

Serveis en Xarxa

Instal·lació DHCP:

- `sudo apt-get install isc-dhcp-server`

Veure paquets instal·lats del DHCP:

- `dpkg -l | grep dhcp`

Veure fitxers instal·lats del DHCP:

- `dpkg -L isc-dhcp-server | grep /etc/`

LOGS:

Per entrar los logs:

- `sudo tail -f var/log/syslog | grep dhcp`

Si no funciona (no apareix res utilitzarem la comanda):

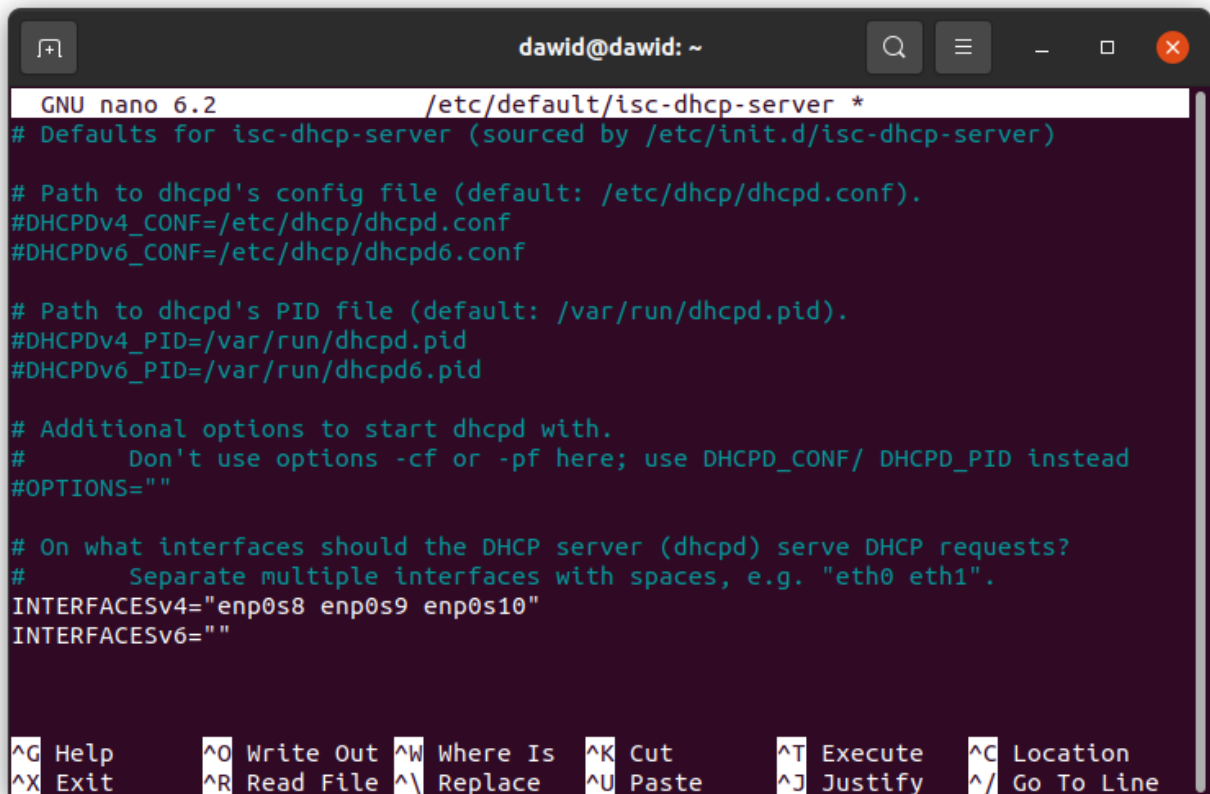
- `service isc-dhcp-server restart`

Configuració de la interfície:

