

## CONFIGURAR DHCP

### PARA QUE ASIGNE DIRECCIONES A LOS CLINETES

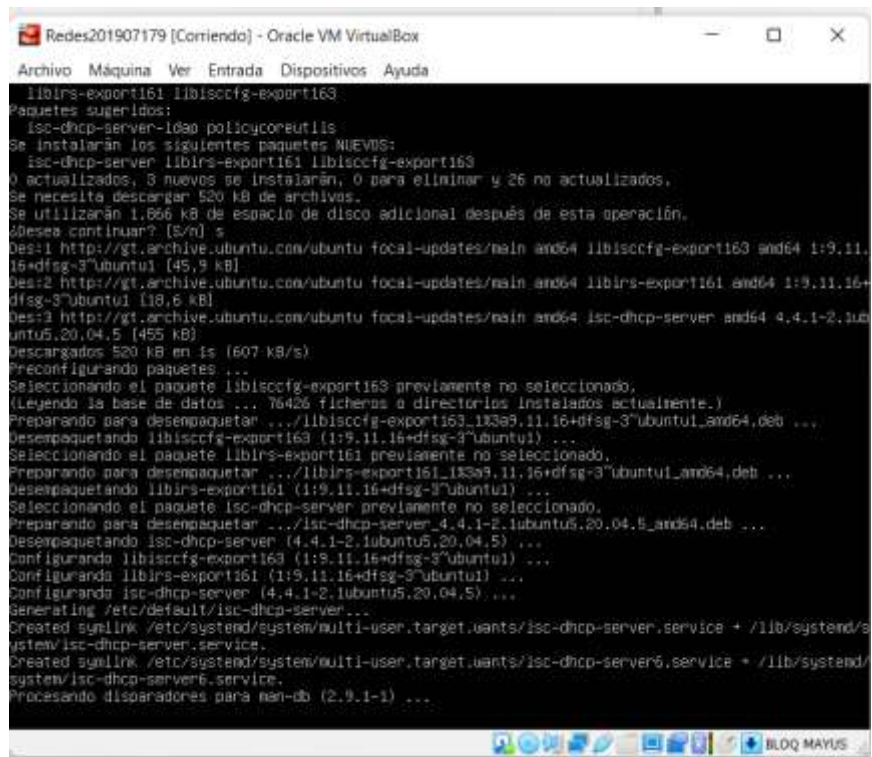
Dos maquinas

1. Ubuntu Server
2. Cliente

Iniciamos nuestro Ubuntu Server

1. Instalar DHCP

Sudo apt-get install isc-dhcp-server



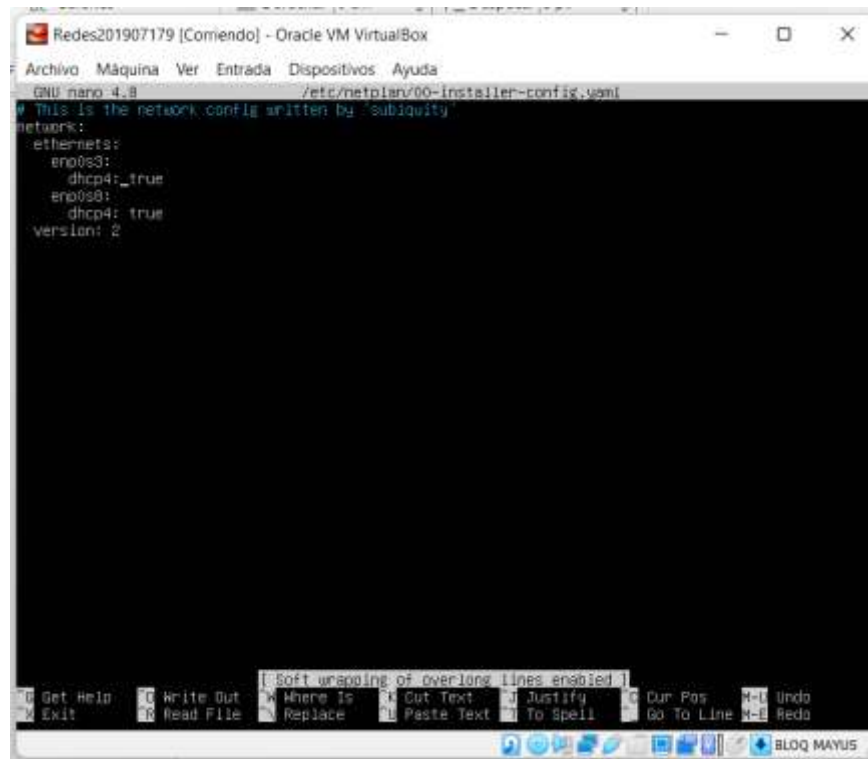
```
Redes201907179 [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
liblrs-export161 libiscfg-export163
Paquetes sugeridos:
  isc-dhcp-server-ldap policycoreutils
Se instalarán los siguientes paquetes NUEVOS:
  isc-dhcp-server liblrs-export161 libiscfg-export163
o actualizados, 3 nuevos se instalarán, 0 para eliminar y 26 no actualizados.
Se necesita descargar 520 kB de archivos.
Se utilizarán 1.666 kB de espacio de disco adicional después de esta operación.
¿Desea continuar? [S/n] s
Des:1 http://gt.archive.ubuntu.com/ubuntu focal-updates/main amd64 libiscfg-export163 amd64 1:9.11.16+dfsg-3"ubuntu1 [45,9 kB]
Des:2 http://gt.archive.ubuntu.com/ubuntu focal-updates/main amd64 liblrs-export161 amd64 1:9.11.16+dfsg-3"ubuntu1 [18,6 kB]
Des:3 http://gt.archive.ubuntu.com/ubuntu focal-updates/main amd64 isc-dhcp-server amd64 4.4.1-2.1ubuntu5.20.04.5 [455 kB]
Descargados 520 kB en 1s (607 kB/s)
Preconfigurando paquetes ...
Seleccionando el paquete libiscfg-export163 previamente no seleccionado.
