



BLE (AoA)-based **locator and gateway** that provides **highly precise** submeter location accuracy.

VERSION 2.1

## ZENIX LON-2 Configuration Guide



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## 1. Introduction

### 1.1. Accessory List

- 1) 12V - 2A Power Supply
- 2) Ethernet Cable - Blue/Grey color (POE)
- 3) Mounting Bracket - Mount product to ceiling/wall

### 1.2. Hardware Description

- 1) Gateway Status LED
- 2) Gateway Power LED
- 3) POE Port
- 4) USB Power OUT
- 5) AOA Power LED
- 6) AOA Status LED
- 7) Reset Button
- 8) DC 12V IN
- 9) Wall Mount bracket
- 10) Serial Sticker



*Figure 1 ZENIX LON-2 Front View*



Figure 1 ZENIX LON-2 Back View

### 1.3. Required Software

Below are the software names with links:

Software Name	Version	Download link
MQTT Fx	Any	<a href="#">MQTT Fx Software</a>
Advance IP Scanner	Any	<a href="https://www.advanced-ip-scanner.com/">https://www.advanced-ip-scanner.com/</a>

## 2. Hardware Network Installation

### 2.1. Power using 12 V Adapter

Figure 2 ZENIX LON-2 Wiring using LAN and Power 12V

### 2.2. POE Injector

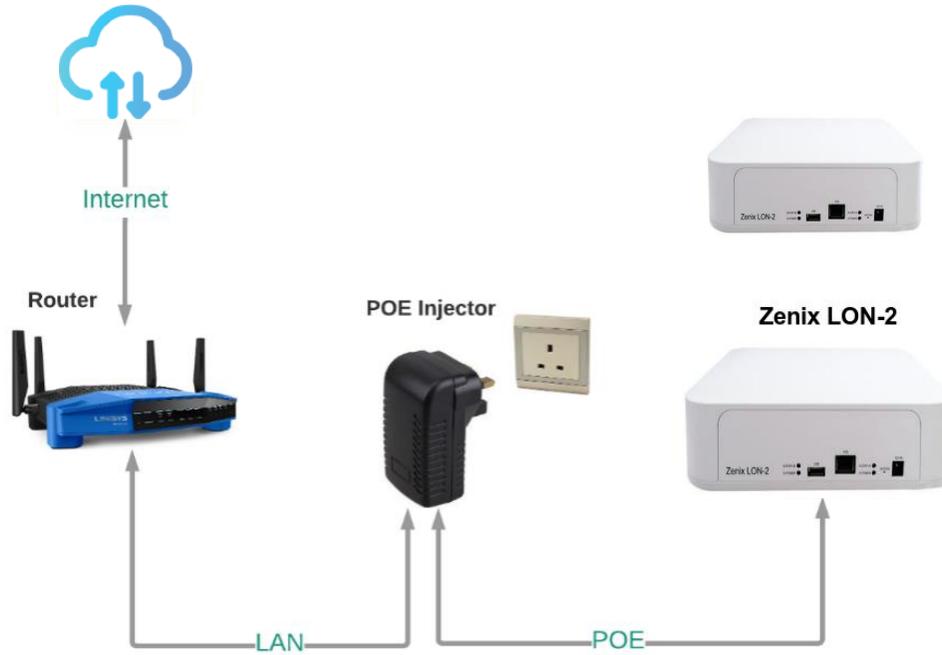


Figure 4 ZENIX LON-2 Wiring using POE Adapter

### 2.3. POE Switch

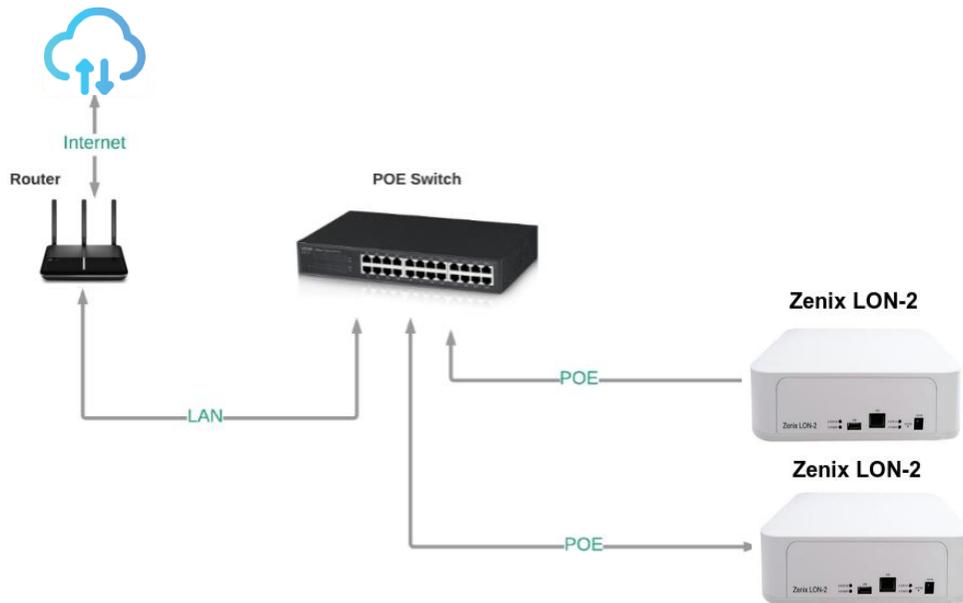


Figure 5 ZENIX LON-2 Wiring using POE Switch

## 3. Device Status

After a delay of 2 to 5 seconds, the ZENIX LON-2 Power LED will turn on, signaling the commencement of the device boot-up process. Please be patient for an additional 1 to 2 minutes as the device completes its boot-up sequence.

The current status of the ZENIX LON-2 can be determined by observing the status LED as below:

Status LED (Green LED)	Rate	Description
OFF	OFF	System booting Up
Blinking	3s (ON) 3s (OFF)	Connecting to Internet
Blinking	1s (ON) 1s (OFF)	Connecting to USB
ON	ON	Connected

## 4. ZENIX LON-2 Configuration

### 4.1. Finding ZENIX LON-2 IP Address

- Note down your ZENIX LON-2 MAC Address. MAC Address of ZENIX LON-2 is written at the back of device



Figure 6 ZENIX LON-2 MAC Address

- Open Advanced IP Scanner Software.
- Click on Scan Button.

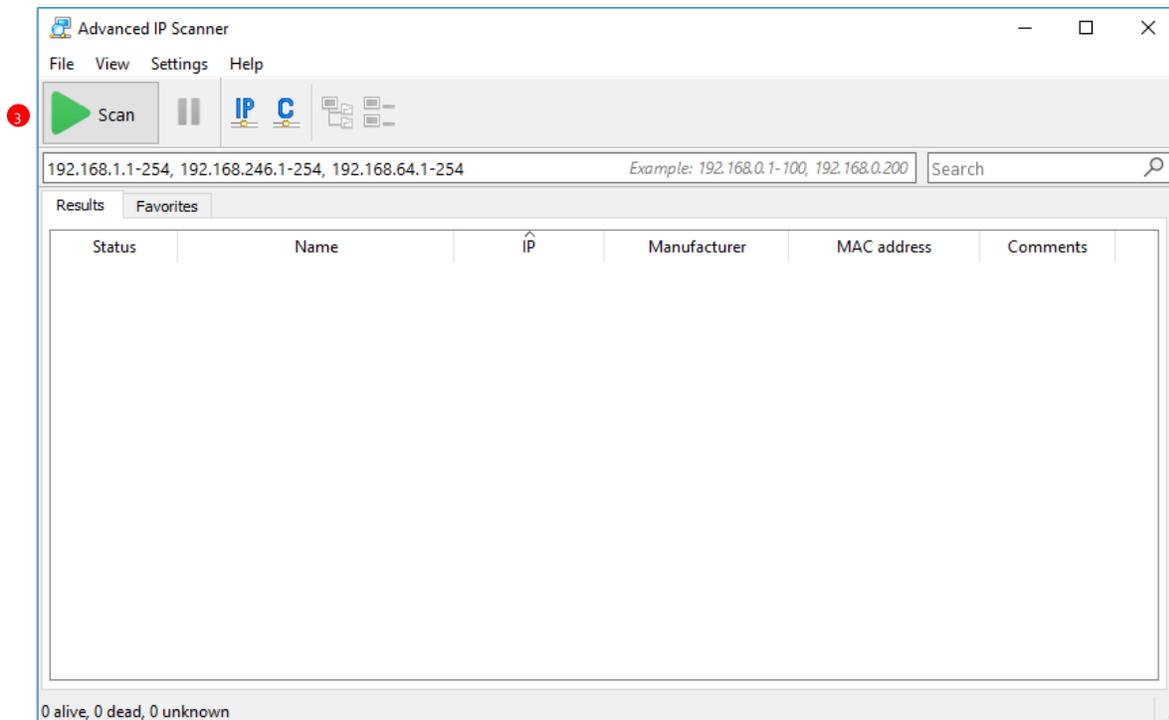
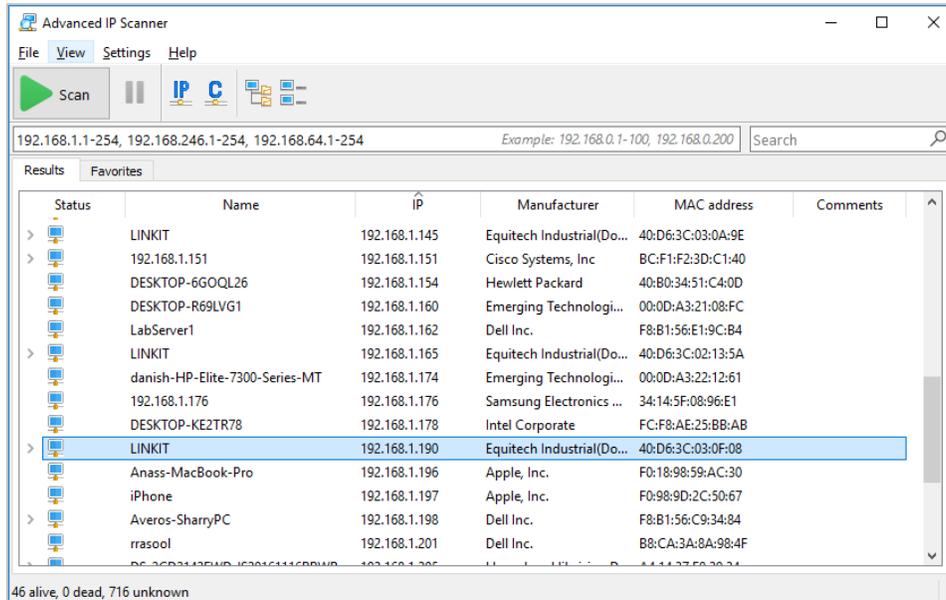