- `sudo nano /etc/default/isc-dhcp-server`

`INTERFACESv4="enp0s3" ;`

(Per posar més interfícies hem de fer espais)



```
GNU nano 6.2 /etc/default/isc-dhcp-server *
# Defaults for isc-dhcp-server (sourced by /etc/init.d/isc-dhcp-server)

# Path to dhcpd's config file (default: /etc/dhcp/dhcpd.conf).
#DHCPDv4_CONF=/etc/dhcp/dhcpd.conf
#DHCPDv6_CONF=/etc/dhcp/dhcpd6.conf

# Path to dhcpd's PID file (default: /var/run/dhcpd.pid).
#DHCPDv4_PID=/var/run/dhcpd.pid
#DHCPDv6_PID=/var/run/dhcpd6.pid

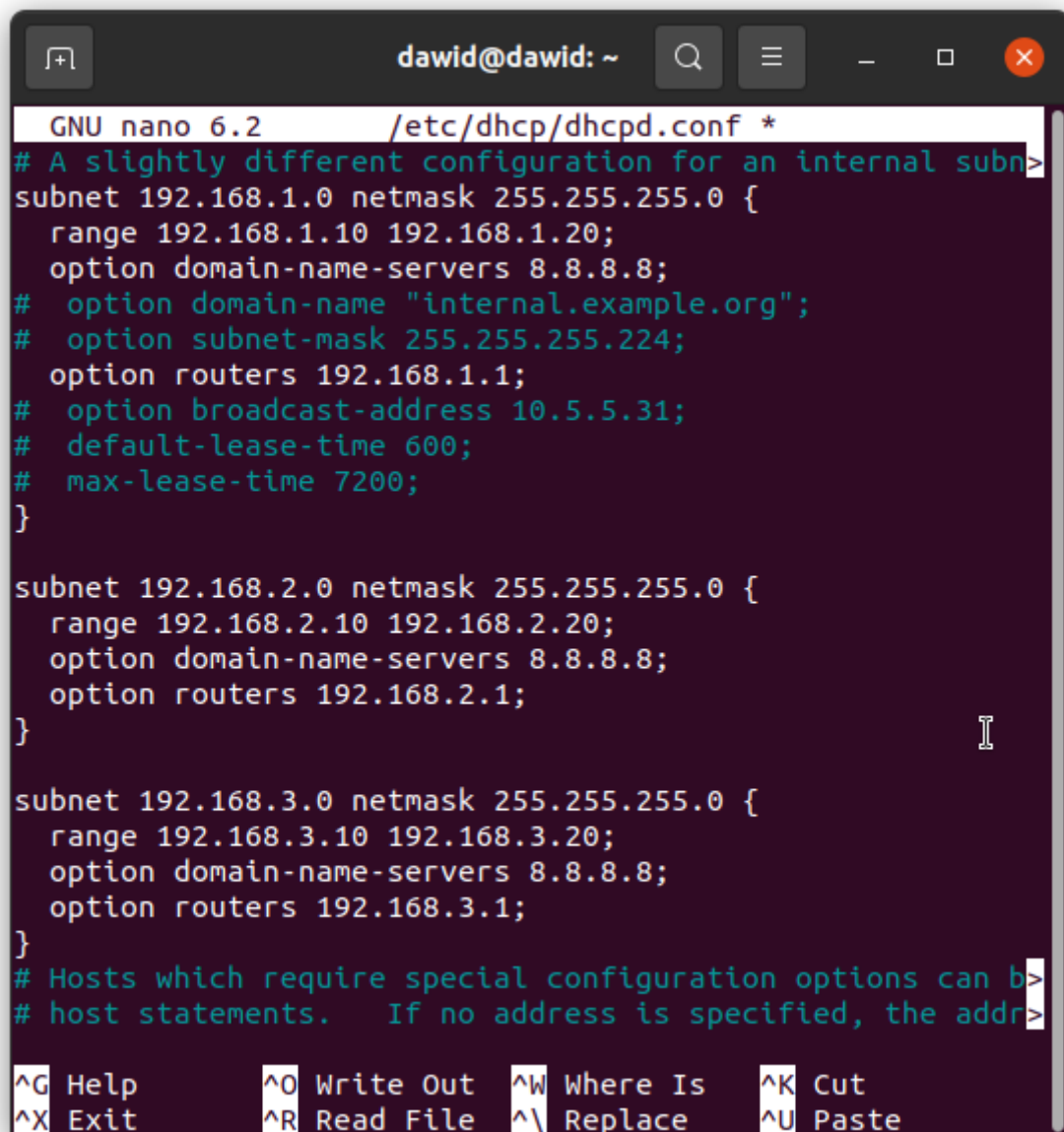
# Additional options to start dhcpd with.
# Don't use options -cf or -pf here; use DHCPD_CONF/ DHCPD_PID instead
#OPTIONS=""

# On what interfaces should the DHCP server (dhcpd) serve DHCP requests?
# Separate multiple interfaces with spaces, e.g. "eth0 eth1".
INTERFACESv4="enp0s8 enp0s9 enp0s10"
INTERFACESv6=""

^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execute  ^C Location
^X Exit      ^R Read File ^\ Replace   ^U Paste     ^J Justify  ^_ Go To Line
```

