 5 seconds, the AB BLE Gateway V4 internal wifi will restore factory Settings

## Usage

- Prepare a power adapter 5V/2A. Please note the the current 2A is required

- Wire gateway with ethernet cable. Please use the micro USB cable as power cable. Wire the cable to power adapter. Don't wire the cable to Laptop directly. It may cause weak power. It means the gateway connected to LAN network if yellow LED around the ethernet port is on.
- Install [configure tool](#) at your laptop
- Click at application, you can see some configure options



# How To Test

- Change application settings for gateway and save
  - Application Type -> MQTT Client
  - MQTT Host -> `mqt.bconimg.com`
  - MQTT Port -> 1883
  - Publish Topic -> your-topic
- Download and install [data viewer software](#)
- Fill the form with the parameters in first steps
- View the data from gateway



## Data Format

Gateway V4 post data in [MessagePack](#) format. MessagePack is an efficient binary serialization format. It lets you exchange data among multiple languages like JSON. But it's faster and smaller. We can get more library for programming languages to parse MessagePack.

## Keys

The data decoded is a dictionary with these keys:

- v - firmware version
- mid - message ID
- time - boot time
- ip - the IP for gateway
- mac - the mac address for gateway
- devices - an array for BLE advertising datas that gateway collected

The devices array contain RAW advertising data for BLE device. An example hex data frame, see the section "Data Format For Key Devices"

```
00 12 3b 6a 1a 64 cf aa 02 01 06 1a ff 4c 00 02 15 b5 b1 82 c7 ea b1 49 88 aa 99 b5 c1 51
70 08 d9 00 01 cf 64 c5
```

Bytes	Description	Example
byte 1	advertising type, see the table below	00
byte 2 - 7	mac address for BLE device	12 3b 6a 1a 64 cf
byte 8	RSSI, minus 256 for real value	aa, $0xaa - 256 = -86$
byte 9 -	Advertisement data	02 01 06 1a ff 4c 00 02 15 b5 b1 82 c7 ea b1 49 88 aa 99 b5 c1 51 70 08 d9 00 01 cf 64 c5

## Advertising Type Code

Code	Description
0	Connectable undirected advertisement
1	Connectable directed advertisement
2	Scannable undirected advertisement
3	Non-Connectable undirected advertisement

Code	Description
4	Scan Response

## Data Format For Key Devices

Here's an example data from devices array

hex=02C8FD1949A530CE0201061AFF4C000215EB6D469624BE4663B15230D46B0E9CC9000D002AC0

Data	Description
02	adv type
C8FD1949A530	mac address
CE	rsi
0201061AFF4C000215EB6D469624BE4663B15230D46B0E9CC9000D002AC0	raw advertising data

## **FCC STATEMENT :**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

**Warning:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

## **FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.