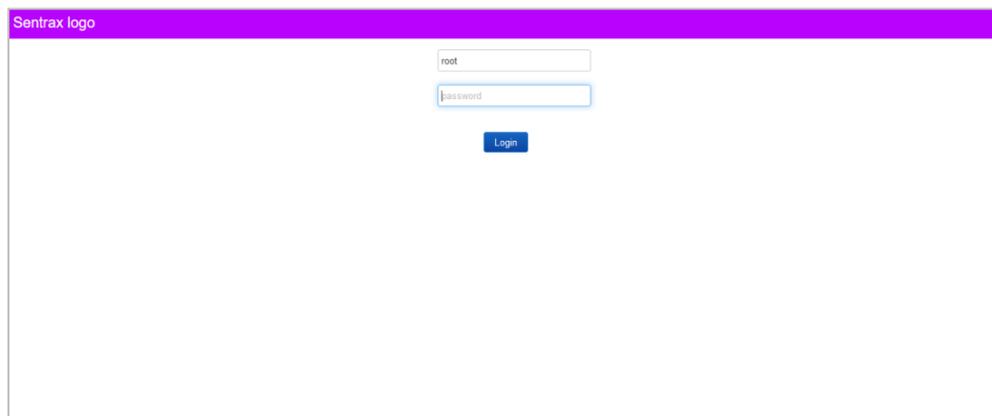
Figure 7 Advance IP Scanner Home Screen

- Upon a successful scan, locate your ZENIX LON-2 IP Address corresponding to your MAC Address.



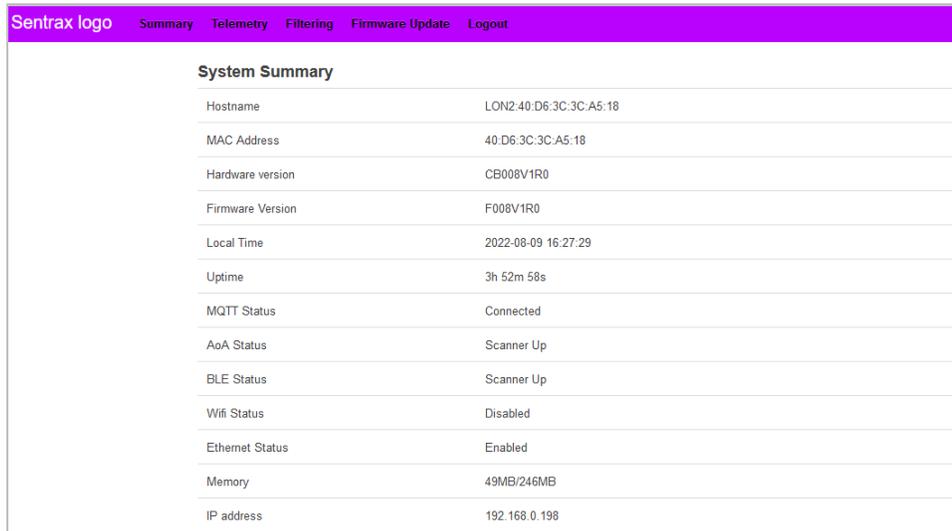
*Figure 8 ZENIX LON-2 IP Address using Advance IP Scanner*

- Access the ZENIX LON-2 Configuration page by entering the IP address into your browser. This action will redirect you to the device's Admin login page.



*Figure 9 ZENIX LON-2 Admin Page*

- Enter the password (SentraxGateway1234) and click "Login". You will be directed to the Home Page as illustrated in the image below.



The screenshot shows the 'System Summary' page of the ZENIX LON-2 configuration interface. The page has a purple header with the Sentrax logo and navigation links: Summary, Telemetry, Filtering, Firmware Update, and Logout. The main content area displays a table of system information.

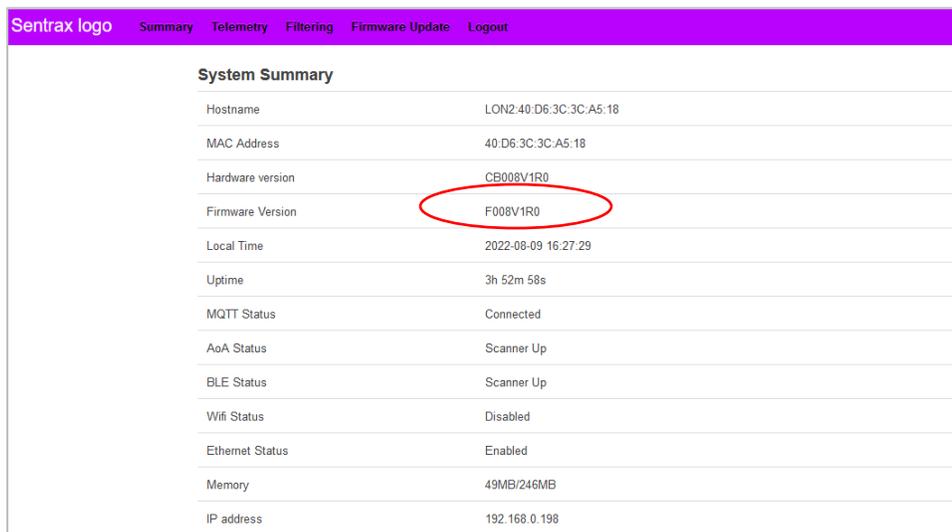
System Summary	
Hostname	LON2.40:D6:3C:3C:A5:18
MAC Address	40:D6:3C:3C:A5:18
Hardware version	CB008V1R0
Firmware Version	F008V1R0
Local Time	2022-08-09 16:27:29
Uptime	3h 52m 58s
MQTT Status	Connected
AoA Status	Scanner Up
BLE Status	Scanner Up
Wifi Status	Disabled
Ethernet Status	Enabled
Memory	49MB/246MB
IP address	192.168.0.198

Figure 10 ZENIX LON-2 Summary Page

## 4.2. Firmware Update

### Automatic Update:

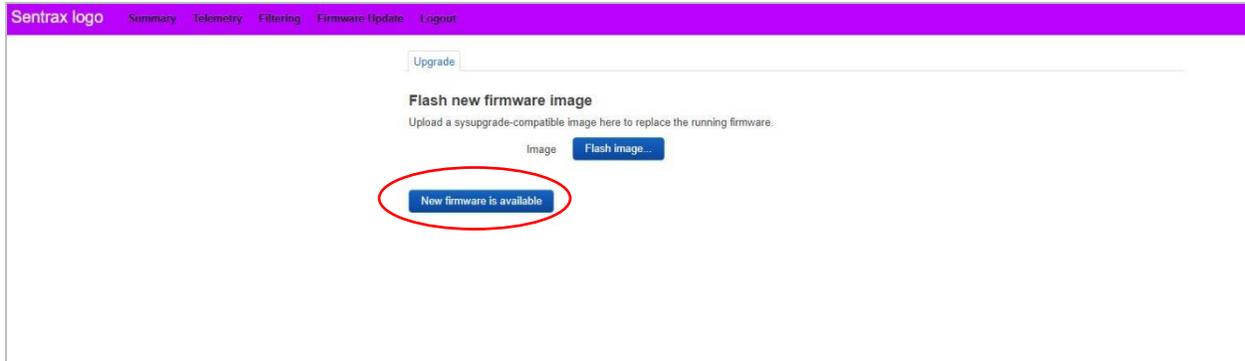
The main page provides information on the current firmware version installed. Refer to the image below to identify the displayed current firmware version on the main page.