Configuració de paràmetres del servei:

- sudo nano /etc/dhcp/dhcpd.conf



The screenshot shows a terminal window titled 'dawid@dawid: ~'. The terminal is running the GNU nano 6.2 text editor, editing the file /etc/dhcp/dhcpd.conf. The configuration file contains three subnet declarations and a comment about host statements. The first subnet is 192.168.1.0 with a netmask of 255.255.255.0, a range of 192.168.1.10 to 192.168.1.20, and options for domain-name-servers (8.8.8.8), routers (192.168.1.1), and broadcast-address (10.5.5.31). The second subnet is 192.168.2.0 with a netmask of 255.255.255.0, a range of 192.168.2.10 to 192.168.2.20, and options for domain-name-servers (8.8.8.8) and routers (192.168.2.1). The third subnet is 192.168.3.0 with a netmask of 255.255.255.0, a range of 192.168.3.10 to 192.168.3.20, and options for domain-name-servers (8.8.8.8) and routers (192.168.3.1). The terminal also shows the nano editor's help menu at the bottom, listing various keyboard shortcuts.

```
GNU nano 6.2 /etc/dhcp/dhcpd.conf *
# A slightly different configuration for an internal subnet
subnet 192.168.1.0 netmask 255.255.255.0 {
    range 192.168.1.10 192.168.1.20;
    option domain-name-servers 8.8.8.8;
    # option domain-name "internal.example.org";
    # option subnet-mask 255.255.255.224;
    option routers 192.168.1.1;
    # option broadcast-address 10.5.5.31;
    # default-lease-time 600;
    # max-lease-time 7200;
}

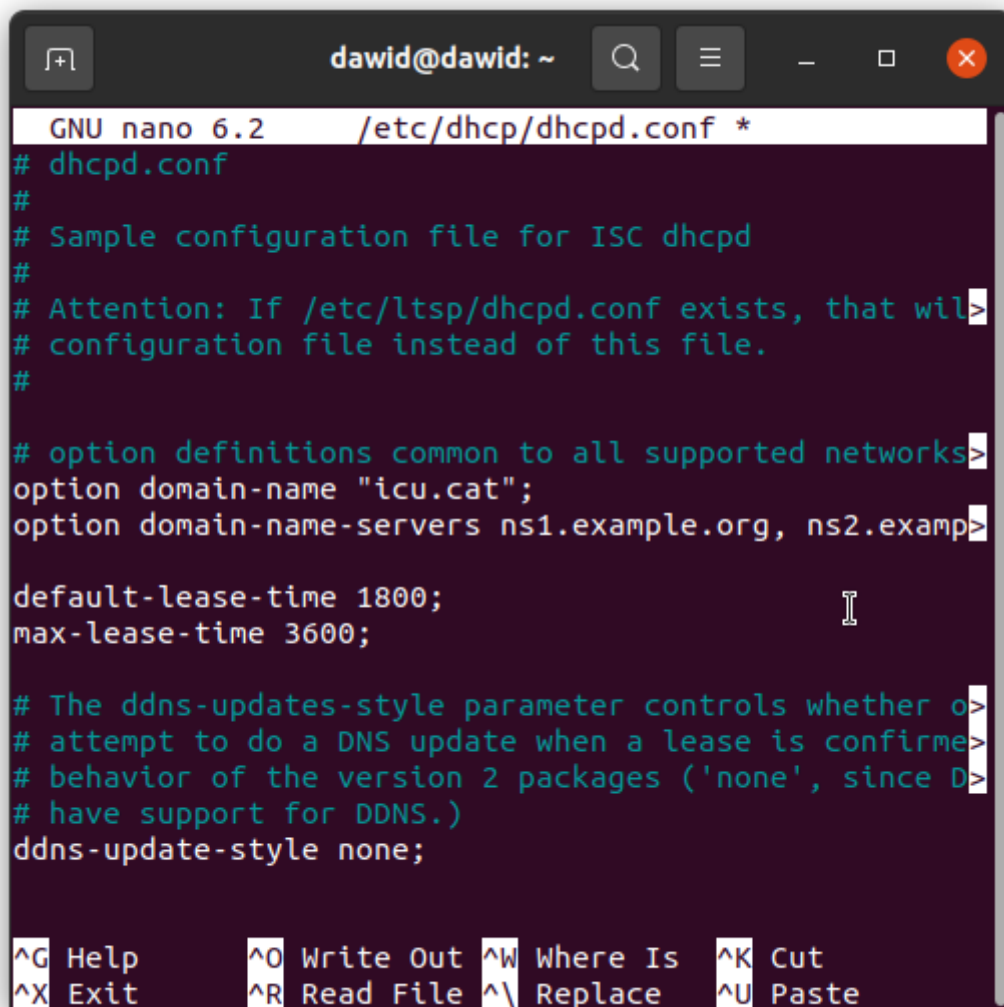
subnet 192.168.2.0 netmask 255.255.255.0 {
    range 192.168.2.10 192.168.2.20;
    option domain-name-servers 8.8.8.8;
    option routers 192.168.2.1;
}

subnet 192.168.3.0 netmask 255.255.255.0 {
    range 192.168.3.10 192.168.3.20;
    option domain-name-servers 8.8.8.8;
    option routers 192.168.3.1;
}
# Hosts which require special configuration options can be
# host statements. If no address is specified, the address is
^G Help      ^O Write Out ^W Where Is  ^K Cut
^X Exit      ^R Read File ^\ Replace   ^U Paste
```

