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Cassia AC Bluetooth Debug Tool User Guide

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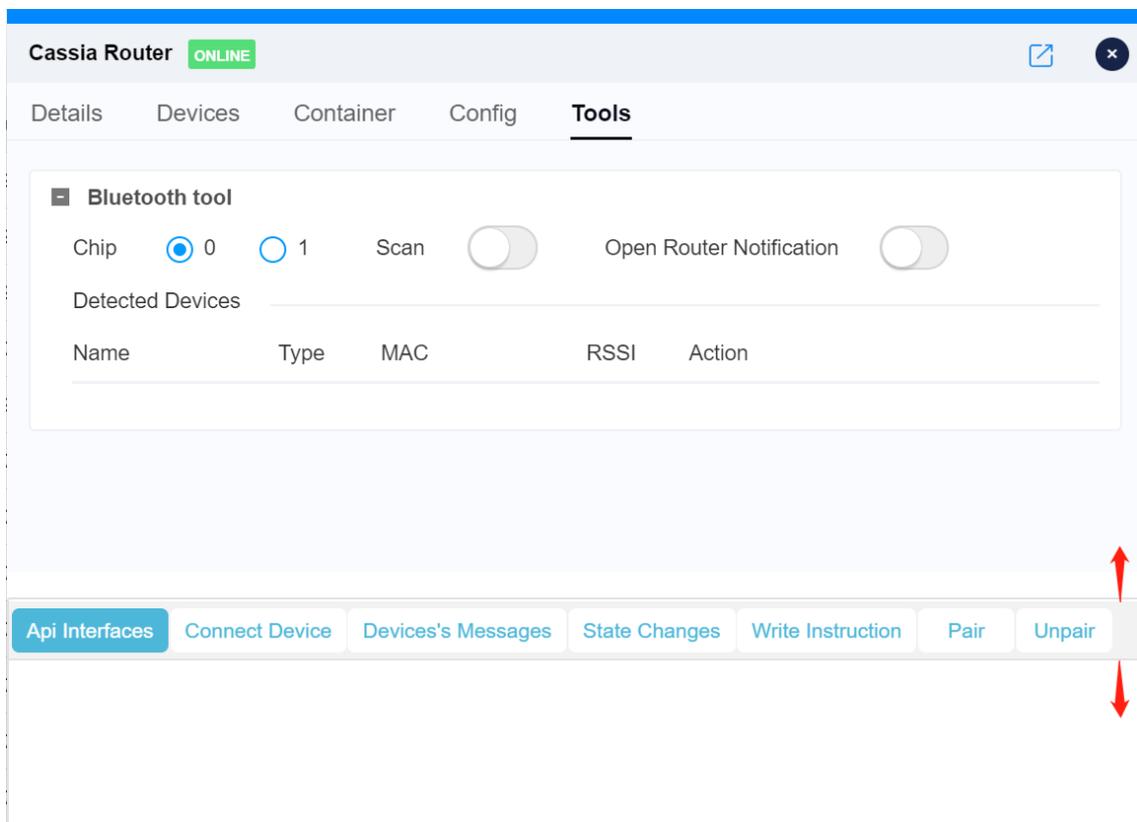
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1. Overview

From firmware 1.4, Cassia IoT Access Controller (AC) provides Bluetooth debug tool. It visualized the Cassia RESTful API and the response messages. Bluetooth debug tool simplifies the integration of the BLE devices and the customer applications with the Cassia AC and Bluetooth router. It also helps the customers to get familiar with the Cassia RESTful API.

Please connect a Cassia router to a Cassia AC, power on the Bluetooth devices, and put them near the Cassia router. After that, please open the Cassia AC, click the router in Routers page, and click the Tools tab. The UI of Bluetooth debug tool looks like below. The customer can scroll up the **API Interfaces** bar to show more messages.



The **black, italic and the underlined** word mean it is a button, a switch or a page in Bluetooth debug tool.

Chip: Select chip 0 or chip 1.

Scan: Open or close scan.

