

## BASIC NETWORK CONFIGURATION

- 1) trivial static and dynamic network IP configuration  
„<https://help.ubuntu.com/lts/serverguide/network-configuration.html>” (Ubuntu<17.10):

```
#sudo aptitude install net-tools
#vim /etc/network/interfaces
    auto lo
    iface lo inet loopback

    auto NetInterfaceName      #ordinary network config
    iface NetInterfaceName inet manual
    address 192.168.150.3
    network 192.168.0.0
    netmask 255.255.0.0
    gateway 192.168.150.1
    dns-nameservers 8.8.8.8 8.8.4.4

    auto NetInterfaceName      #ordinary DHCP config
    iface NetInterfaceName inet dhcp
```

- 2) restart network interface (Ubuntu<17.10):

```
#sudo ip addr flush NetInterfaceName && sudo systemctl restart networking.service &&
sudo service networking restart && sudo service network-manager restart
```

- 1) Ubuntu >=18.04

```
#sudo vim /etc/netplan/01-network-manager=all.yaml
    renderer: networkd
    ethernets:
        NetInterfaceName:
            dhcp4: no
            dhcp6: no
            addresses: [192.168.150.3/16]
            gateway4: 192.168.150.1
            nameservers:
                addresses: [208.67.222.222,208.67.220.220]
```

```
#sudo netplan apply
```

- 3) temporary network interface configuration:

```
#sudo ifconfig NetInterfaceName 192.168.150.3 netmask 255.255.0.0
```

- 4) get NetInterfaceName details:

```
#sudo aptitude install ethtool && sudo ethtool NetInterfaceName
```

- 5) static name resolving:

```
#sudo vim /etc/hosts
10.0.0.11 server1 server1.example.com
172.217.16.4 www.google.com
```

- 6) basic local network scanner:

```
#sudo aptitude install nmap
```

- 7) basic network interfaces traffic tool:

```
#sudo aptitude install bmon
```

- 8) WiFi ( WPA authorization ) terminal commands: „<http://linux.icydog.net/wpa.php>”

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```
#sudo apt-get install wpasupplicant
#wpa_passphrase myrouter mypassphrase > wpa.conf
#sudo iwlist scan
```

1. Which wpa\_supplicant wireless drivers to use for your card. Running wpa\_supplicant --help lists the different drivers it has (under "drivers:"). As of 0.5.8, the useful choices are: wext, hostap, madwifi, atmel, ndiswrapper, and ipw (ipw is for old kernels only; >=2.6.13 should use wext). If you don't see a specific match for your card, try wext, as that's kind of the catch-all.

2. The network device of your card. This is usually `eth1` or `wlan0`, but if you're unsure you can just run `iwconfig`. It will report "no wireless extensions" for non-wireless devices and will display some data for any wireless devices.

3. The path to the configuration file that you created in the previous step.

Now that you have this data, run (as root):

```
# wpa_supplicant -D[driver] -i[device] -c[/path/to/config]
```

There are no spaces between the options and parameters. Don't include the brackets as I just added those for clarity. For example, for my laptop it looks like this:

```
# wpa_supplicant -Dwext -ieth1 -c/root/wpa.conf
```

You can also run it in the background by using the `-B` option so that it doesn't take up your console.

To get a DHCP lease, first release whatever leases you're still holding onto (as root):

```
# dhclient -r
```

Then ask for a new lease (of course replacing `eth1` with the name of your network device, the same one as you used in the previous section):

```
# dhclient eth1
```

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