configurar domain name: (està dins de /etc/dhcp/dhcpd.conf):

hacerlo en general:

- 1, canviem el domain name al principi de tot
- 2, default-leases time (temps per defecte que pot estar funcionant)
3. max-lease-time (temps maxim que pot deixar funcionant)



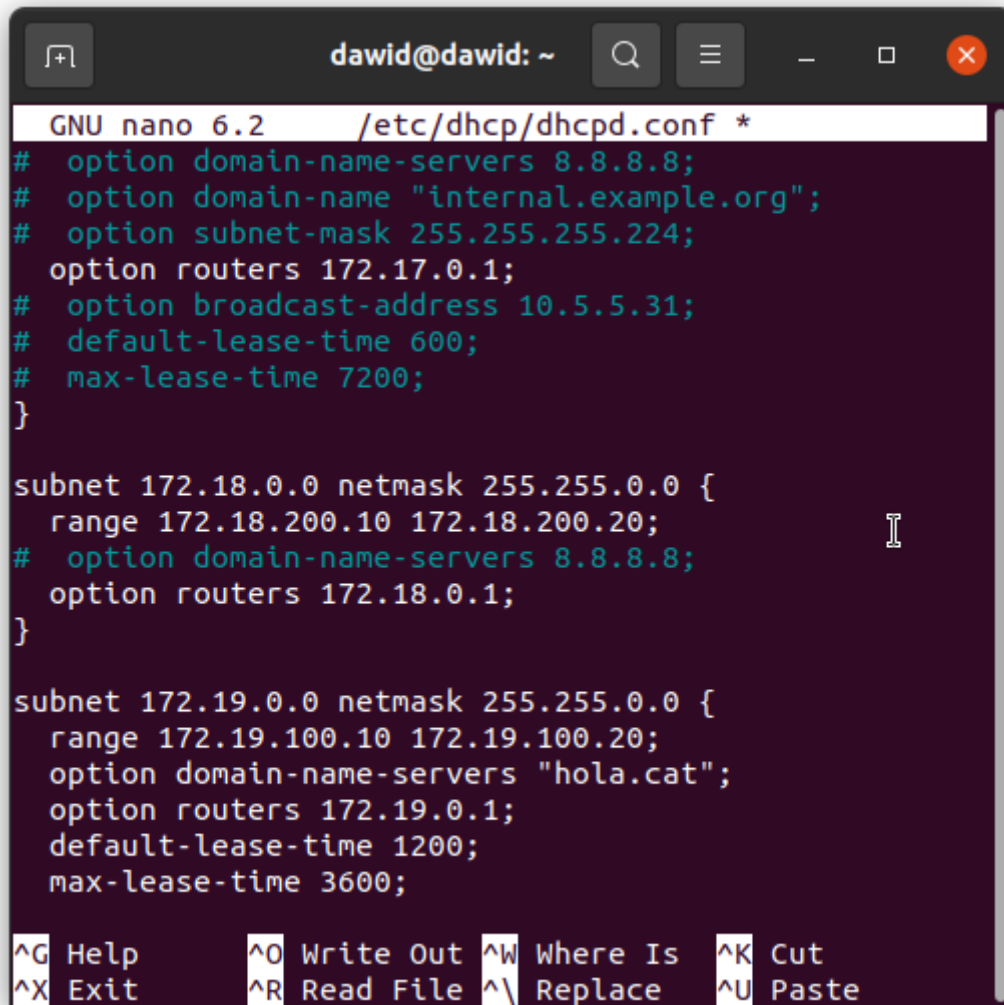
```
GNU nano 6.2 /etc/dhcp/dhcpd.conf *
# dhcpd.conf
#
# Sample configuration file for ISC dhcpd
#
# Attention: If /etc/ltsp/dhcpd.conf exists, that will be used as the
# configuration file instead of this file.
#
# option definitions common to all supported networks
option domain-name "icu.cat";
option domain-name-servers ns1.example.org, ns2.example.org;

default-lease-time 1800;
max-lease-time 3600;

# The ddns-updates-style parameter controls whether or not the server will
# attempt to do a DNS update when a lease is confirmed. It defaults to 'on'
# for the version 2 packages ('none', since DDNS is not supported by the
# version 1 packages.)
ddns-update-style none;
```

