

# **Wrapit Solutions**

## Configuring a Wrappa

## 1 Wrappa Setup

This Technical Note serves as a guide for setting up a Wrappa

### 1.1 Configuring a Wrappa to Connect to a WiFi Router

This section outlines the step by step process of configuring a Wrappa from unboxing, explaining how to specify its unique Wrappa name and providing details for its connection to a home WiFi router.

Figure 1: Wrappa Setup Page

Step	Description
1	Apply power to your target Wrappa using a suitable power adaptor. A LED on the Wrappa should start flashing at around 2Hz
2	Open WiFi settings on a smartphone phone or PC and join the Wrappa's WiFi network entitled 'wrapit xx:xx:xx:xx:xx:xx' where xx:xx:xx:xx:xx:xx is the unique MAC address of your Wrappa. For example, wrapit C4:D8:D5:08:F7:7E. No password is required. [ If the Wrappa's WiFi network is not listed, the Wrappa may not be in WiFi Access Point (AP) mode. In such cases follow the steps in section 1.2.1. below to get the Wrappa into AP mode ]
3	Open a browser on the smartphone phone or PC and enter the following IP address in the browser's address bar: 192.168.4.1. The Wrappa Setup page will appear (see Figure 1.)
4	Enter the name of your home router WiFi network (SSID)

5	Enter the password for your home router WiFi network
6	Enter a unique name for your Wrappa
7	Click the 'Submit' button at the bottom of the page. Your Wrappa will switch from WiFi Access Point mode to Station mode and will try to connect to your home router and to your Wrapit Hub
	That's it – your Wrappa should be connected to the hub via your network Proceed as follows to verify and use your Wrappa:
8	Ensure your Wrapit Hub is powered up and connected to your home router. In a browser, enter the following URL in the browser's address bar: <a href="http://wrapit-hub.local:1880/ui">http://wrapit-hub.local:1880/ui</a> . The Node-Red dashboard login screen will appear [ <i>Note: Some browsers have difficulty resolving .local addresses so if the dashboard login screen doesn't appear, try entering the following alternative URL: <a href="http://wrapit-hub:1880/ui">http://wrapit-hub:1880/ui</a>. ]</i>
9	Log into the dashboard (using the default password <i>wrapitpass</i> ) and select 'System Control & Status' from the hamburger menu in the top left hand corner of the screen
10	Open the 'Connected Wrappas Information' section and click on the 'CLICK TO REFRESH WRAPPA INFORMATION' button. The newly configured Wrappa will be listed. If it isn't, follow the appropriate process in the next section to reconfigure your Wrappa or refer to the troubleshooting section at the end of this document

## 1.2 Re-configuring a Wrappa

This section describes how to re-configure an already configured Wrappa. There are two ways to re-configure a Wrappa, using a pushbutton on the Wrappa or using a feature of the Control & Status dashboard. The following sections describe these two approaches.

### 1.2.1 Re-configuring a Wrappa using a pushbutton on the Wrappa

This section provides a step by step process for changing the name of a Wrappa and/or the WiFi network to which the Wrappa connects.



Figure 2: Wrappa WiFi AP Button

Step	Description
1	Ensure your Wrappa is powered up. The LED on the Wrappa will be flashing at approximately 2 Hz
2	Using a paper clip or small screw driver, press the 'WIFI AP' button located next to the USB-C power connector on the Wrappa (see Figure 2). Release the button as soon as the LED's flashing frequency increases from around 2Hz to around 5Hz. The flashing frequency increase typically happens around 5 seconds after the WIFI AP button has been pressed. <b>IMPORTANT NOTE:</b> Do not continue pressing the push button after the LED starts flashing faster
3	The Wrappa should now be in Access Point (AP) mode. To confirm this, open WiFi settings on a smartphone or PC and confirm the Wrappa's WiFi network entitled 'wrapit xx:xx:xx:xx:xx:xx' where xx:xx:xx:xx:xx:xx is the unique MAC address of your Wrappa, is listed. Join this network, no password is required.
4	Continue from step 3 in section 1.1 above to change the name of the Wrappa and/or to change the WiFi network to which you wish the Wrappa to connect

### 1.2.2 Re-configuring a Wrappa using the Control & Status dashboard

This process can be used to re-configure the WiFi network to which the Wrappa connects. For example, in the case where a Wrappa's direct connection to a WiFi router is poor or unstable, the Wrappa can be re-configured to connect to a WiFi extender or another Access Point that provides a better or more stable connection. Note: this process cannot be used to rename a Wrappa; if renaming is required, use the process described in section 1.2.1.