This screenshot is identical to the one above, but with a red circle highlighting the 'Firmware Version' field, which contains the value 'F008V1R0'.

System Summary	
Hostname	LON2.40:D6:3C:3C:A5:18
MAC Address	40:D6:3C:3C:A5:18
Hardware version	CB008V1R0
Firmware Version	F008V1R0
Local Time	2022-08-09 16:27:29
Uptime	3h 52m 58s
MQTT Status	Connected
AoA Status	Scanner Up
BLE Status	Scanner Up
Wifi Status	Disabled
Ethernet Status	Enabled
Memory	49MB/246MB
IP address	192.168.0.198

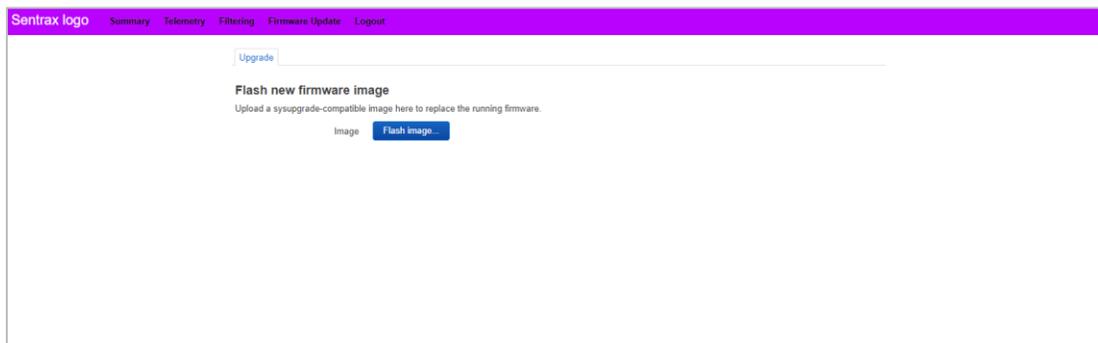
Click on Firmware Update from the Main Menu to navigate to the firmware update page. If a new firmware update is available, the button will be visible as shown in the above image. Click this button to initiate the firmware update.



The update may take between 15 to 20 minutes to complete depending upon the internet speed.

**Important note:** It is recommended to have a stable internet connection and stable power-supply during the update procedure.

After 15 minutes, refresh the firmware update tab and you will be directed to Login-in page. Re-enter your login credentials and navigate back to the firmware update tab.



After a successful update, the “New firmware is available” button will disappear as shown in the above image. If the page shows problem in loading after refresh, please wait for a few additional minutes and then try again.

Verify the updated firmware version on the home page. Reboot the device by unplugging and re-plugging in the power supply (optional).

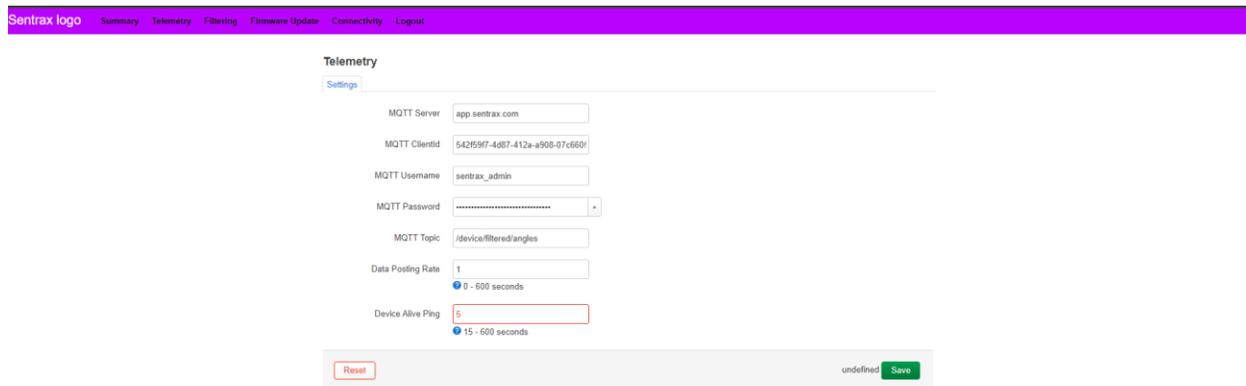
### Manual Update:

To manually update by uploading the firmware file, kindly reach out to [sales@sentrax.com](mailto:sales@sentrax.com) to obtain the latest firmware file and a comprehensive guide on the manual firmware upload process.

### 4.3. MQTT Configuration

After Login, Click on **Telemetry** from the options on the top to change the following setting as per your requirements:

- **MQTT Server:** Address of MQTT server
- **Client Id:** Device Floor ID.
- **MQTT Username:** Username of MQTT server. If the MQTT server does not have username leave it blank.
- **MQTT Password:** Password of MQTT server. If the MQTT server does not have password leave it blank.
- **MQTT Topic:** Topic on which data will be posted
- **Data Posting Rate:** Interval between two consecutive data
- **Data Alive Ping:** Device Alive message rate



The screenshot shows the 'Telemetry' settings page. The 'Settings' tab is active. The fields are as follows:

Field	Value
MQTT Server	app.sentrax.com
MQTT ClientId	54269f7-4687-412a-a908-07c660
MQTT Username	sentrax_admin
MQTT Password	.....
MQTT Topic	/device/filtered/angles
Data Posting Rate	1
Device Alive Ping	5

At the bottom, there is a 'Reset' button and a 'Save' button.

Figure 11 ZENIX LON-2 MQTT Configurations

### 4.4. AoA Filtering Configuration

Click on **Filtering** from the options on the top to change the following setting as per your requirements:

- **Moving Average Window:** A fixed interval of time when the angles stream is processed to calculate average outputs.

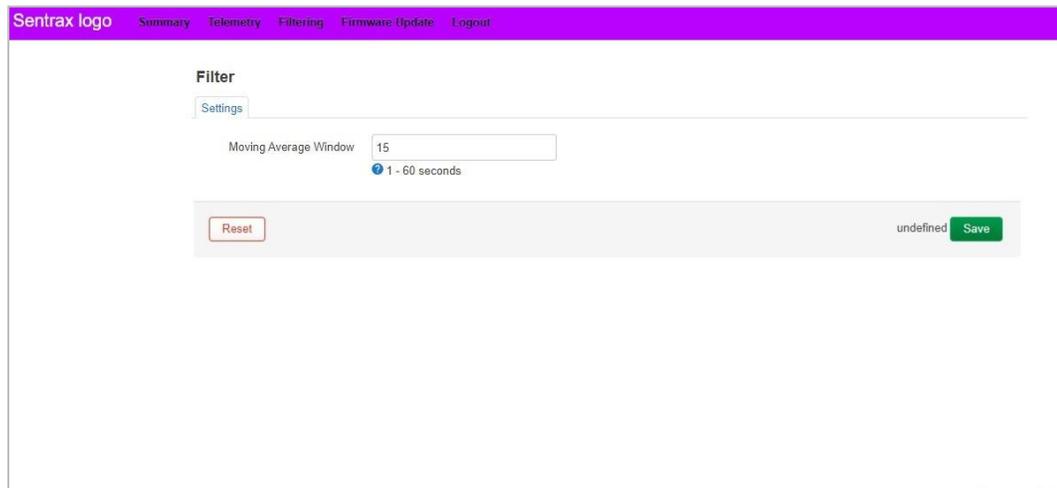


Figure 12 ZENIX LON-2 Filtering Configuration

## 4.5. WiFi Connectivity - Preparation Steps

Power the ZENIX LON-2 using the provided 12V power adapter. Please wait until the LON-2 access point is visible. The format of this access point will be 'LON2\_' followed by the last 6 digits of the MAC address. For more clarity, refer to Figure-13.



Figure-13

Before performing WiFi configuration, we need to determine the MAC address of the WLAN connection. Enable the 'Mobile hotspot' feature on your Windows laptop. Refer to Figure-14 for further clarity.