^G Help ^O Write Out ^W Where Is ^K Cut
^X Exit ^R Read File ^\ Replace ^U Paste

Per fer nomès el mateix en una xarxa ho fem en el subnet:



```
GNU nano 6.2 /etc/dhcp/dhcpd.conf *
# option domain-name-servers 8.8.8.8;
# option domain-name "internal.example.org";
# option subnet-mask 255.255.255.224;
option routers 172.17.0.1;
# option broadcast-address 10.5.5.31;
# default-lease-time 600;
# max-lease-time 7200;
}

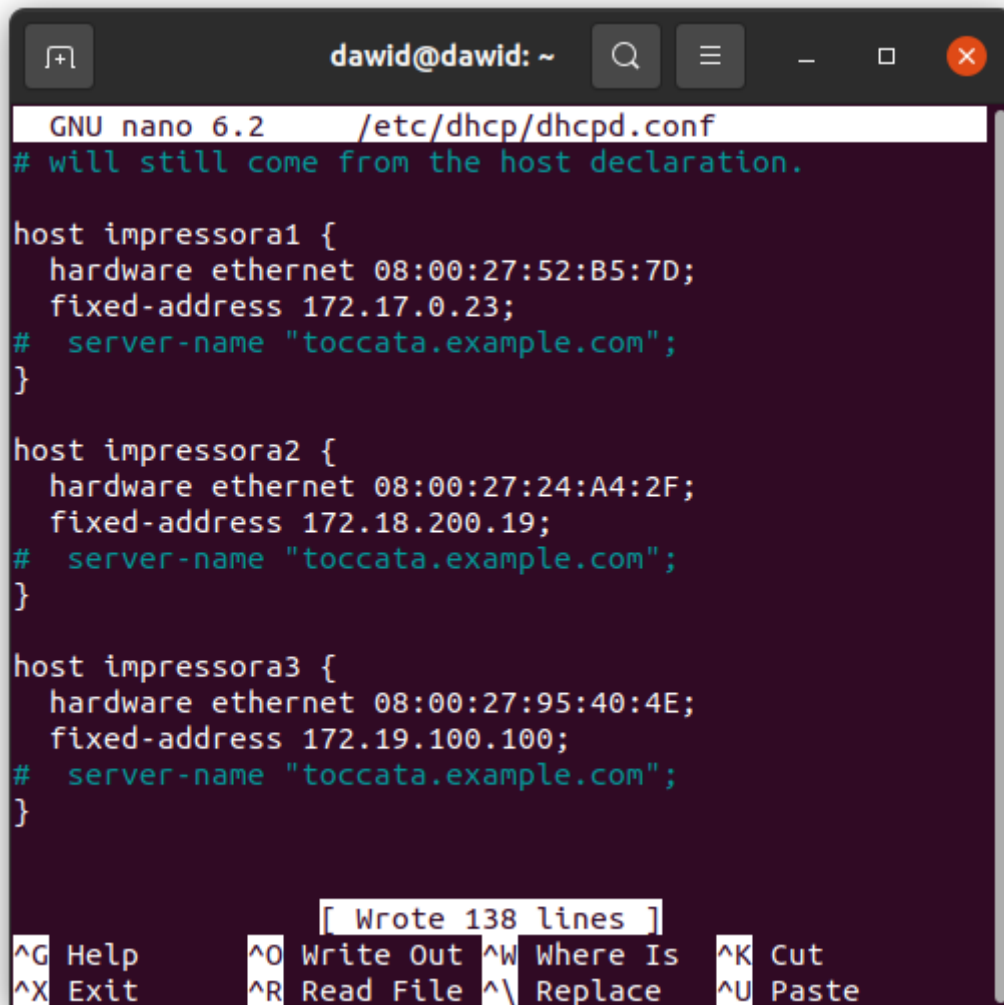
subnet 172.18.0.0 netmask 255.255.0.0 {
    range 172.18.200.10 172.18.200.20;
# option domain-name-servers 8.8.8.8;
    option routers 172.18.0.1;
}

subnet 172.19.0.0 netmask 255.255.0.0 {
    range 172.19.100.10 172.19.100.20;
    option domain-name-servers "hola.cat";
    option routers 172.19.0.1;
    default-lease-time 1200;
    max-lease-time 3600;
}