(Leyendo la base de datos ... 76426 ficheros o directorios instalados actualmente.)
Preparando para desempaquetar .../libiscfg-export163_1:9.11.16+dfsg-3"ubuntu1_amd64.deb ...
Desempaquetando libiscfg-export163 (1:9.11.16+dfsg-3"ubuntu1) ...
Seleccionando el paquete liblrs-export161 previamente no seleccionado.
Preparando para desempaquetar .../liblrs-export161_1:9.11.16+dfsg-3"ubuntu1_amd64.deb ...
Desempaquetando liblrs-export161 (1:9.11.16+dfsg-3"ubuntu1) ...
Seleccionando el paquete isc-dhcp-server previamente no seleccionado.
Preparando para desempaquetar .../isc-dhcp-server_4.4.1-2.1ubuntu5.20.04.5_amd64.deb ...
Desempaquetando isc-dhcp-server (4.4.1-2.1ubuntu5.20.04.5) ...
Configurando libiscfg-export163 (1:9.11.16+dfsg-3"ubuntu1) ...
Configurando liblrs-export161 (1:9.11.16+dfsg-3"ubuntu1) ...
Configurando isc-dhcp-server (4.4.1-2.1ubuntu5.20.04.5) ...
generating /etc/default/isc-dhcp-server...
Created symlink /etc/systemd/system/multi-user.target.wants/isc-dhcp-server.service → /lib/systemd/system/isc-dhcp-server.service.
Created symlink /etc/systemd/system/multi-user.target.wants/isc-dhcp-server6.service → /lib/systemd/system/isc-dhcp-server6.service.
Procesando disparadores para man-db (2.9.1-1) ...
```