Open Router Notification: Open or close notification and indication.

Detected Devices: List the BLE devices scanned by the router. It shows the device's name, type, RSSI, MAC, and actions, e.g. connect, disconnect, pair, get services.

API Interfaces: Show the Cassia RESTful APIs.

Connect Device: Show connect and disconnect information.

Device's Messages: Show notification and indications.

State Changes: Show device connection state changes.

Write Instruction: Show the information about write by the handle.

Pair: show pair result.

Unpair: show unpair result.

2. Start and Stop Scan

The customer can start the scan by click **Scan**. The Cassia AC will call Cassia RESTful API to start scan on the Cassia router. The BLE devices need to be in broadcast mode.

Please check the RESTful API in **API Interfaces** and check all the scanned devices in **Detected Devices**.

The customer can stop scan by click **Scan** again. The customer can choose which chip to scan by switch **Chip**.

The screenshot shows the 'pair ONLINE' interface with tabs for Details, Devices, Container, Config, and Tools. The 'Tools' tab is active, showing the 'Bluetooth tool' section. In this section, the 'Chip' selector is set to 0, and the 'Scan' toggle is turned on. Below this, there is a 'Detected Devices' table with the following data:

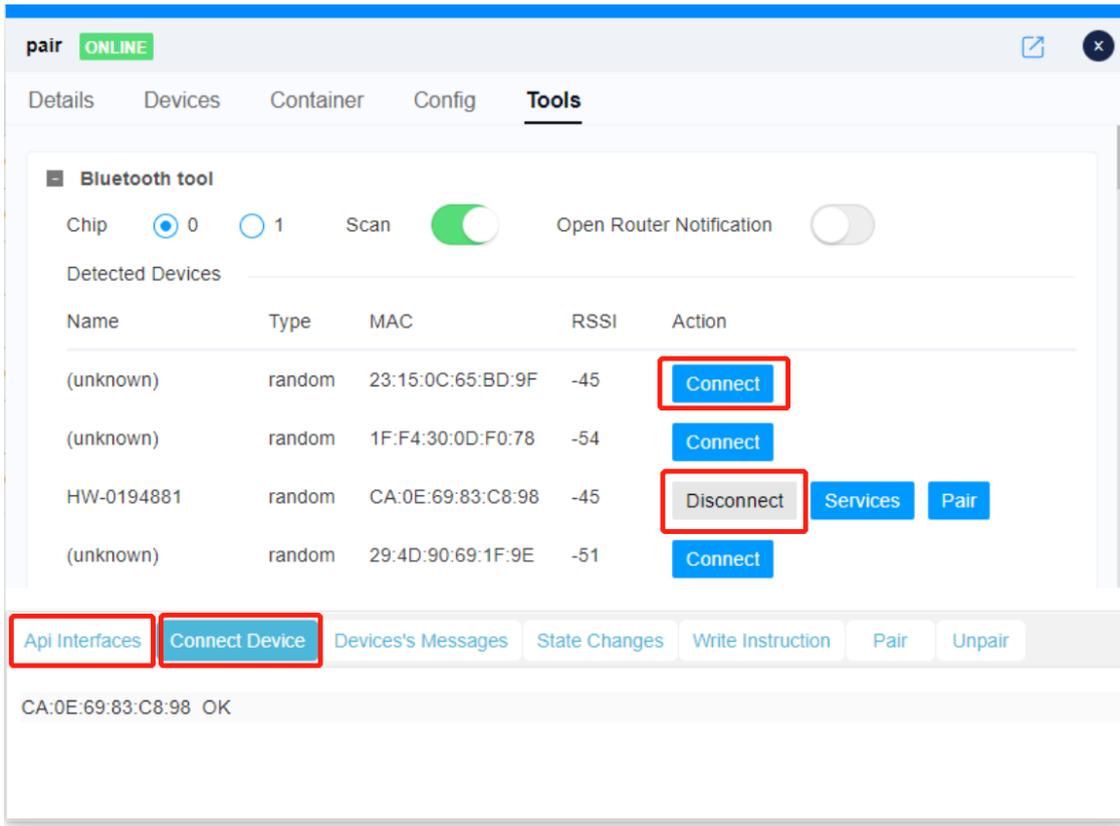
Name	Type	MAC	RSSI	Action
(unknown)	random	23:15:0C:65:BD:9F	-45	Connect
(unknown)	random	1F:F4:30:0D:F0:78	-54	Connect
HW-0194881	random	CA:0E:69:83:C8:98	-45	Connect
(unknown)	random	29:4D:90:69:1F:9E	-51	Connect