Step	Description
1	Ensure both Wrappa and Wrapit Hub are powered up.
2	In a browser on a smartphone or PC, enter the following URL in the browser's address bar: <a href="http://wrapit-hub.local:1880/ui">http://wrapit-hub.local:1880/ui</a> . Log in and select the 'System Control & Status' option from the hamburger menu in the top left hand corner of the Node-Red dashboard; open the 'Connected Wrappas Information' section and click on the 'CLICK TO REFRESH WRAPPA INFORMATION' button. Your target Wrappa should be listed.
3	Open the 'Wrappa Control' section on the 'System Control & Status' page
4	Enter the name of your target Wrappa in the 'Wrappa-ID' field; enter the SSID and password for the new WiFi network in the 'New Wi-Fi SSID' and 'WiFi Password' fields respectively; click the 'CONFIRM' button. The Wrappa will restart (this takes approximately 20 seconds) and will attempt to connect to the new WiFi network
5	Return to the 'Connected Wrappas Information' section on the 'Control & Status' screen and click on the 'CLICK TO REFRESH WRAPPA INFORMATION' button again. Your target Wrappa should be listed and the entry in the SSID(Channel) column should reflect the name of the new network to which the Wrappa is connected

### 1.3 Troubleshooting

This section provides troubleshooting tips in the event that any of the above processes do not yield the intended outcome.

Observation	Troubleshooting Tips
The Wrappa's WiFi Access Point is not listed in the WiFi settings on a smartphone or PC	<p>The Wrappa may not be in Access Point mode. Follow the steps in section 1.2.1 above to place the Wrappa in AP mode.</p> <p>The Wrappa may be out of WiFi range. Ensure the smartphone or PC are within WiFi range of the Wrappa</p>
A configuration or re-configuration process has been followed but the target Wrappa does not appear in the list of connected Wrappas in the Control and Status dashboard	<p>First confirm the Wrappa is not in Access Point (AP) mode by ensuring its network <u>is not listed</u> in the WiFi settings on a smartphone or PC. If the Wrappa's network is listed, it is still in AP mode, follow the steps in 1.1 to configure it.</p> <p>If the Wrappa is not in AP mode, it is likely encountering difficulties connecting to the home WiFi router or the Wrapit Hub. Try one or more of the following to resolve the issue:</p> <ul style="list-style-type: none"> <li>- The spelling of the SSID and password entered on the Wrappa Setup page must be correct. Note: SSIDs and passwords are case sensitive. Try re-configuring the Wrappa using the process described in section 1.2.1,</li> </ul>

	<p>paying special attention to ensure SSID and password are correctly specified</p> <ul style="list-style-type: none"><li>- Bring the Wrappa closer to the router to ensure it is within the router's WiFi range</li><li>- The Wrappa is a 2.4GHz device only. Ensure automatic band (5GHz or 2.4GHz) routing, sometimes called 'band steering', on your home router is <u>disabled</u></li><li>- Using a suitable USB cable, connect the Wrappa to a serial COM port on a PC. Launch a suitable serial port terminal application on the PC and configure it to connect to the serial COM port. Suitable applications include Tera Term (Windows), PuTTY (Windows/Linux), Arduino IDE, CoolTerm (Windows/Mac/Linux). Press the 'RESET' pushbutton on the Wrappa. Debug information will be displayed when the Wrappa boots. This information can provide insight into why the connection is failing</li></ul>
<p>The Node-Red dashboard doesn't appear when the following URL is entered in the browser's address bar: <a href="http://wrapit-hub.local:1880/ui">http://wrapit-hub.local:1880/ui</a>.</p>	<p>Some browsers have difficulty resolving <i>.local</i> addresses. Try the following alternative address: <a href="http://wrapit-hub:1880/ui">http://wrapit-hub:1880/ui</a>.</p>