Colocamos un "ip addr" para ver la configuración de la red

```
Redes201907179 [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Desempaquetando liblrs-export161 (1:9.11.16+dfsg-3ubuntu1) ...
Seleccionando el paquete isc-dhcp-server previamente no seleccionado.
Preparando para desempaquetar .../isc-dhcp-server_4.4.1-2.ubuntu5.20.04.5_and64.deb ...
Desempaquetando isc-dhcp-server (4.4.1-2.ubuntu5.20.04.5) ...
Configurando libiscfg-export163 (1:9.11.16+dfsg-3ubuntu1) ...
Configurando liblrs-export161 (1:9.11.16+dfsg-3ubuntu1) ...
Configurando isc-dhcp-server (4.4.1-2.ubuntu5.20.04.5) ...
Generating /etc/default/isc-dhcp-server...
Created symlink /etc/systemd/system/multi-user.target.wants/isc-dhcp-server.service → /lib/systemd/system/isc-dhcp-server.service.
Created symlink /etc/systemd/system/multi-user.target.wants/isc-dhcp-server6.service → /lib/systemd/system/isc-dhcp-server6.service.
Procesando disparadores para man-db (2.9.1-1) ...
Procesando disparadores para libc-bin (2.31-0ubuntu9.3) ...
Procesando disparadores para systemd (245.4-4ubuntu3.20) ...
wlm0dgt19@redes23:~$ 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 08:00:27:1c:47:55 brd ff:ff:ff:ff:ff:ff
    inet6 fe80::a00:27ff:fe1c:4755/64 scope link
        valid_lft forever preferred_lft forever
3: enp0s8: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:7d:ec:e4 brd ff:ff:ff:ff:ff:ff
    inet 192.168.0.9/24 brd 192.168.0.255 scope global dynamic enp0s8
        valid_lft 3180sec preferred_lft 3180sec
    inet6 ::a00:27ff:fe7d:ec:e4/64 scope global dynamic mngtaddr noprifroute
        valid_lft 3599sec preferred_lft 3599sec
    inet6 fe80::a00:27ff:fe7d:ec:e4/64 scope link
        valid_lft forever preferred_lft forever
wlm0dgt19@redes23:~$
```

Configurar el siguiente archivo **sudo nano /etc/netplan/00-installer-config.yaml**

