

Configure Wireless using wpa_supplicant for Odroid minimal image

- It is highly recommended to use **nmcli** command to configure WiFi.
wpa_supplicant is very unstable and bad!
 - [How to setup Wifi on minimal image with nmcli](#)

Find the wireless card Interface name.

```
$ iwconfig
sit0      no wireless extensions.

lo        no wireless extensions.

eth0      no wireless extensions.

ip6tnl0   no wireless extensions.

wlx40a5efd52a6d  unassociated  Nickname:"<WIFI@REALTEK>"
Mode:Auto  Frequency=2.412 GHz  Access Point: Not-Associated
Sensitivity:/
Retry:off  RTS thr:off    Fragment thr:off
Encryption key:off
Power Management:off
Link Quality=/100  Signal level= dBm  Noise level= dBm
Rx invalid nwid:  Rx invalid crypt:  Rx invalid frag:
Tx excessive retries:  Invalid misc:  Missed beacon:
```

Need to append the **net.ifnames=0** to **bootargs** in **/media/boot/boot.ini** to change the interface name to wlan0.

Following are the steps to Create wireless service to connect to your router.

Step1 : Find SSID to connect.

```
$ sudo iwlist wlan0 scanning | egrep 'Cell |Encryption|Quality|Last beacon|ESSID'
Cell 01 - Address: 5E:CF:7F:84:54:70
ESSID:"smartpower2"
Encryption key:on
Quality=/100  Signal level=-45 dBm
Cell 02 - Address: 5E:CF:7F:13:91:D6
ESSID:"smartpower2"
Encryption key:on
Quality=/100  Signal level=-45 dBm
Cell 03 - Address: 2C:30:33:5E:8C:9D
```

```
                ESSID: "MYSSID"  
                Encryption key:on  
                Quality=/100 Signal level=-45 dBm  
Cell 04 - Address: 2C:30:33:5E:8C:9C  
                ESSID: "GoToHell-5G"  
                Encryption key:on  
                Quality=/100 Signal level=-45 dBm
```

Step2: Generate wireless wpa_supplicant configuration file

This connection method allows quickly connecting to a network whose SSID is already known

```
$ wpa_passphrase MYSSID passphrase > /etc/wpa_supplicant/wpa_supplicant.conf
```

Step3: Create Wireless Service file. /etc/systemd/system/network-wireless@.service

Append the following to the service file

```
[Unit]  
Description=Wireless network connectivity (%i)  
Wants=network.target  
Before=network.target  
BindsTo=sys-subsystem-net-devices-%i.device  
After=sys-subsystem-net-devices-%i.device  
  
[Service]  
Type=oneshot  
RemainAfterExit=yes  
  
ExecStart=/sbin/ip link set dev %i up  
ExecStart=/sbin/wpa_supplicant -B -i %i -c  
/etc/wpa_supplicant/wpa_supplicant.conf  
ExecStart=/sbin/dhclient %i  
  
ExecStop=/sbin/ip link set dev %i down  
  
[Install]  
WantedBy=multi-user.target
```

Note: depend on you setting in your image you need to update the absolute path for **ip**, **wpa_supplicant** and **dhclient** command

Step4 : Need to Create Symbolic link to update the service.

```
$ ln -s /etc/systemd/system/network-wireless@.service  
/etc/systemd/system/multi-user.target.wants/network-wireless@wlan0.service
```

Step5 : Enable the service.

```
$ systemctl enable network-wireless@wlan0.service
```

Step6: Reload the all the service

```
$ systemctl daemon-reload
```

Step7: Start the systemctl service

```
$ systemctl start network-wireless@wlan0.service
```

After this we will get ip address from the router.

```
$ ifconfig
eth0      Link encap:Ethernet  HWaddr 00:1e:06:10:dc:ad
          inet addr:10.0.0.138  Bcast:10.0.0.255  Mask:255.255.255.0
          inet6 addr: fe80::21e:6ff:fe10:dcad/64  Scope:Link
          inet6 addr: 2002:ac10:e33c:e472:21e:6ff:fe10:dcad/64  Scope:Global
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:6808  errors: dropped: overruns: frame:
          TX packets:3519  errors: dropped: overruns: carrier:
          collisions: txqueuelen:1000
          RX bytes:7876906 (7.8 MB)  TX bytes:298180 (298.1 KB)
          Interrupt:40

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128  Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:160  errors: dropped: overruns: frame:
          TX packets:160  errors: dropped: overruns: carrier:
          collisions: txqueuelen:
          RX bytes:11840 (11.8 KB)  TX bytes:11840 (11.8 KB)

wlan0     Link encap:Ethernet  HWaddr 40:a5:ef:d5:2a:6d
          inet addr:10.0.0.111  Bcast:10.0.0.255  Mask:255.255.255.0
          inet6 addr: 2002:ac10:e33c:e472:42a5:efff:fed5:2a6d/64
Scope:Global
          inet6 addr: 2002:ac10:e33c:e472:c056:d96b:b7f9:4425/64
Scope:Global
          inet6 addr: fe80::42a5:efff:fed5:2a6d/64  Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:13  errors: dropped: overruns: frame:
          TX packets:10  errors: dropped:1  overruns: carrier:
          collisions: txqueuelen:1000
          RX bytes:2830 (2.8 KB)  TX bytes:1700 (1.7 KB)
```

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