At the bottom of the interface, the 'Api Interfaces' tab is selected, showing the method 'Scan Device' and the URL: /api2/gap/nodes/?active=1&event=1&chip=0&mac=CC:1B:E0:E0:DC:C8.

3. Connect and Disconnect

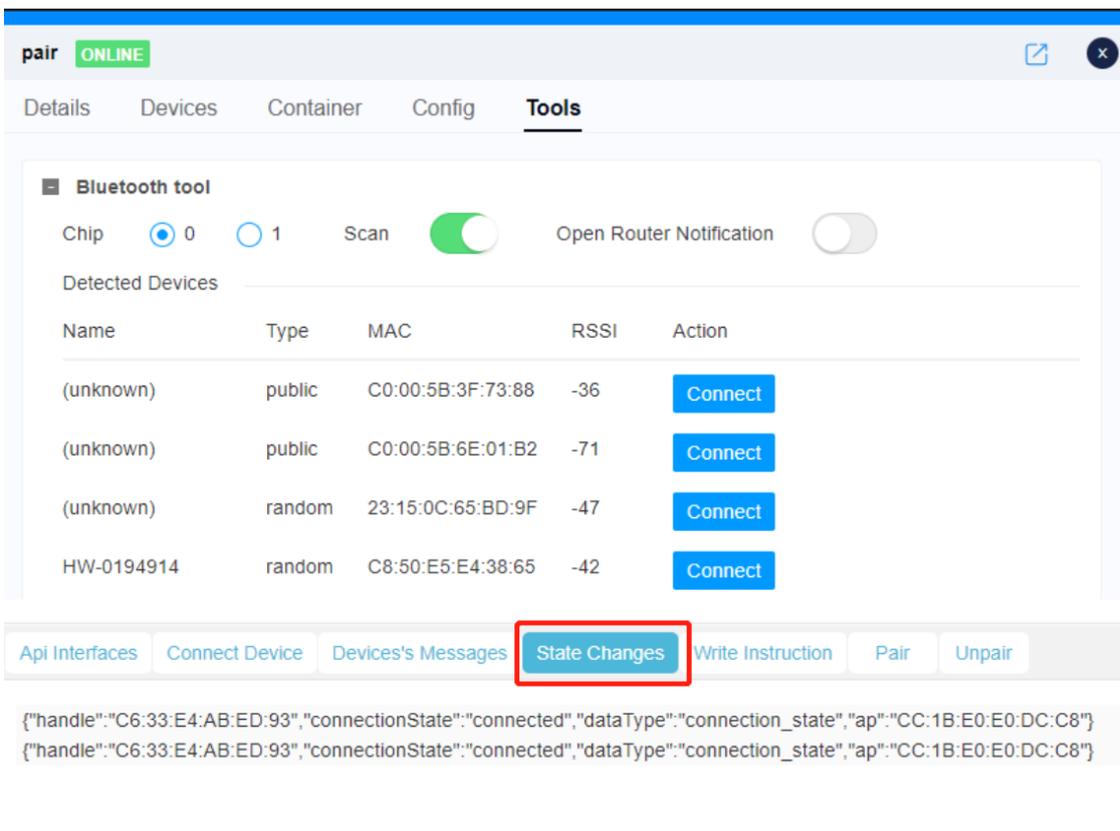
When the devices are scanned, the customer can click **Connect** to connect one or multiple devices. After the device is connected, the customer can click **Disconnect** to disconnect the device.