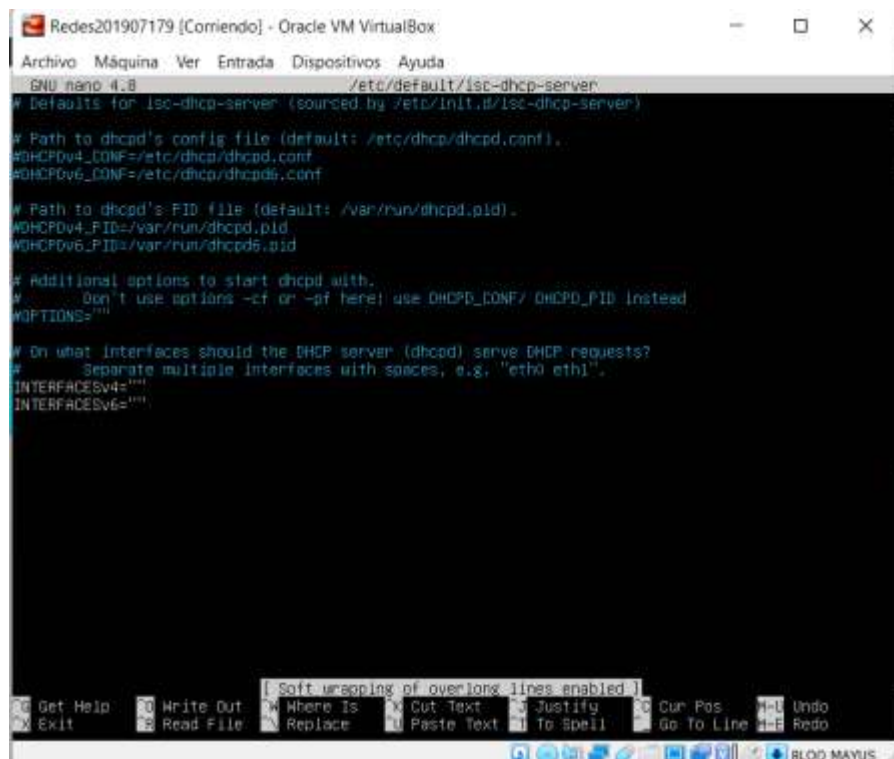
```
Redes201907179 [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Desempaquetando liblrs-export161 (1:9.11.16+dfsg-3ubuntu1) ...
Seleccionando el paquete isc-dhcp-server previamente no seleccionado.
Preparando para desempaquetar .../isc-dhcp-server_4.4.1-2.ubuntu5.20.04.5_and64.deb ...
Desempaquetando isc-dhcp-server (4.4.1-2.ubuntu5.20.04.5) ...
Configurando libiscfg-export163 (1:9.11.16+dfsg-3ubuntu1) ...
Configurando liblrs-export161 (1:9.11.16+dfsg-3ubuntu1) ...
Configurando isc-dhcp-server (4.4.1-2.ubuntu5.20.04.5) ...
Generating /etc/default/isc-dhcp-server...
Created symlink /etc/systemd/system/multi-user.target.wants/isc-dhcp-server.service → /lib/systemd/system/isc-dhcp-server.service.
Created symlink /etc/systemd/system/multi-user.target.wants/isc-dhcp-server6.service → /lib/systemd/system/isc-dhcp-server6.service.
Procesando disparadores para man-db (2.9.1-1) ...
Procesando disparadores para libc-bin (2.31-0ubuntu9.3) ...
Procesando disparadores para systemd (245.4-4ubuntu3.20) ...
wlm0dgt19@redes23:~$ 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 08:00:27:1c:47:55 brd ff:ff:ff:ff:ff:ff
    inet6 fe80::a00:27ff:fe1c:4755/64 scope link
        valid_lft forever preferred_lft forever
3: enp0s8: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:7d:ec:e4 brd ff:ff:ff:ff:ff:ff
    inet 192.168.0.9/24 brd 192.168.0.255 scope global dynamic enp0s8
        valid_lft 3180sec preferred_lft 3180sec
    inet6 ::a00:27ff:fe7d:ec:e4/64 scope global dynamic mngtaddr noprifroute
        valid_lft 3599sec preferred_lft 3599sec
    inet6 fe80::a00:27ff:fe7d:ec:e4/64 scope link
        valid_lft forever preferred_lft forever
wlm0dgt19@redes23:~$ sudo nano /etc/netplan
```



```
Redes201907179 [Comiendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
GNU nano 4.8 /etc/netplan/00-installer-config.yaml
# This is the network config written by 'subiquity'
network:
  ethernet0:
    dhcp4: true
  ethernet1:
    dhcp4: true
  version: 2

[Soft wrapping of overlone lines enabled]
Get Help  Write Out  Where Is  Cut Text  Justify  Cur Pos  Undo
Exit      Read File  Replace  Paste Text  To Spell  Go To Line  Redo
BLOQ MAYUS
```

