

Introduction to Linux Systems

Networking

Chia-Heng Tu
Dept. of Computer Science and Information Engineering
National Cheng Kung University
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NIC Configuration

- Configure static IP
  - by GUI
  - by **netplan** (18.04)
- Recover



Print available network interface

$ ip addr

or

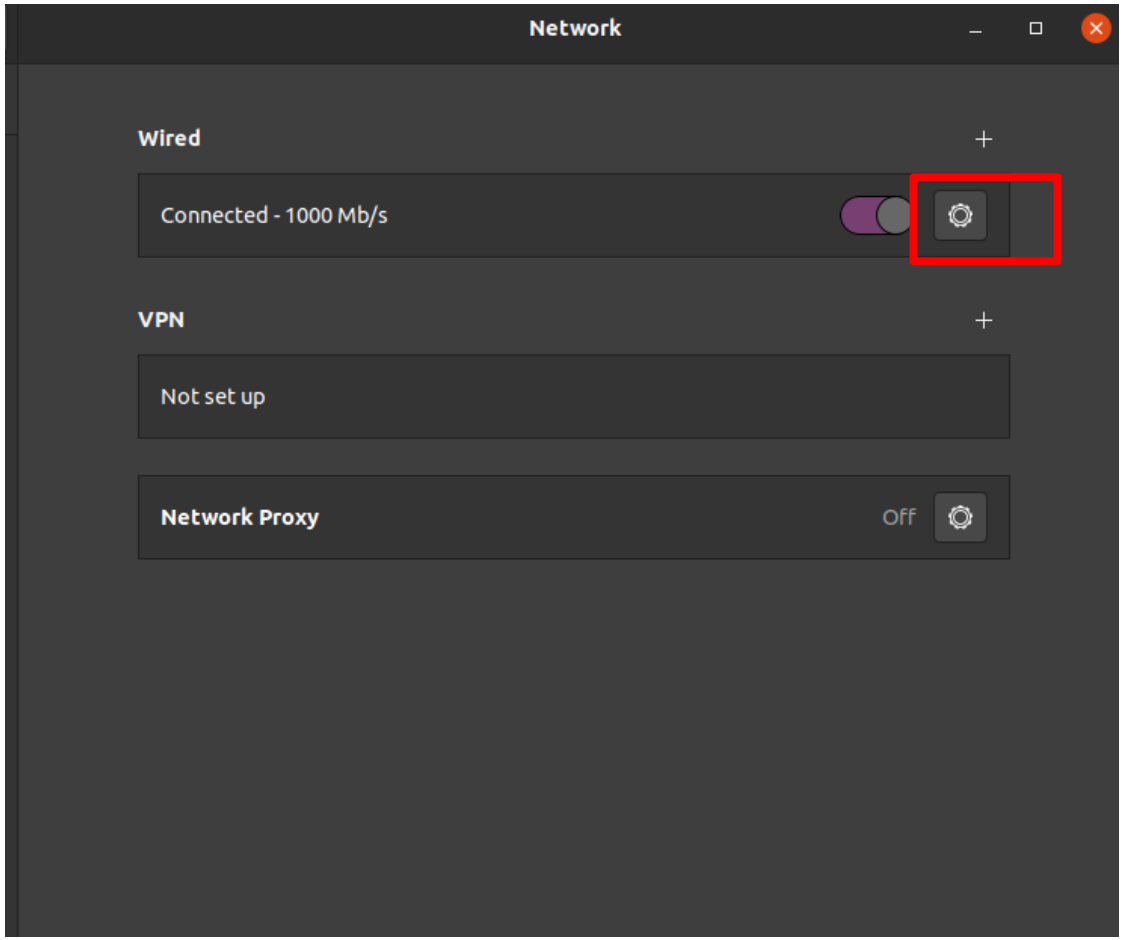
$ ip a

```
eecheng@eecheng-vm:~$ ip addr
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
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:b4:96:7f brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute enp0s3
       valid_lft 86375sec preferred_lft 86375sec
    inet6 fe80::a25d:c84b:bd9b:d1a4/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
```



