WiFi Astra Linux

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  -
  -
- WiFi
- WiFi
  - Network Manager
    -
    - DHCP
    -
  - Network Manager
    -
    - hostapd

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- Astra Linux Special Edition .10015-01 (1.7)
- Astra Linux Special Edition .10015-01 (1.6)
- Astra Linux Special Edition .10015-16 . 1
- Astra Linux Common Edition 2.12

WiFi. VM (. QEMU/KVM Astra Linux), WiFi USB- TP-Link LT-WDN3200 (Ralink RT5572) Ralink RT5370. wlan0, . , man.

, , , .

, . , .

. rfkill iw:

```
sudo apt install rfkill iw
```

1. , ( ):

   ```
   lsusb
   ```

   ```
   Bus 002 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
   Bus 001 Device 004: ID 148f:5370 Ralink Technology, Corp. RT5370
   Wireless Adapter
   Bus 001 Device 002: ID 0627:0001 Adomax Technology Co., Ltd
   Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
   ```

   USB- "Ralink Technology, Corp. RT5370 Wireless Adapter"

   QEMU/KVM USB- , "USB- " ("USB Host Device");

2. , ( ):

   ```
   ip a
   ```

   ```
   1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN
   group default qlen 1000
       link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
       inet 127.0.0.1/8 scope host lo
          valid_lft forever preferred_lft forever
   ```

```
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast
state UP group default qlen 1000
    link/ether 52:54:00:0f:e7:bf brd ff:ff:ff:ff:ff:ff
    inet 192.168.56.31/24 brd 192.168.56.255 scope global noprefixroute
dynamic eth0
       valid_lft 966sec preferred_lft 966sec
    inet6 fe80::5054:ff:fe0f:e7bf/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
3: wlan0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc mq state
DOWN group default qlen 1000
    link/ether 8a:69:8b:6c:25:92 brd ff:ff:ff:ff:ff:ff
```

wlan0;

3. , () Network Manager ( ):

```
sudo nmcli dev status
```

```
DEVICE  TYPE      STATE           CONNECTION
eth0    ethernet          1
wlan0   wifi             --
```

4. , (, BIOS). rfkill. :

```
sudo rfkill list
```

```
0: phy0: Wireless LAN
        Soft blocked: no
        Hard blocked: no
```

, phy0 ("no"). ('yes"), :

a. ("Soft blocked: yes"), :

```
sudo rfkill unblock <_>
```

, , , ;

b. ("Hard blocked: yes"), (, WiFi);

5. , (, - AP (Access Point)). iw. :

```
sudo iw list | grep "Supported interface modes:" -A 10
```

```
        Supported interface modes:
                 * IBSS
                 * managed
                 * AP
                 * AP/VLAN
                 * monitor
                 * mesh point
        Band 1:
                Capabilities: 0x17e
                        HT20/HT40
                        SM Power Save disabled
```

AP.

WiFi

, , WiFi , .

rfkill :

```
sudo rfkill list
```

WiFi :

```
sudo rfkill block <_>
```

. : WiFi Ethernet.

WiFi

, WiFi- eth0, ( ). :

1. ;
2. DHCP IPv4- WiFi- ;
3. IPTABLES WiFi- (WiFi) .

Network Manager

Network Manager WiFi :

1. . Network Manager :
   a. "" alse (SSID) alse-wifi:

      ```
      sudo nmcli con add type wifi ifname wlan0 con-name alse
      autoconnect yes ssid alse-wifi
      ```

   b. WiFi:

      ```
      sudo nmcli con mod alse 802-11-wireless.mode ap 802-11-wireless.
      band bg
      ```

   c. IPv4-:

      ```
      sudo nmcli con mod alse ipv4.method shared ipv4.addresses 10.42.0.1
      /24 gw4 10.42.0.1
      ```

      10.42.0.1. Network Manager ;

   d. IPv6:

      ```
      sudo nmcli con mod alse ipv6.method shared ipv6.ip6-privacy 0
      ```

   e. :