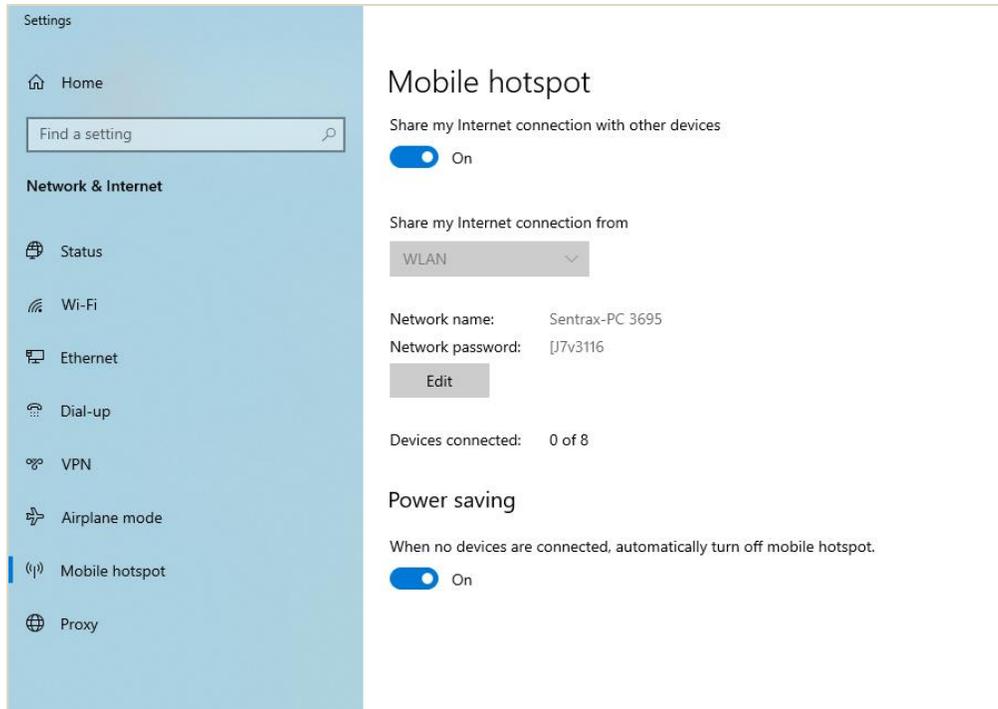


Figure-14

Connect your Windows laptop to the LON2 access point using the following password:

Password: 12345678

After a successful connection, enter '192.168.1.1' in the web browser. Use the default login credentials to access the configuration page. Navigate to the 'Connectivity' option; refer to Figure-15 for further clarity.

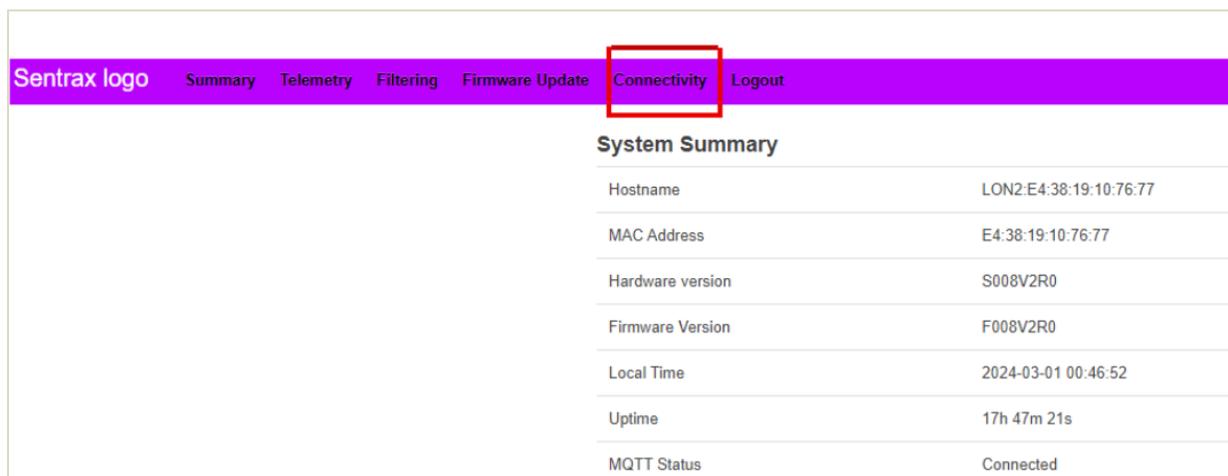


Figure-15

The configuration screen for connectivity will be displayed; refer to Figure-16 for additional clarity.

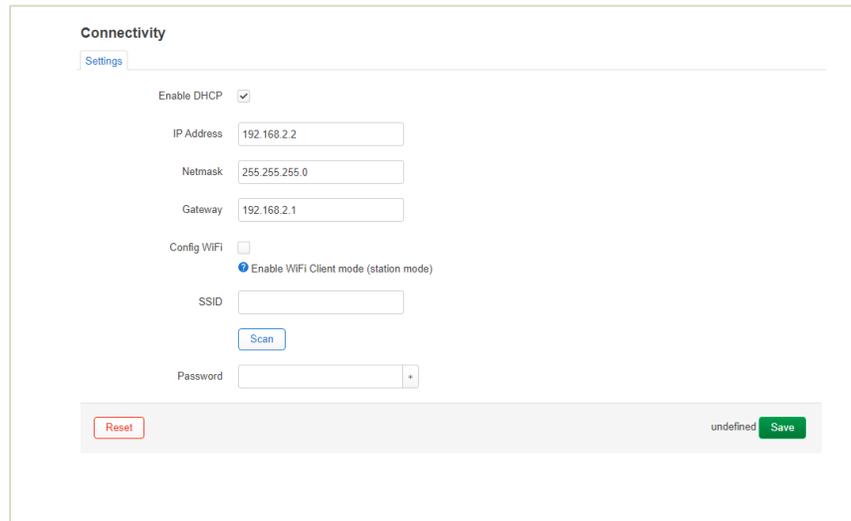


Figure-16

First, enable the 'Config WiFi' checkbox, and then perform a 'Scan' for available networks. Connect to the SSID of the 'Mobile hotspot' on your Windows laptop, enter its password, and then 'Save' the configuration settings. For further clarity, refer to Figure-17

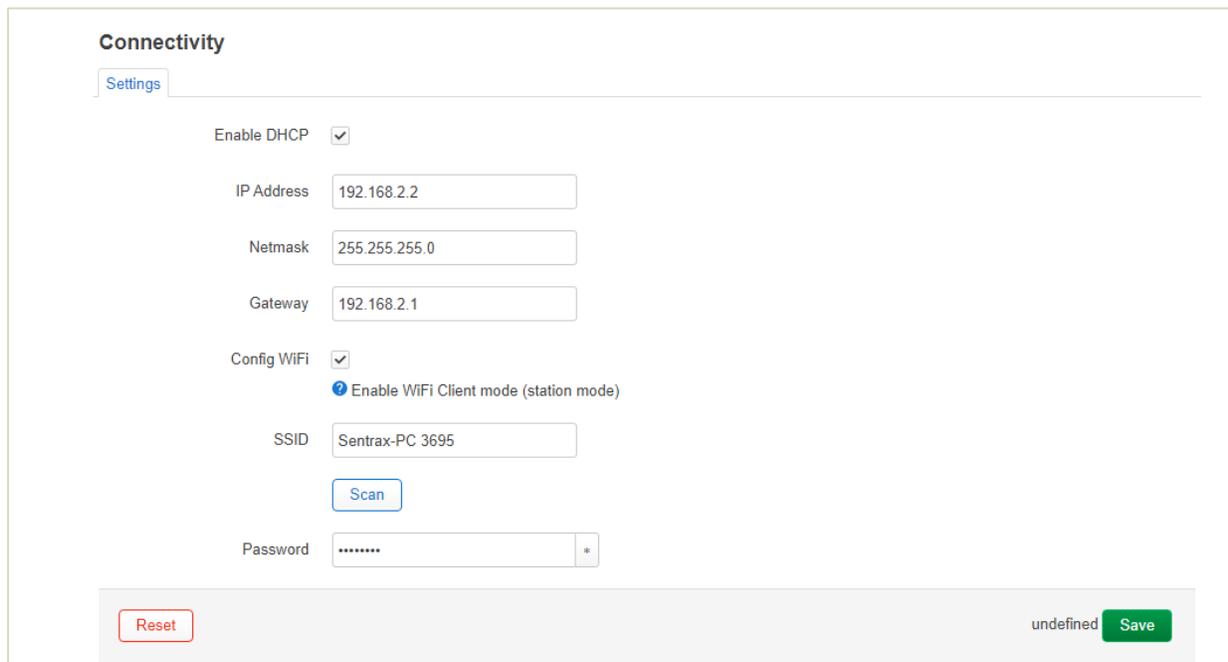


Figure-17

Now, navigate back to 'Mobile hotspot' settings. On this screen, you will find the LON2 MAC address along with its assigned IP address. Since this MAC address will be used in the upcoming steps, it is crucial to save it for later use. Refer to Figure-18 for further clarity.