^G Help      ^O Write Out ^W Where Is  ^K Cut
^X Exit      ^R Read File ^\ Replace   ^U Paste
```

Configurar una impressora:

Editar un arxiu dins del /etc/dhcp/dhcpd.conf



```
GNU nano 6.2 /etc/dhcp/dhcpd.conf
# will still come from the host declaration.

host impressora1 {
    hardware ethernet 08:00:27:52:B5:7D;
    fixed-address 172.17.0.23;
#   server-name "toccata.example.com";
}

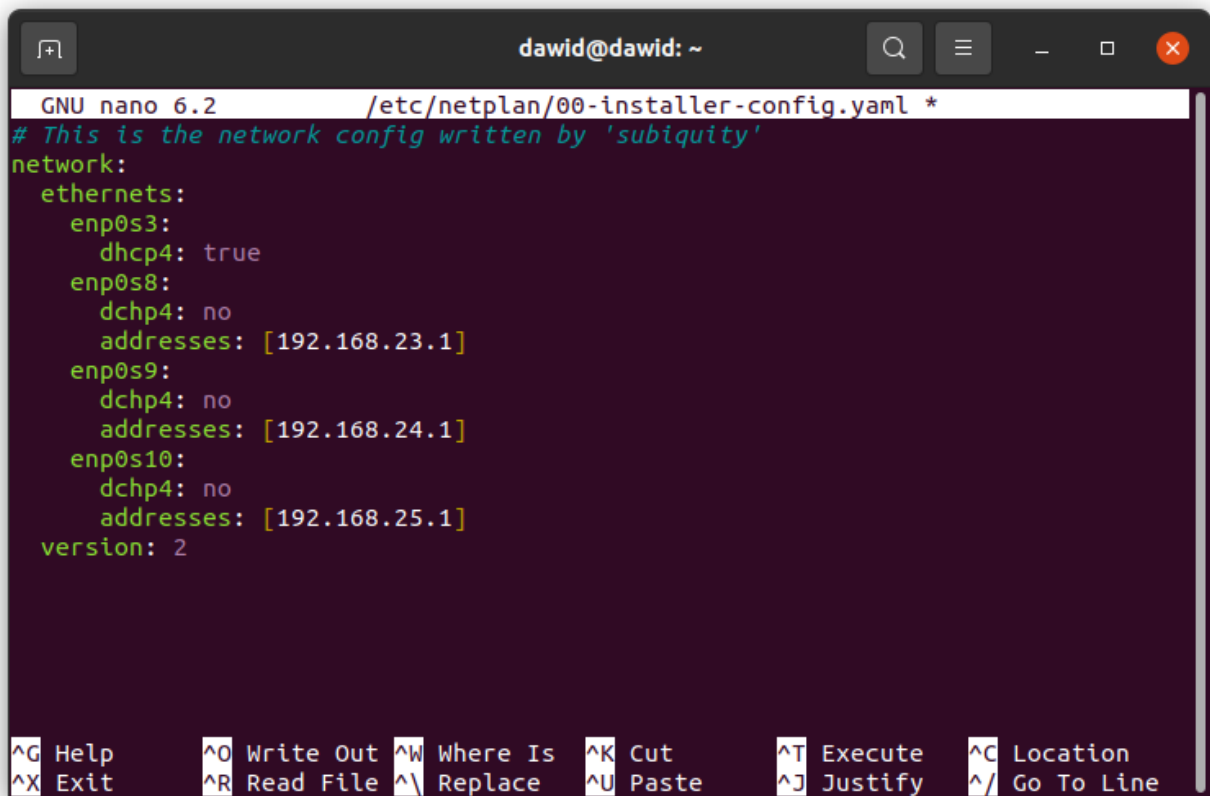
host impressora2 {
    hardware ethernet 08:00:27:24:A4:2F;
    fixed-address 172.18.200.19;
#   server-name "toccata.example.com";
}

host impressora3 {
    hardware ethernet 08:00:27:95:40:4E;
    fixed-address 172.19.100.100;
#   server-name "toccata.example.com";
}

[ Wrote 138 lines ]
^G Help      ^O Write Out ^W Where Is  ^K Cut
^X Exit      ^R Read File ^\ Replace   ^U Paste
```