The customer can check the RESTful API in **API Interfaces** and check the connect/disconnect results in **Connect Device**.



4. Connect State Changes

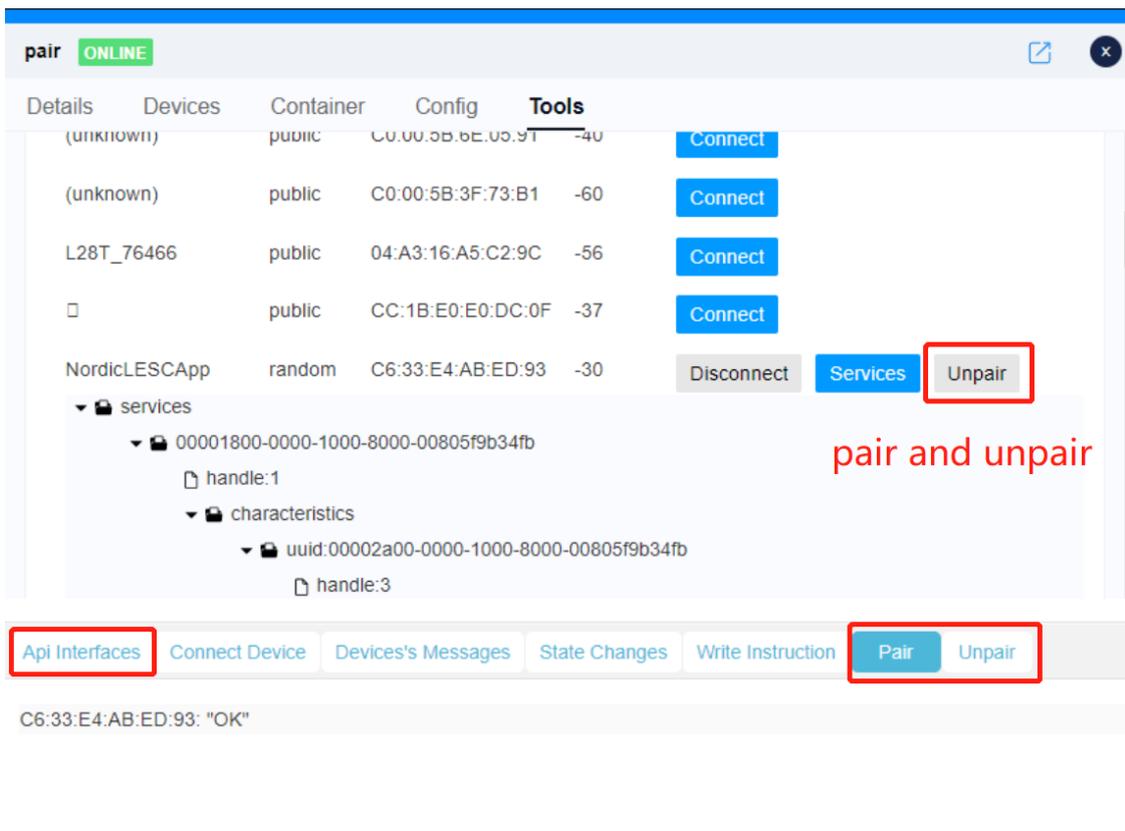
If the router connects/disconnects a device, you can find the information in **State Changes**.