Configure static IP by GUI

1. Open settings
2. Network
3. Open setting of wired

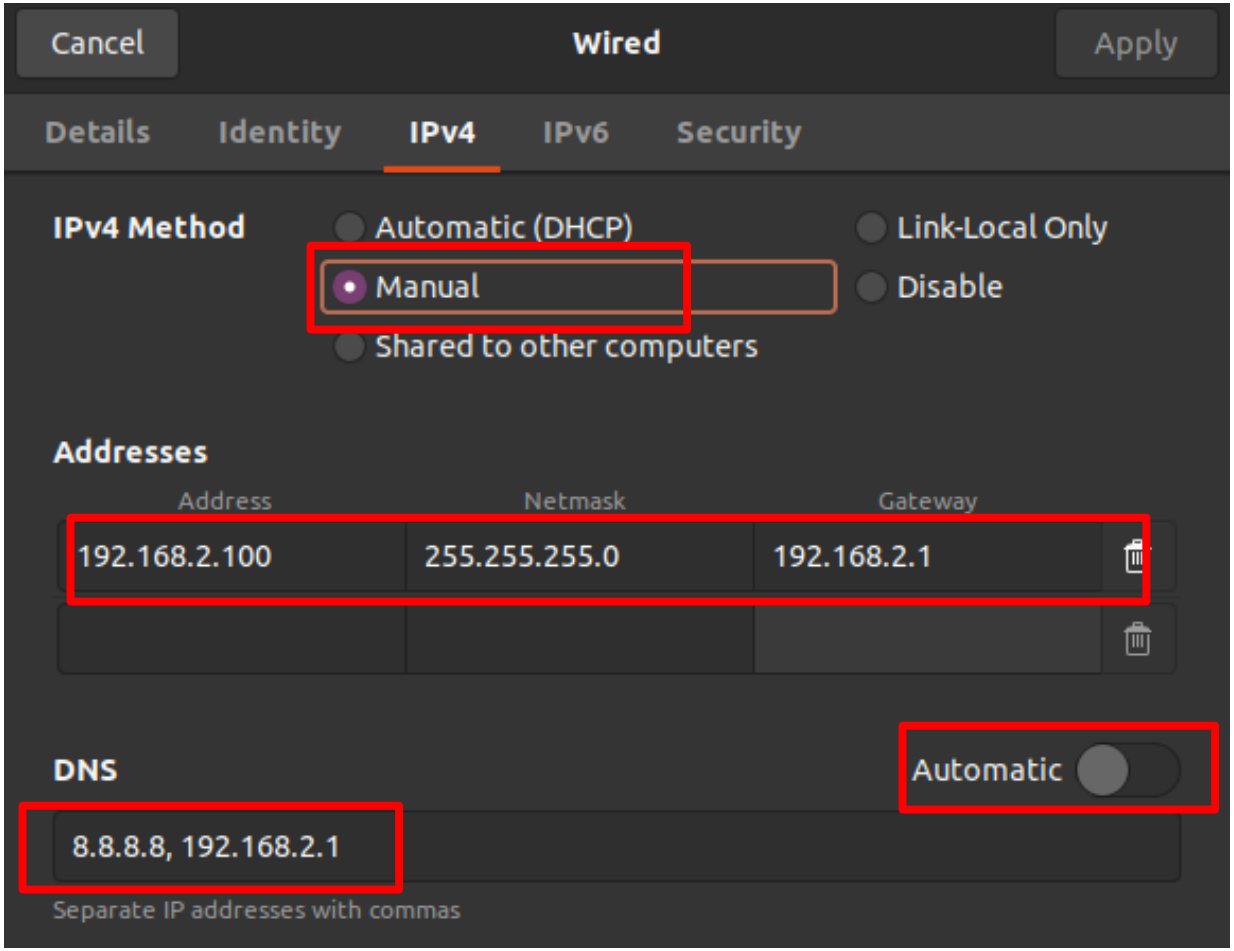




Configure static IP by GUI

1. IPv4
2. Configure highlighted sections

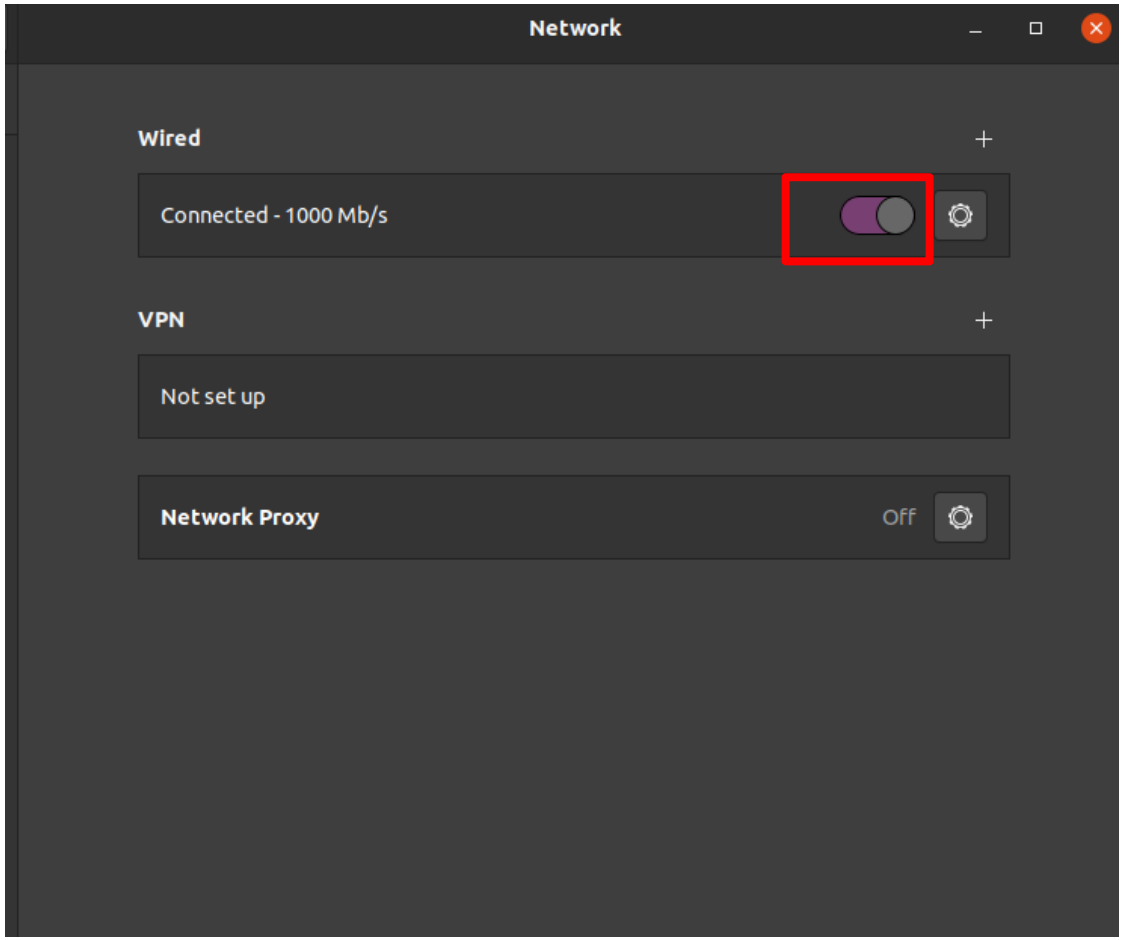
為了檢查方便，麻煩同學按照範例設定 IP





Configure static IP by GUI

- Toggle connected wired twice time





Configure static IP by GUI

Dump available network interface again

```
eecheng@eecheng-vm:~$ ip addr
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
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:b4:96:7f brd ff:ff:ff:ff:ff:ff
    inet 192.168.2.100/24 brd 192.168.2.255 scope global noprefixroute enp0s3
       valid_lft forever preferred_lft forever
    inet6 fe80::a25d:c84b:bd9b:d1a4/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
```



Configure static IP by netplan

1. backup original network config file (under /etc/netplan)
2. edit config file (.yaml)



Example config file

```
network:
  version: 2
  renderer: networkd
  ethernets:
    ens3:
      dhcp4: no
      addresses:
        - 192.168.121.221/24
      gateway4: 192.168.121.1
      nameservers:
          addresses: [8.8.8.8, 1.1.1.1]
```