configurar Xarxa Netplan:

- sudo nano etc/netplan/00-installer-config.yaml



The screenshot shows a terminal window titled 'dawid@dawid: ~'. The terminal is running the GNU nano 6.2 editor, editing the file '/etc/netplan/00-installer-config.yaml'. The file content is as follows:

```
GNU nano 6.2 /etc/netplan/00-installer-config.yaml *
# This is the network config written by 'subiquity'
network:
  ethernets:
    enp0s3:
      dhcp4: true
    enp0s8:
      dhcp4: no
      addresses: [192.168.23.1]
    enp0s9:
      dhcp4: no
      addresses: [192.168.24.1]
    enp0s10:
      dhcp4: no
      addresses: [192.168.25.1]
  version: 2
```

At the bottom of the terminal, there is a status bar with various keyboard shortcuts for nano editor:

^G Help	^O Write Out	^W Where Is	^K Cut	^T Execute	^C Location
^X Exit	^R Read File	^_ Replace	^U Paste	^J Justify	^/ Go To Line

Per aplicar la configuració utilitzarem «sudo netplan apply»

Per veure el nom del DNS i la màquina connectada

systemd-resolve --status o systemd-resolved --status

o

resolvectl status

Que dona el dhcp?
Configuració de xarxa

Assignacio estatica ip:
(lo de las impresoras)

Quins parametres de xarxes hi ha:
broadcast, mascara, dns, ip i gateway

assignació ip dinamica:
subnet 10.0.0.0 netmask 255.255.255.0 {
 range 10.0.0.1 10.0.0.10;
 option domain-name-server 8.8.8.8;
 option ip-router 172.16.0.1;
}

parametres del client (port 67):

- Dhcpdiscover (broadcast)
- dhcprequest
- dhcpdecline : la ip està en ú i no pot utilitzar
- dhcprelease: allibera ip

parametres del servidor (port 68):

- Dhcp offer
- dhcp ack
- dhcpnack

Que pasa si n'hi ha més d'un servidor dhcp actiu?

Efecte 1: dos servidors de amb dos xarxes diferents

Efecte 2: els dos servidors son de la mateixa xarxa amb el mateix rang, dos màquines tindran dos