      ```
      sudo nmcli con mod alse wifi-sec.key-mgmt wpa-psk wifi-sec.psk
      "<__>"
      ```

f. :

```
sudo nmcli con up alse
```

2. , Network Manager (route) WiFi- :

```
ip route
```

```
default via 192.168.56.1 dev eth0 proto dhcp metric 100
default via 10.42.0.1 dev wlan0 proto static metric 600
10.42.0.0/24 dev wlan0 proto kernel scope link src 10.42.0.1 metric 600
192.168.56.0/24 dev eth0 proto kernel scope link src 192.168.56.31
metric 100
```

WiFi-: "10.42.0.0/24 dev wlan0 proto kernel scope link src 10.42.0.1 metric 600"

DHCP

1. DHCP, . DHCP . DHCP LTSP (ltsp-server-standalone) Astra Linux. DHCP , dnsmasq - DHCP. :

```
sudo apt install dnsmasq
```

2. dnsmasq :

```
log-facility=/var/log/dnsmasq.log
interface=wlan0
dhcp-range=10.42.0.10,10.42.0.250,12h
dhcp-option=3,10.42.0.1
dhcp-option=6,10.42.0.1
#no-resolv
log-queries
```

10.42.0.0/24, IPv4- WiFi-.

3. dnsmasq:

```
sudo systemctl restart dnsmasq
```

4. , :

```
sudo tail /var/log/dnsmasq.log
```

```
Feb 10 11:51:04 dnsmasq[5008]: started, version 2.76 cachesize 150
Feb 10 11:51:04 dnsmasq[5008]: compile time options: IPv6 GNU-getopt
DBus i18n IDN DHCP DHCPv6 no-Lua TFTP conntrack ipset auth DNSSEC loop-
detect inotify
Feb 10 11:51:04 dnsmasq-dhcp[5008]: DHCP, IP range 10.42.0.10 --
10.42.0.250, lease time 12h
Feb 10 11:51:04 dnsmasq[5008]: reading /etc/resolv.conf
Feb 10 11:51:04 dnsmasq[5008]: using nameserver 8.8.8.8#53
Feb 10 11:51:04 dnsmasq[5008]: read /etc/hosts - 5 addresses
```

() WiFi- . , , . IPTABLES . :

```
sudo iptables -t nat -F
sudo iptables -F
sudo iptables -t nat -A POSTROUTING -o eth0 -j MASQUERADE
sudo iptables -A FORWARD -i wlan0 -o eth0 -j ACCEPT
echo '1' | sudo tee /proc/sys/net/ipv4/ip_forward
```

IPTABLES . iptables.

Network Manager

WiFi- Network Manager hostapd. DHCP , Network Manager (.).

hostapd :

```
sudo apt install hostapd
```

hostapd Network Manager, WiFi- - Network Manager. :

1. Network Manager /etc/NetworkManager/NetworkManager.conf [keyfile] (-) , . :

   ```
   [keyfile]
   unmanaged-devices=interface-name:wlan0
   ```

2. Network Manager:

   ```
   sudo systemctl restart NetworkManager
   ```

3. , ( ):

   ```
   sudo nmcli dev status
   ```

Network Manager , WiFi- :

```
sudo ifconfig wlan0 10.42.0.1/24
```

, (. Astra Linux).

hostapd

hostapd /etc/hostapd/hostapd.conf :

```
interface=wlan0
channel=6
ieee80211n=1
hw_mode=g
ssid=alse-wifi
wpa=2
wpa_passphrase=<__>
wpa_key_mgmt=WPA-PSK
rsn_pairwise=CCMP
auth_algs=1
```

.

:

```
sudo systemctl stop hostapd
```

:

```
sudo hostapd -d /etc/hostapd/hostapd.conf
```

Ctrl+C.

:

hostapd /etc/default/hostapd :

```
DAEMON_CONF="/etc/hostapd/hostapd.conf"
```

:

```
sudo systemctl start hostapd
```