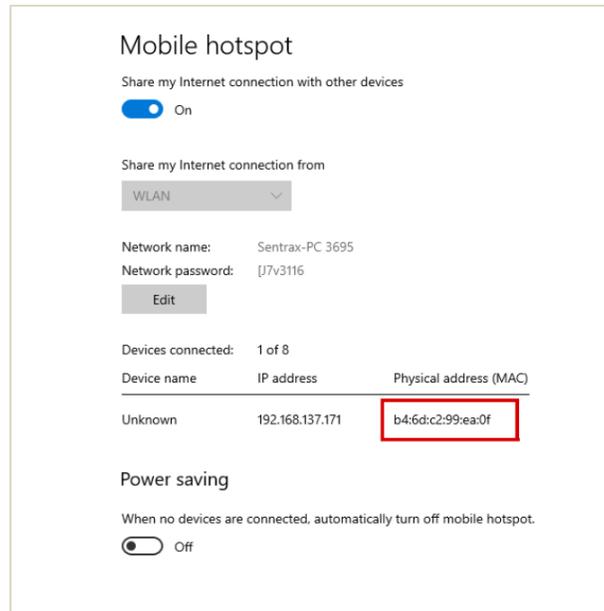


Figure-18

## 4.6. WiFi Configuration on Windows

Once again, navigate to 'Mobile hotspot' settings on the Windows laptop and use the IP assigned to LON2. Enter the IP in the web browser. As the network is provided through the Windows laptop, in this configuration, LON2 will always have an IP from the 192.168.137.XXX pool. Refer to Figure-19 for additional clarity.

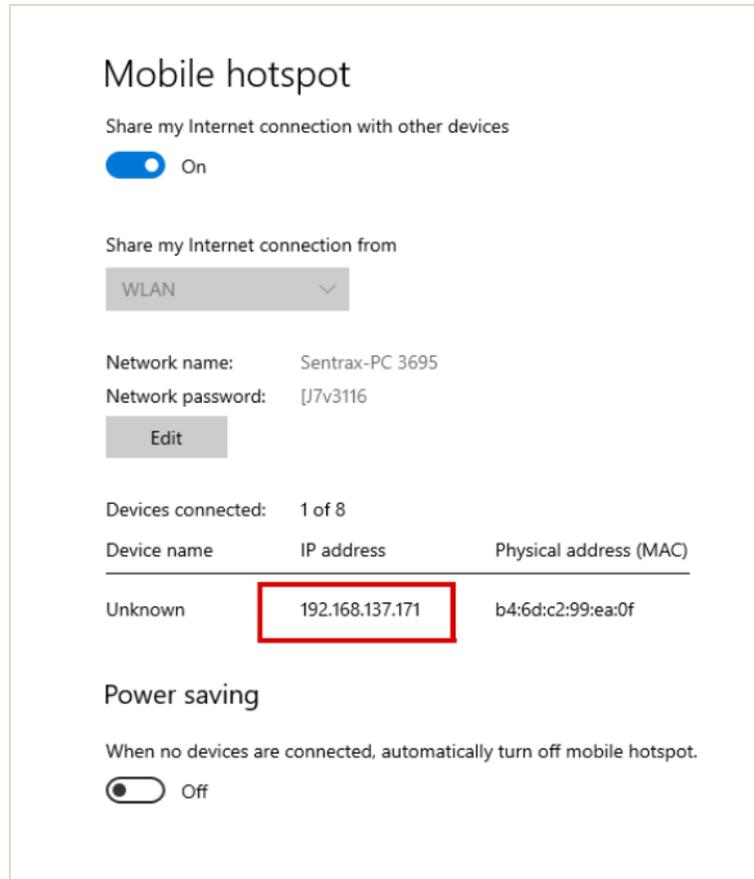


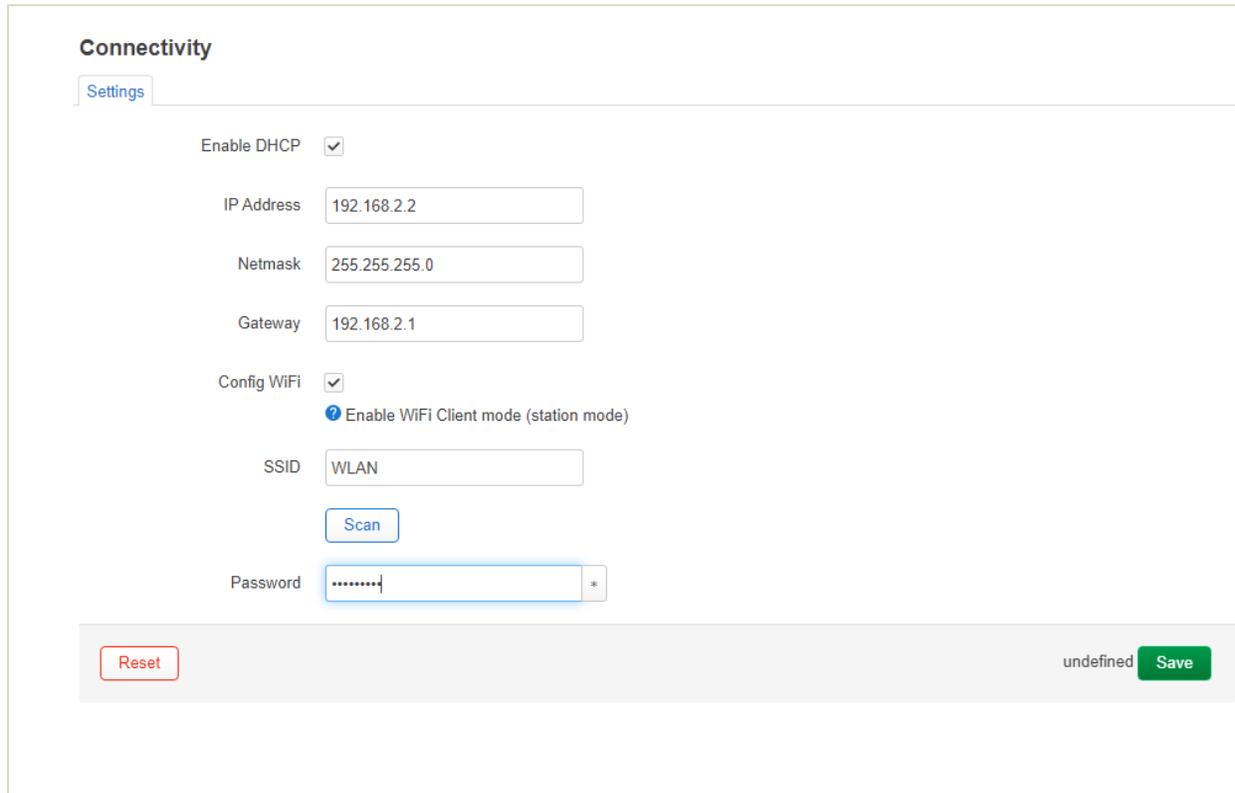
Figure-19

Utilize the default credentials to access the web page settings once again.



Figure-20

Navigate back to the 'Connectivity' tab, then simply press the 'Scan' button. A list of all available networks will be displayed. 'Connect' to the desired wireless network, and then 'save' the configuration settings. Refer to Figure-21 for further guidance.



The screenshot shows the 'Connectivity' settings page. At the top, there is a 'Settings' tab. Below it, the 'Enable DHCP' checkbox is checked. The 'IP Address' field contains '192.168.2.2', the 'Netmask' field contains '255.255.255.0', and the 'Gateway' field contains '192.168.2.1'. The 'Config WiFi' checkbox is also checked, with a sub-option 'Enable WiFi Client mode (station mode)' selected. The 'SSID' field contains 'WLAN'. Below the SSID field is a 'Scan' button. The 'Password' field is masked with dots and has a small icon on the right. At the bottom left is a 'Reset' button, and at the bottom right is a 'Save' button.

**Figure-21**

Before proceeding with further steps, please ensure that the network configured for LON2 is the same as the one to which the Windows laptop is connected. Utilize the 'Advanced IP Scanner' software to find out the IP assigned to the LON2 device. Press the 'Scan' button and wait for the scanning period to elapse. Refer to Figure-22 for additional clarity.