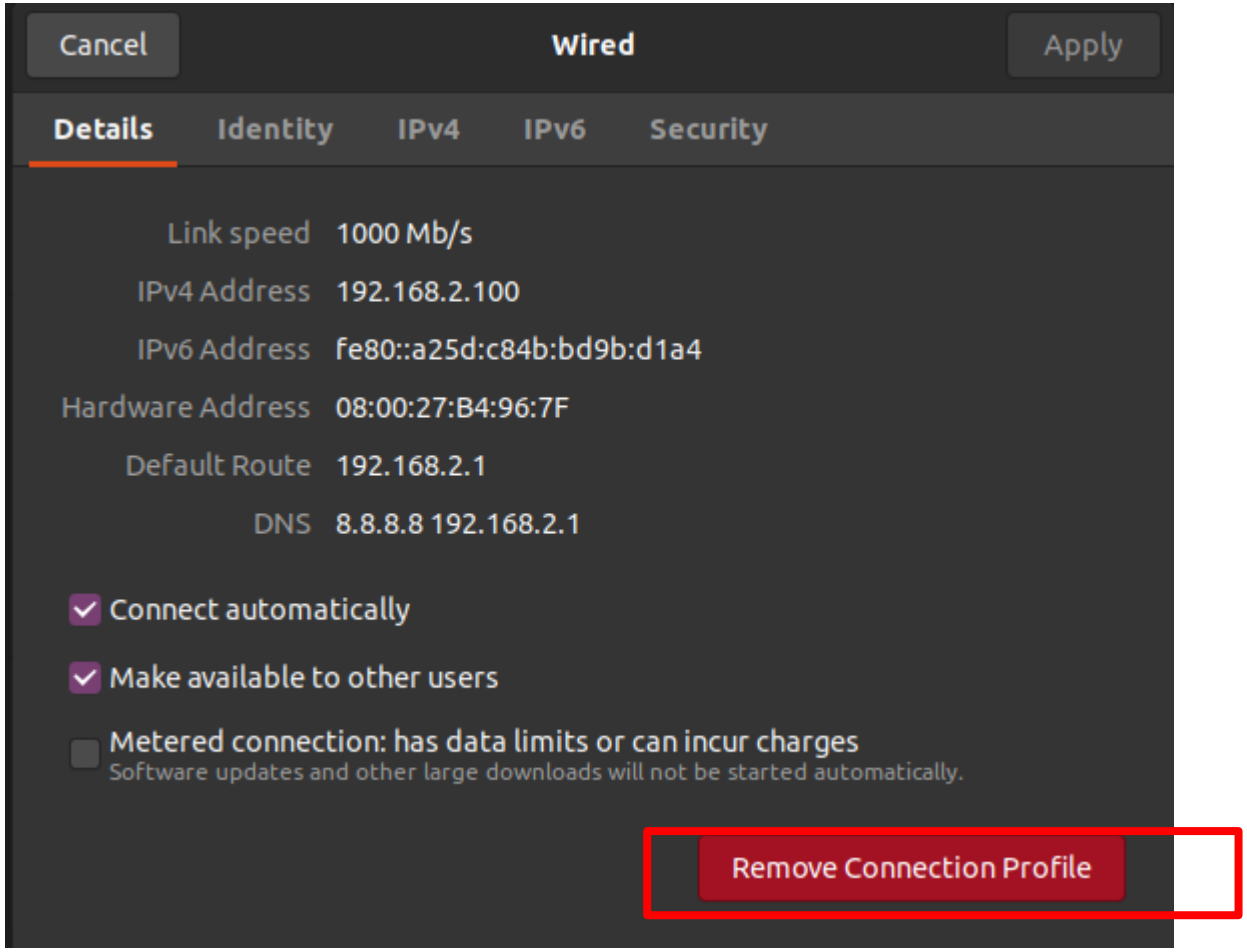


Validate and apply configuration

1. $ sudo netplan try
2. $ sudo netplan apply



Recovery (GUI)





Recovery (netplan)

1. restore backup file (.yaml) to /etc/netplan
2. type “sudo netplan apply”



Demo

截圖檢查項目:

1. 透過 ip addr 之類的工具印出修改 static IP 前後的 network interface 資訊

繳交方式：截圖上傳至 moodle



QUESTIONS