5. Pair and Unpair

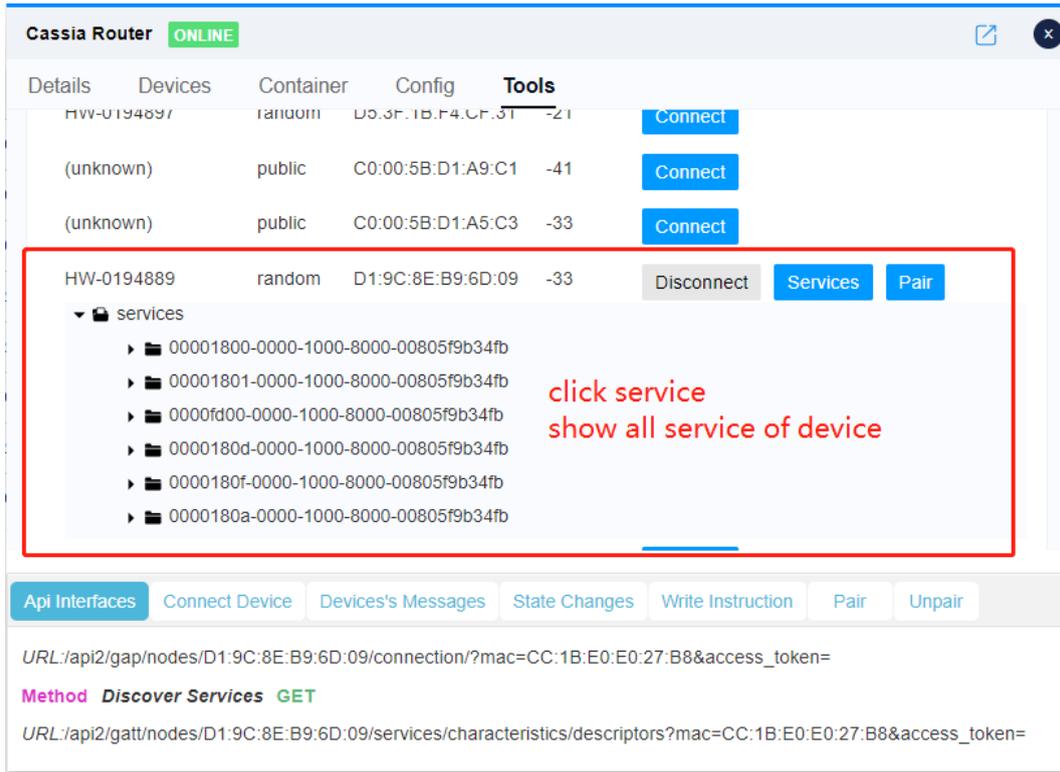
When the devices are connected, the customer can click **Pair** to pair with the device. After a successful pair, the button **Pair** will change to **Unpair**. The customer can click **Unpair** to unpair with the device.

The customer can check the RESTful API in **API Interfaces** and check the pair/unpair results in **Pair** and **Unpair**.



