



## How to configure a wlan interface on hotspot mode



## How to configure a wlan interface on hotspot mode

Stable: 03.02.2020 - 08:43 / Revision: 03.02.2020 - 08:30

# 1 Configure a wlan interface on hotspot mode

- Configure the wlan interface for systemd/network

Add the following rule on `/lib/systemd/network/`

```
Board $> cat /lib/systemd/network/hostapd.network
[Match]
Name=wlan0

[Network]
Address=192.168.72.1/24
DHCPserver=yes
IPForward=ipv4
IPMasquerade=yes
```

**192.168.72.1/24**: ip address affected to the hotspot device.

This configuration supports dhcpserver, ip forward and ip masquerade for this wlan interface: wlan0.

- Create the hotspot configuration by replacing `/etc/hostapd.conf` content by the following lines

```
Board $> cat /etc/hostapd.conf
interface=wlan0
driver=nl80211
# mode Wi-Fi (a = IEEE 802.11a, b = IEEE 802.11b, g = IEEE 802.11g)
hw_mode=g
ssid=STExampleNetwork
channel=7
wmm_enabled=0
macaddr_acl=0
# Wi-Fi closed, need an authentication
auth_algs=1
ignore_broadcast_ssid=0
wpa=2
wpa_passphrase=ExamplePassphareNetwork
wpa_key_mgmt=WPA-PSK
wpa_pairwise=TKIP
rsn_pairwise=CCMP
```

**STExampleNetwork** is the visible name of the new wlan hotspot (SSID).

**ExamplePassphareNetwork** is the passphrase associated to the wlan hotspot (SSID).

- Correct one issue with `systemd-networkd.service` which does not enable the wifi link by default

Add the highlighted line in `/lib/systemd/system/hostapd.service` file



How to configure a wlan interface on hotspot mode

```
Board $> cat /lib/systemd/system/hostapd.service
[Service]
ExecStartPre=/sbin/ip link set wlan0 up
ExecStart=/usr/sbin/hostapd /etc/hostapd.conf -P /run/hostapd.pid -B
```

- Enable systemd service

```
Board $> systemctl enable hostapd
```

## 2 How to configure a gateway configuration

For this example of configuration, the setup is:

- wlan0: wireless interface connected to SSID\_NETWORK with DHCP
- eth0: ethernet interface with static IP which also have a DHCPserver on it
- forward of packet are activated between the two network interfaces.

### 2.1 Configure wireless interface

```
Board $> cat /lib/systemd/network/wlan0.network
[Match]
Name=wlan0

[Network]
DHCP=ipv4
IPForward=ipv4
```

#### IPForward

permit to forward all network packet from wireless network to other network.

Configure wireless interface for SSID\_NETWORK network:

```
Board $> mkdir -p /etc/wpa_supplicant/
echo "ctrl_interface=/var/run/wpa_supplicant" > /etc/wpa_supplicant/wpa_supplicant-
wlan0.conf
echo "eapol_version=1" >> /etc/wpa_supplicant/wpa_supplicant-wlan0.conf
echo "ap_scan=1" >> /etc/wpa_supplicant/wpa_supplicant-wlan0.conf
echo "fast_reauth=1" >> /etc/wpa_supplicant/wpa_supplicant-wlan0.conf
echo "" >> /etc/wpa_supplicant/wpa_supplicant-wlan0.conf
wpa_passphrase SSID_NETWORK PASSWORD_NETWORK >> /etc/wpa_supplicant/wpa_supplicant-
wlan0.conf
or
wpa_passphrase SSID_NETWORK >> /etc/wpa_supplicant/wpa_supplicant-wlan0.conf
```

Where **SSID\_NETWORK** **PASSWORD\_NETWORK** correspond to the SSID and password of wireless network.

Enable the wireless configuration (to be take into account after reboot):



How to configure a wlan interface on hotspot mode

```
Board $> systemctl enable wpa_supplicant@wlan0.service
systemctl restart systemd-networkd.service
systemctl restart wpa_supplicant@wlan0.service
```

technology for wireless local area networking with devices based on the IEEE 802.11 standards