

IoT minimal WiFi Nat Router (WiFi Repeater)

This is an implementation of a WiFi NAT router on the esp8266 made by martin-ger in C. Project is hosted on github and it's open source.

Typical usage scenarios include:

- Simple range extender for an existing WiFi network
- Battery powered outdoor (mesh) networks
- Setting up an additional WiFi network with different SSID/password for guests

By default, the ESP acts as WiFi station (STA) and as an Access Point (soft-AP) and transparently forwards any IP traffic through it. Measurements show, that it can achieve about 5 Mbps in both directions, so even streaming is possible.

Known Limitations: If any HD video needs more than this 5 Mbps the video will stop or will downgrade quality. By hardware limitations it will not support more than 5 clients connected. There is a bug that a STATION setting with spaces in SSID may not work (Please change it in your Router if possible)

First boot

The Wif repeater starts with the following default configuration:

- ssid: **MyAP**, password: none (open)
- network: 192.168.4.0/24

1- After plugging the USB power just connect to **MyAP with any device**

2- With this device, browse **192.168.4.1** to access the Web interface

3- **STATION settings:** Configure the **SSID/ Password** to the router from where the WiFi repeater will connect
NOTE: Do not select Automesh. Automesh has a learning process and needs more than one repeater.

4- **ACCESS POINT settings:** Define the SSID/ Password for your WiFi repeater. Do not forget to change Security to WPA if you want to add a password to the AP

NOTE: Do not lock config. Locking it means that this Web interface will be not accesible.

After saving this information and doing this steps your device will restart automatically and it's ready to work.

Place it to cover gaps where your Router does not arrive with enough signal strength. Try to connect to the defined AP from any device and browse the internet. Try to stream a video. And by doing this place it in the best possible point to get the most of the repeater.

The screenshot shows a web browser interface for the ESP WiFi NAT Router. The address bar contains '192.168.4.1'. The page title is 'ESP WiFi NAT Router Config'. The interface is divided into several sections:

- STA Settings:** Includes input fields for 'SSID' (containing 'ssid') and 'Password' (containing 'password'). There is an 'Automesh' checkbox which is unchecked, and a 'Connect' button.
- AP Settings:** Includes input fields for 'SSID' (containing 'MyAP') and 'Password' (containing 'none'). There is a 'Security' dropdown menu set to 'Open', and a 'Subnet' input field containing '192.168.4.1'. A 'Set' button is below these fields. A note below says 'Password: min. 8 chars'.
- Lock Config:** Includes a 'Lock Device' checkbox which is unchecked, and a 'Lock' button.
- Device Management:** Includes a 'Reset Device' button labeled 'Restart'.

Happy browsing! Please check this links for more information and credits

More detailed info from martin-ger: https://github.com/martin-ger/esp_wifi_repeater

More details this video: <https://www.youtube.com/watch?v=OM2FqnMFCLw>

Disclaimer: Martin Fasani is not the author of this software. martin-ger in github from Wiesbaden, Germany programmed this NAT router implementation.

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