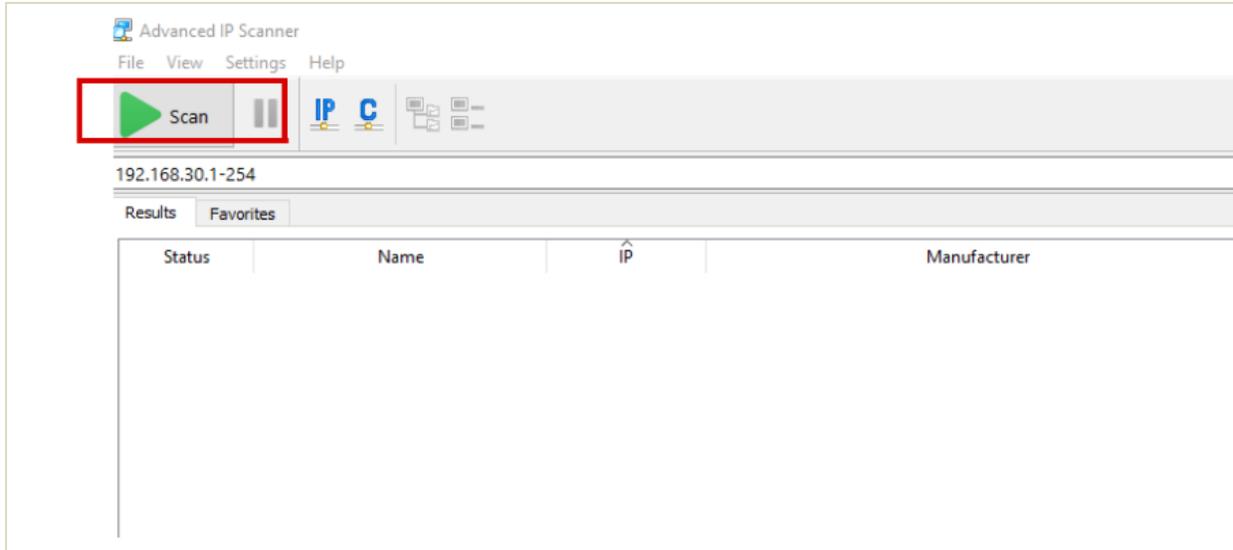


Figure-22

After the scanning period has elapsed, use the search bar on the top right-hand side. Enter the MAC address, which was explored in the 3rd heading of this document (Preparation Steps), into the search bar to find the IP assigned to LON2. Refer to Figure-23 for further clarity.

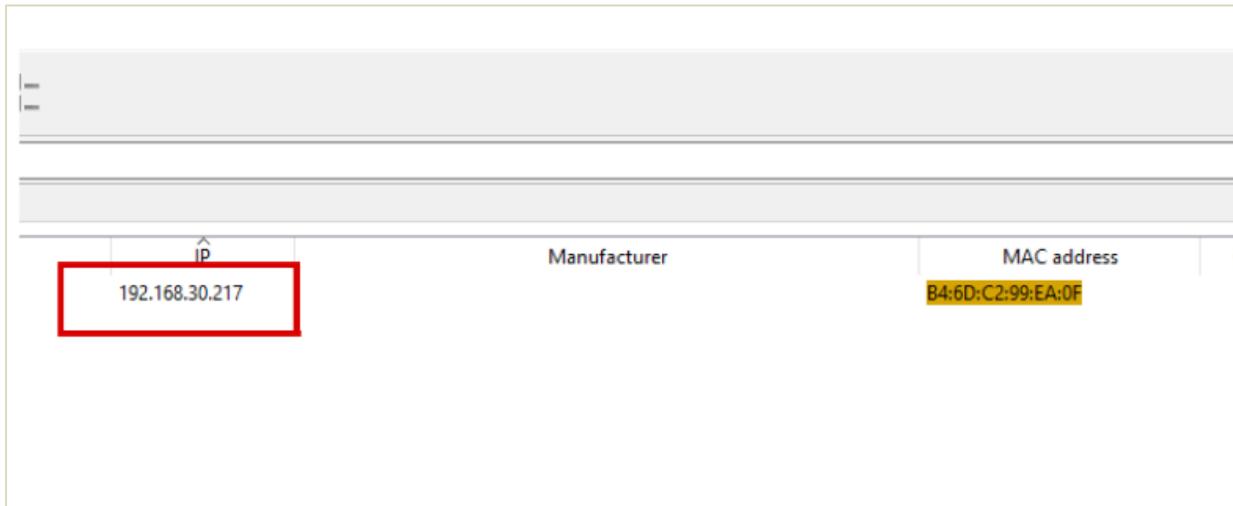


Figure-23

Enter the obtained IP in the web browser to confirm the configuration. Upon successful configuration, you will also be able to view the web page of LON2.

**Note:** *The priority network for LON2 will always be Ethernet. In the absence of Ethernet availability, if the device Wi-Fi settings were configured, LON2 will automatically switch to Wi-Fi.*

## 4.7. Preparation Steps

Power the ZENIX LON-2 using the provided 12V power adapter. Please wait until the LON-2 access point is visible. The format of this access point will be 'LON2\_' followed by the last 6 digits of the MAC address. For more clarity, refer to Figure-24.



Figure-24

Before performing WiFi configuration, we need to determine the MAC address of the WLAN connection. Enable the 'Mobile hotspot' feature on your Windows laptop. Refer to Figure-25 for further clarity.

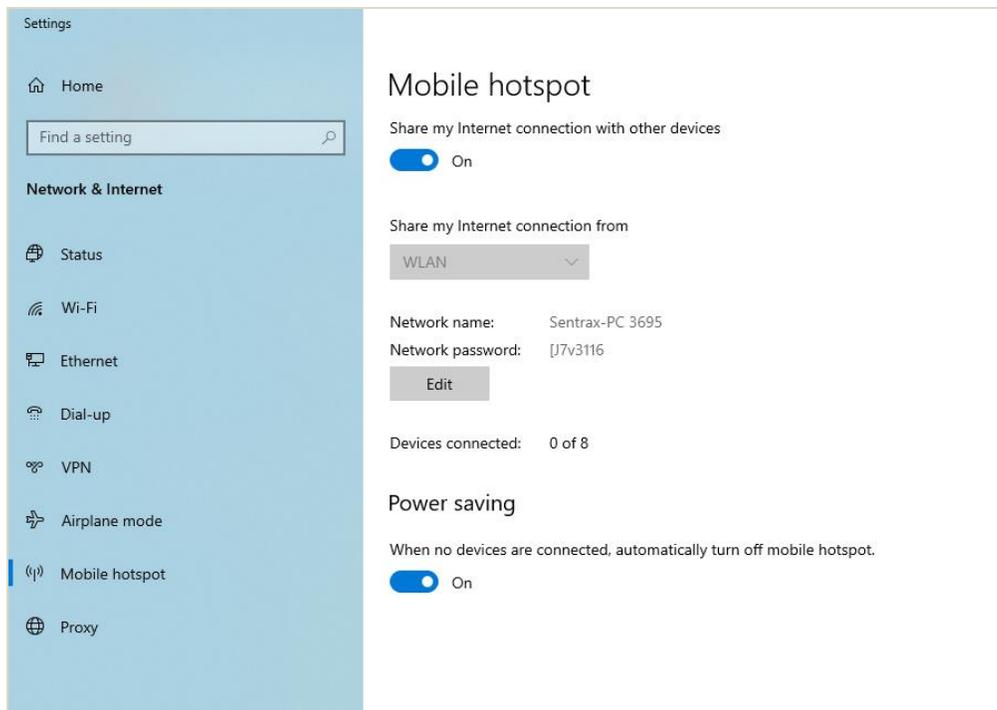


Figure-25

Connect your Windows laptop to the LON2 access point using the following password:

Password: 12345678

After a successful connection, enter '192.168.1.1' in the web browser. Use the default login credentials to access the configuration page. Navigate to the 'Connectivity' option; refer to Figure-26 for further clarity.

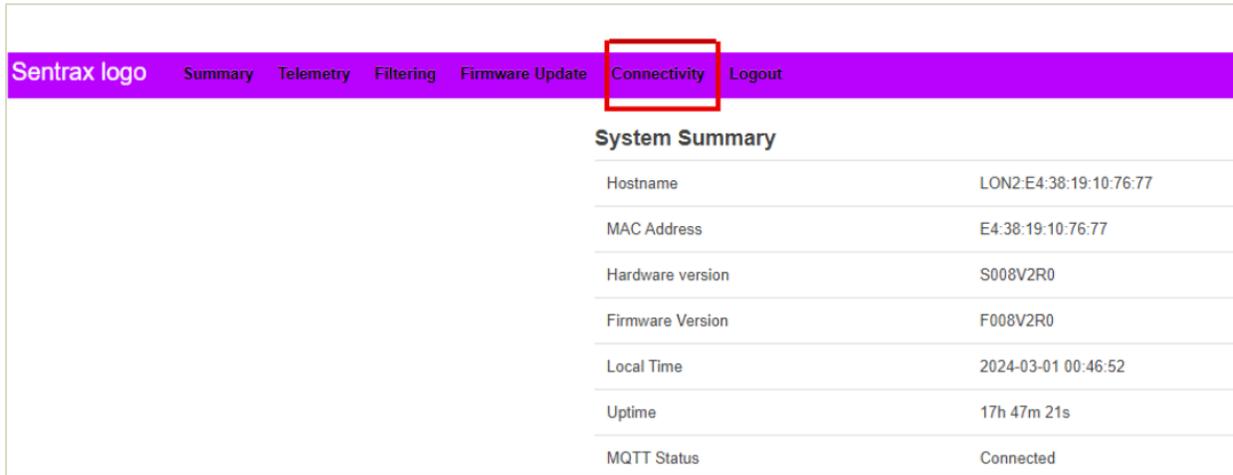


Figure-26

The configuration screen for connectivity will be displayed; refer to Figure-27 for additional clarity.