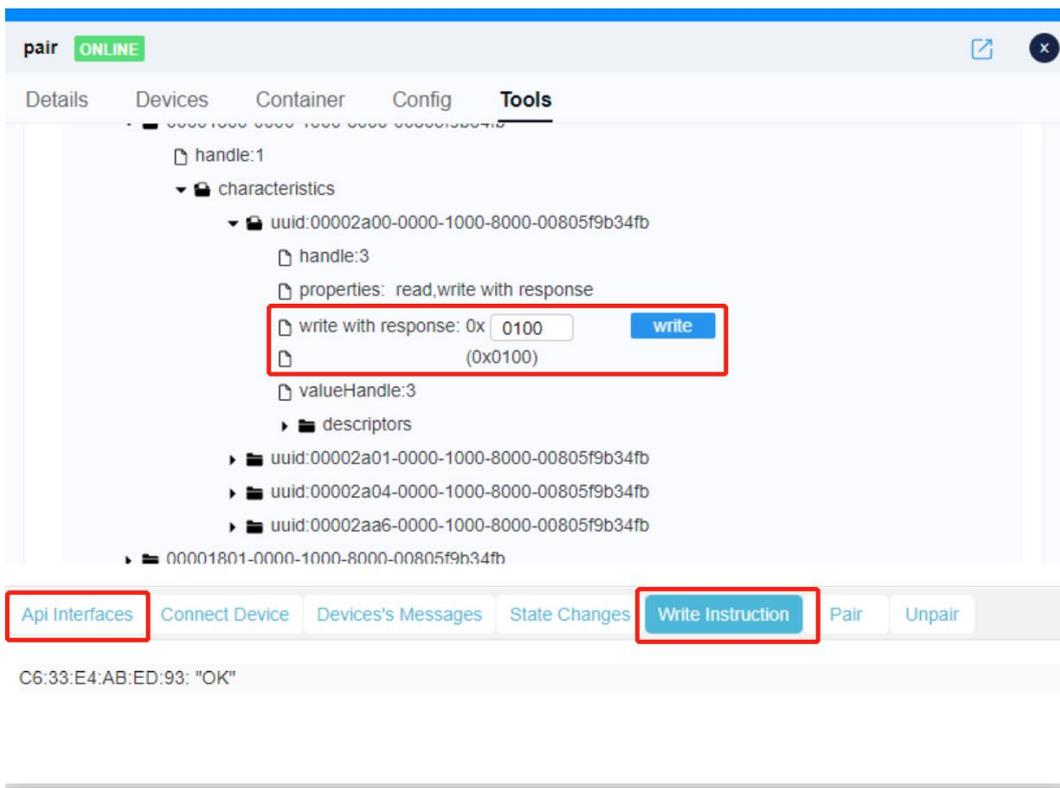
6. Get Services

When the devices are connected, the customer can click **Services** to get the services.



7. Write by Handle

Based on the device's Bluetooth profile, the customer can write a handle by click **write**, for example, enable notification or indication of the device. The customer can check the RESTful API in **API Interfaces** and check the write by handle result in **Write Instruction**.



8. Receive Notification & Indication

The customer can enable **Opening Router Notification** to let devices to send notification or indications to router and AC. The customer can see a stream of raw data in **Device's message**.

The screenshot shows the Cassia Router web interface. At the top, it says "Cassia Router ONLINE". Below that are tabs for "Details", "Devices", "Container", "Config", and "Tools". The "Tools" tab is selected, and the "Bluetooth tool" section is expanded. In this section, there are radio buttons for "Chip" (0 and 1), a "Scan" toggle, and an "Open Router Notification" toggle which is checked and highlighted with a red box. Below this is a table of "Detected Devices" with columns for Name, Type, MAC, RSSI, and Action. Three devices are listed, each with a "Connect" button. A red arrow points from the text "information of notification" to the "Connect" button of the third device. At the bottom, there are tabs for "Api Interfaces", "Connect Device", "Devices's Messages", "State Changes", "Write Instruction", "Pair", and "Unpair". The "Devices's Messages" tab is selected, and a stream of raw JSON messages is displayed, all enclosed in a red box.

Name	Type	MAC	RSSI	Action
(unknown)	public	C0:00:5B:D1:A5:05	-46	Connect
(unknown)	public	44:A6:E5:0E:F9:42	-58	Connect
(unknown)	public	CC:1B:E0:E8:04:53	-62	Connect

```
{\"value\":\"FF0014001901100100090000000000000005EE3A\",\"dataType\":\"notification\",\"id\":\"FA:24:C6:9C:90:4F\",\"handle\":16}  
{\"value\":\"FF0014001A01100100090000000000000005EE3B\",\"dataType\":\"notification\",\"id\":\"FA:24:C6:9C:90:4F\",\"handle\":16}  
{\"value\":\"FF0014001B01100100090000000000000005EE3C\",\"dataType\":\"notification\",\"id\":\"FA:24:C6:9C:90:4F\",\"handle\":16}  
{\"value\":\"FF0014001C01100100090000000000000005EE3D\",\"dataType\":\"notification\",\"id\":\"FA:24:C6:9C:90:4F\",\"handle\":16}  
{\"value\":\"FF0014001D01100100090000000000000005EE3E\",\"dataType\":\"notification\",\"id\":\"FA:24:C6:9C:90:4F\",\"handle\":16}  
{\"value\":\"FF0014001E01100100090000000000000005EE3F\",\"dataType\":\"notification\",\"id\":\"FA:24:C6:9C:90:4F\",\"handle\":16}
```