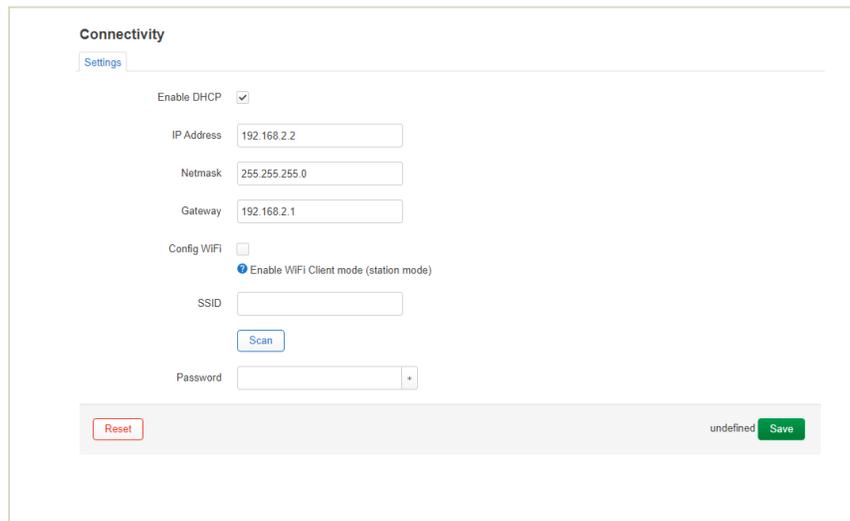
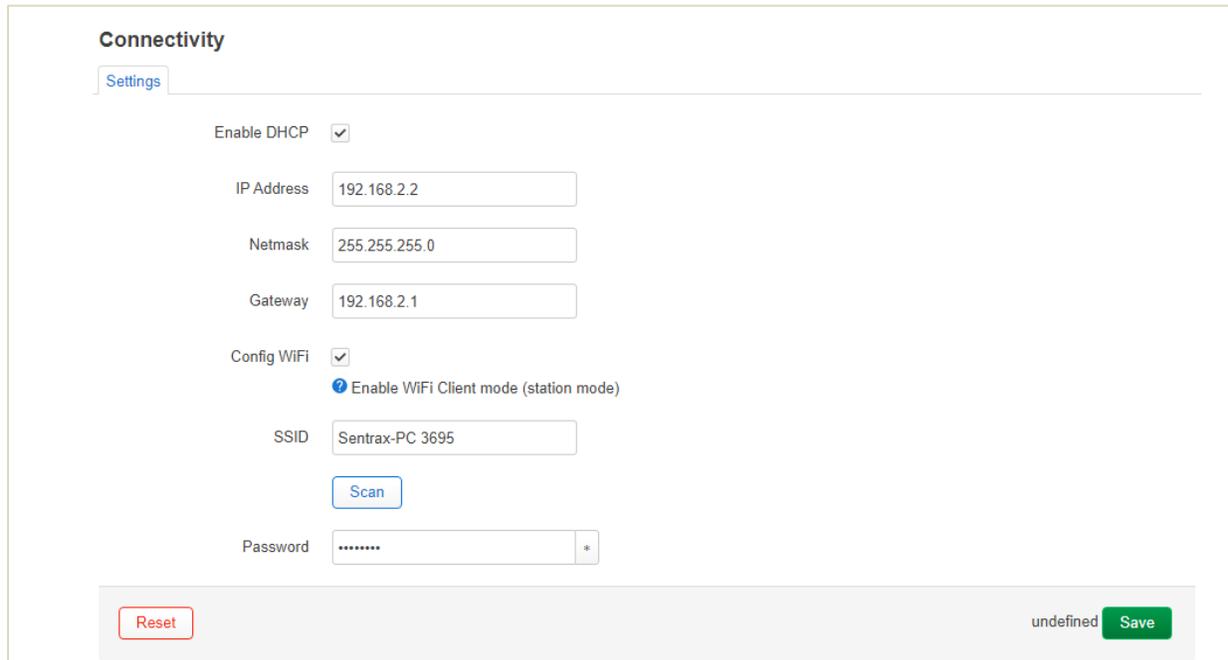


Figure-27

First, enable the 'Config WiFi' checkbox, and then perform a 'Scan' for available networks. Connect to the SSID of the 'Mobile hotspot' on your Windows laptop, enter its password, and then 'Save' the configuration settings. For further clarity, refer to Figure-28



**Connectivity**

Settings

Enable DHCP

IP Address

Netmask

Gateway

Config WiFi

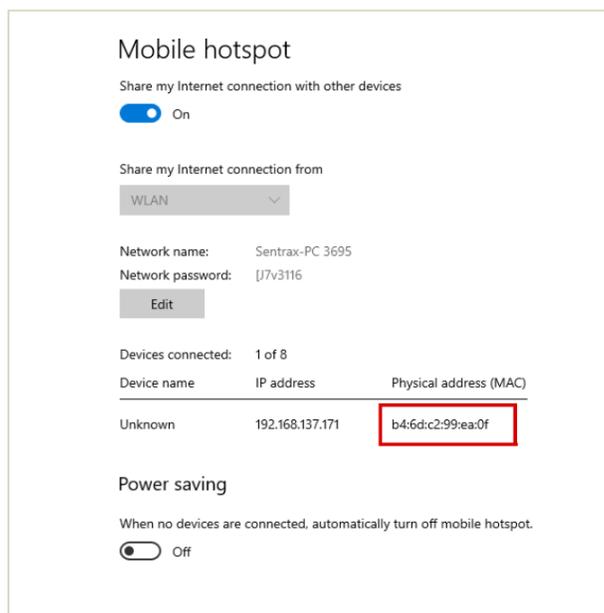
Enable WiFi Client mode (station mode)

SSID

Password

Figure-28

Now, navigate back to 'Mobile hotspot' settings. On this screen, you will find the LON2 MAC address along with its assigned IP address. Since this MAC address will be used in the upcoming steps, it is crucial to save it for later use. Refer to Figure-29 for further clarity.



**Mobile hotspot**

Share my Internet connection with other devices

On

Share my Internet connection from

WLAN

Network name: Sentrax-PC 3695

Network password: [J7v3116]

Devices connected: 1 of 8

Device name	IP address	Physical address (MAC)
Unknown	192.168.137.171	b4:6d:c2:99:ea:0f

Power saving

When no devices are connected, automatically turn off mobile hotspot.

Off

Figure-29

## 4.8. WiFi Configuration on Windows

Once again, navigate to 'Mobile hotspot' settings on the Windows laptop and use the IP assigned to LON2. Enter the IP in the web browser. As the network is provided through the Windows laptop, in this configuration, LON2 will always have an IP from the 192.168.137.XXX pool. Refer to Figure-30 for additional clarity.

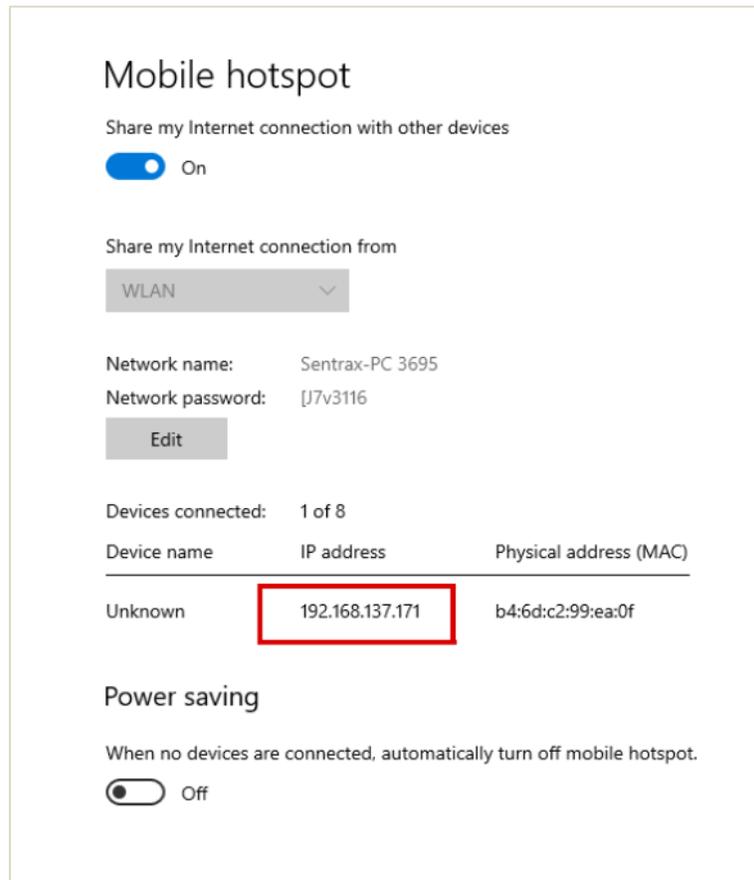


Figure-30

Utilize the default credentials to access the web page settings once again.



Figure-31

Navigate back to the 'Connectivity' tab, then simply press the 'Scan' button. A list of all available networks will be displayed. 'Connect' to the desired wireless network, and then 'save' the configuration settings. Refer to Figure-32 for further guidance.

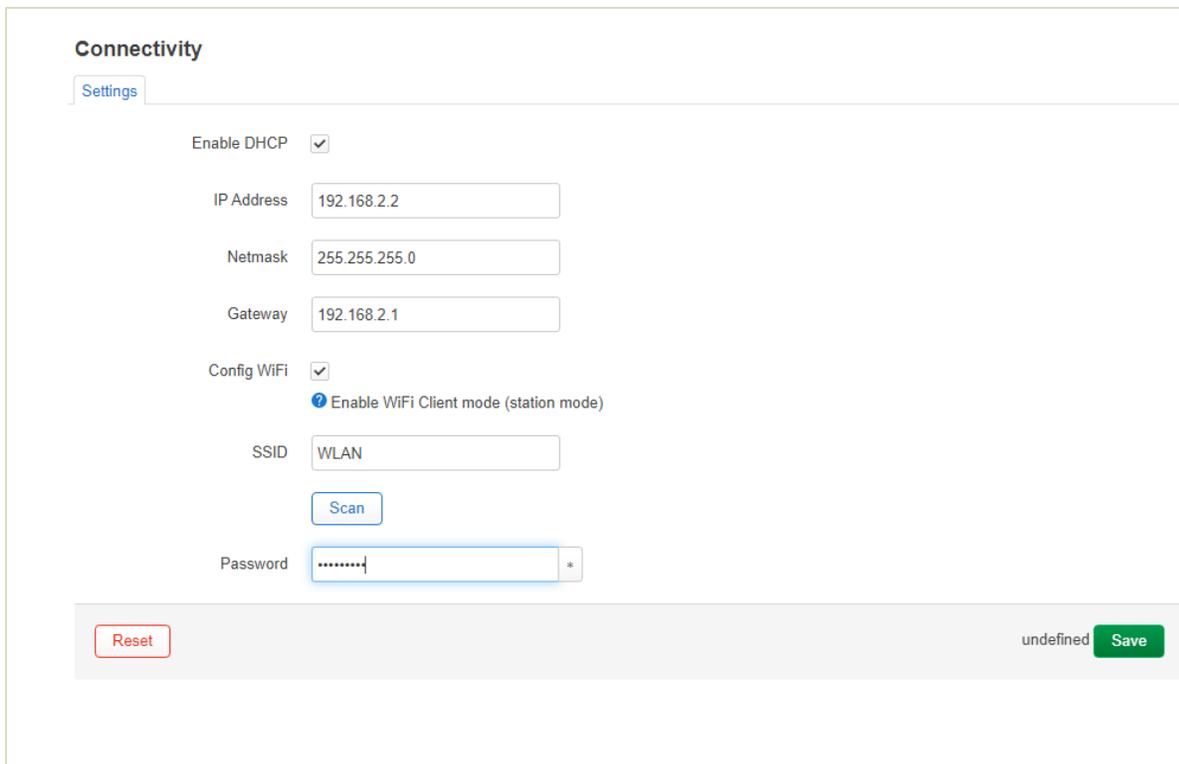


Figure-32

Before proceeding with further steps, please ensure that the network configured for LON2 is the same as the one to which the Windows laptop is connected. Utilize the 'Advanced IP Scanner' software to find

out the IP assigned to the LON2 device. Press the 'Scan' button and wait for the scanning period to elapse. Refer to Figure-33 for additional clarity.

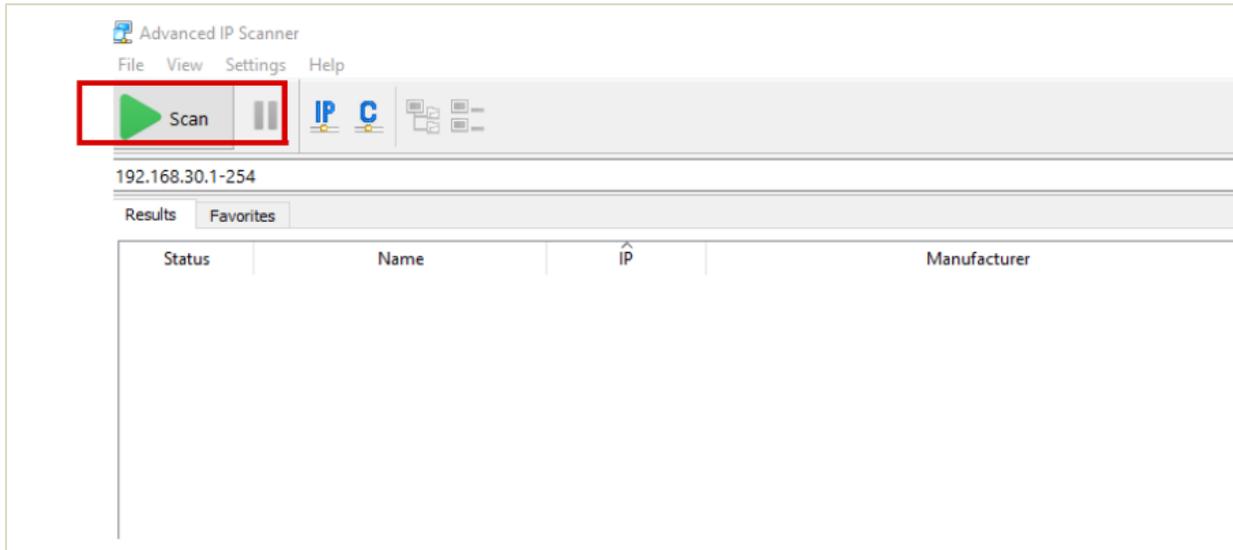


Figure-33

After the scanning period has elapsed, use the search bar on the top right-hand side. Enter the MAC address, which was explored in the 3rd heading of this document (Preparation Steps), into the search bar to find the IP assigned to LON2. Refer to Figure-34 for further clarity.

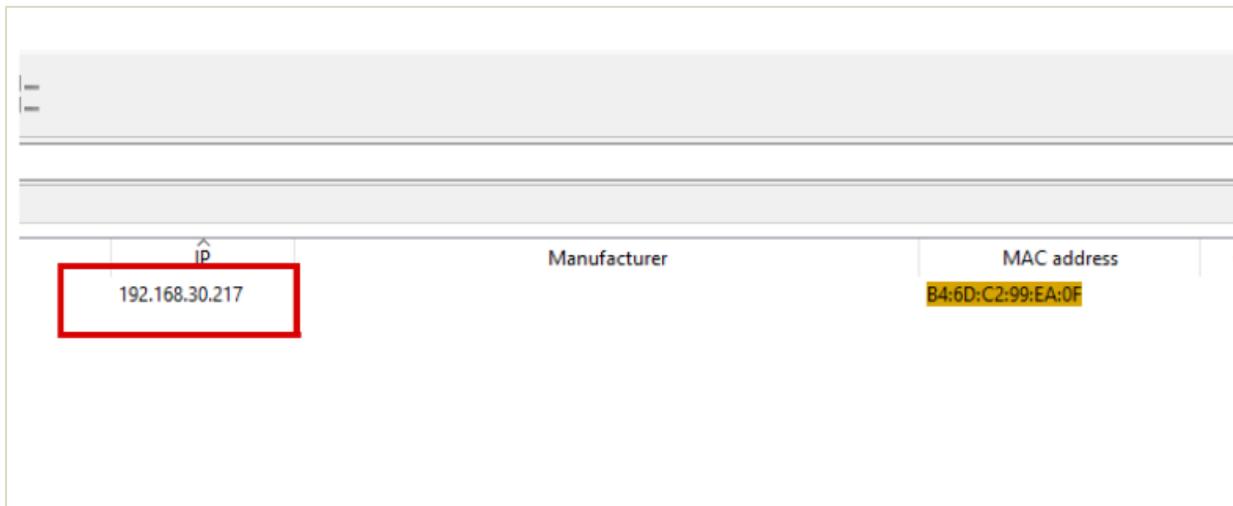


Figure-34

Enter the obtained IP in the web browser to confirm the configuration. Upon successful configuration, you will also be able to view the web page of LON2.

**Note:** *The priority network for LON2 will always be Ethernet. In the absence of Ethernet availability, if the device Wi-Fi settings were configured, LON2 will automatically switch to Wi-Fi.*

## Disclaimer:

This guide is intended for informational purposes only. If in doubt at any stage of the installation or operation of the locator/gateway always consult Sentrax's authorized dealer, distributor, or get in touch directly with Sentrax GmbH.

Given that Sentrax will continuously improve and develop the product, changes may be made to the information in this manual at any time without any obligation to notify any person of any such revisions or changes. Sentrax will make all possible efforts to secure the accuracy and integrity of this manual.

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