Aplicamos los cambios y editamos el archivo **sudo nano /etc/default/isc-dhcp-server**



```
Redes201907179 [Comiendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
GNU nano 4.8 /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

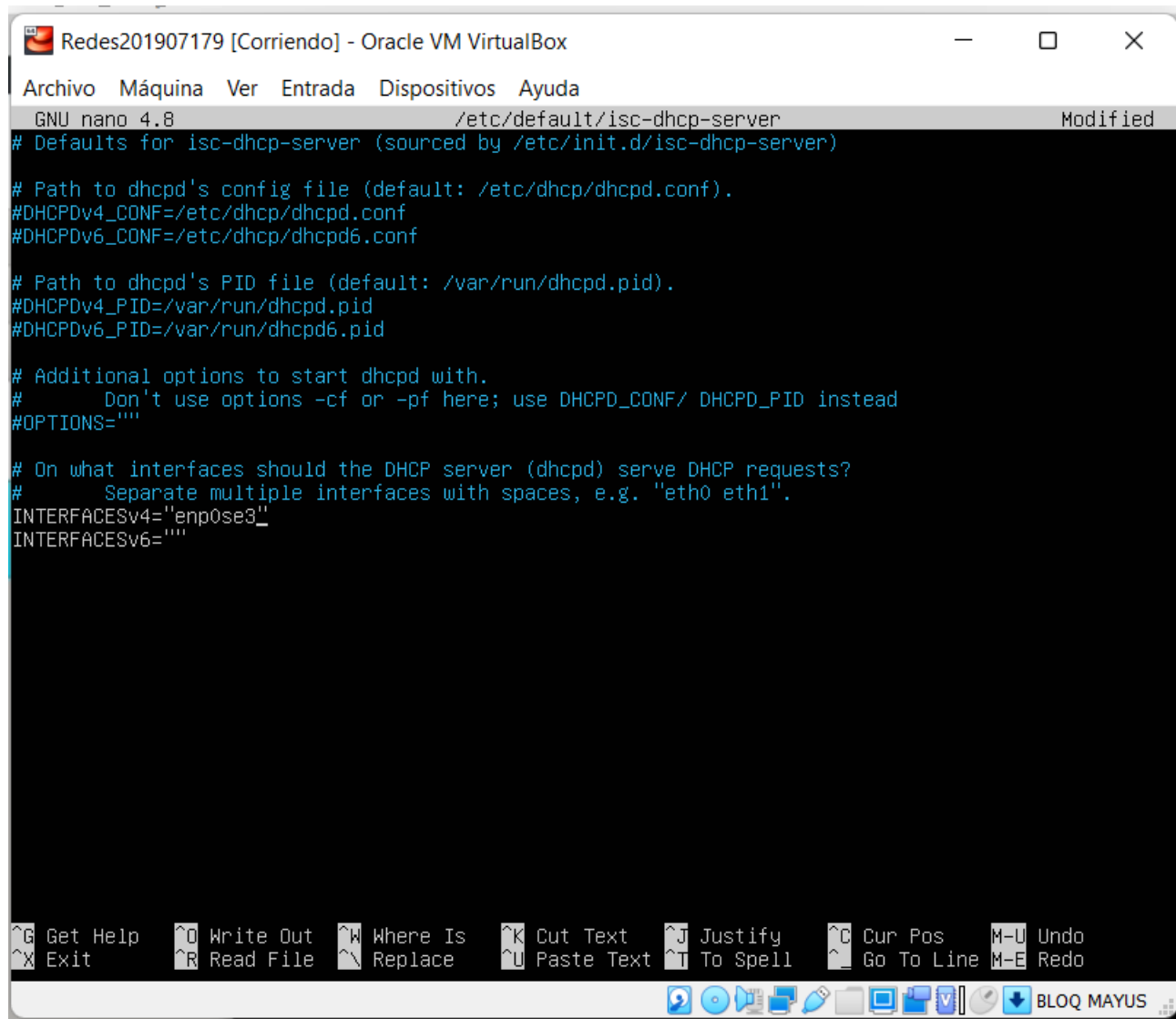
# Path to dhcpd's FID file (default: /var/run/dhcpd.pid).
DHCPDv4_PID=/var/run/dhcpd.pid
DHCPDv6_PID=/var/run/dhcpd6.pid

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

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

[Soft wrapping of overlone lines enabled]
Get Help  Write Out  Where Is  Cut Text  Justify  Cur Pos  Undo
Exit      Read File  Replace  Paste Text  To Spell  Go To Line  Redo
BLOQ MAYUS
```

Ahora en interfacesv4 colocamos la interfaz a la que queremos que se aplique la configuración



```
Redes201907179 [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
GNU nano 4.8 /etc/default/isc-dhcp-server Modified
# 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=""

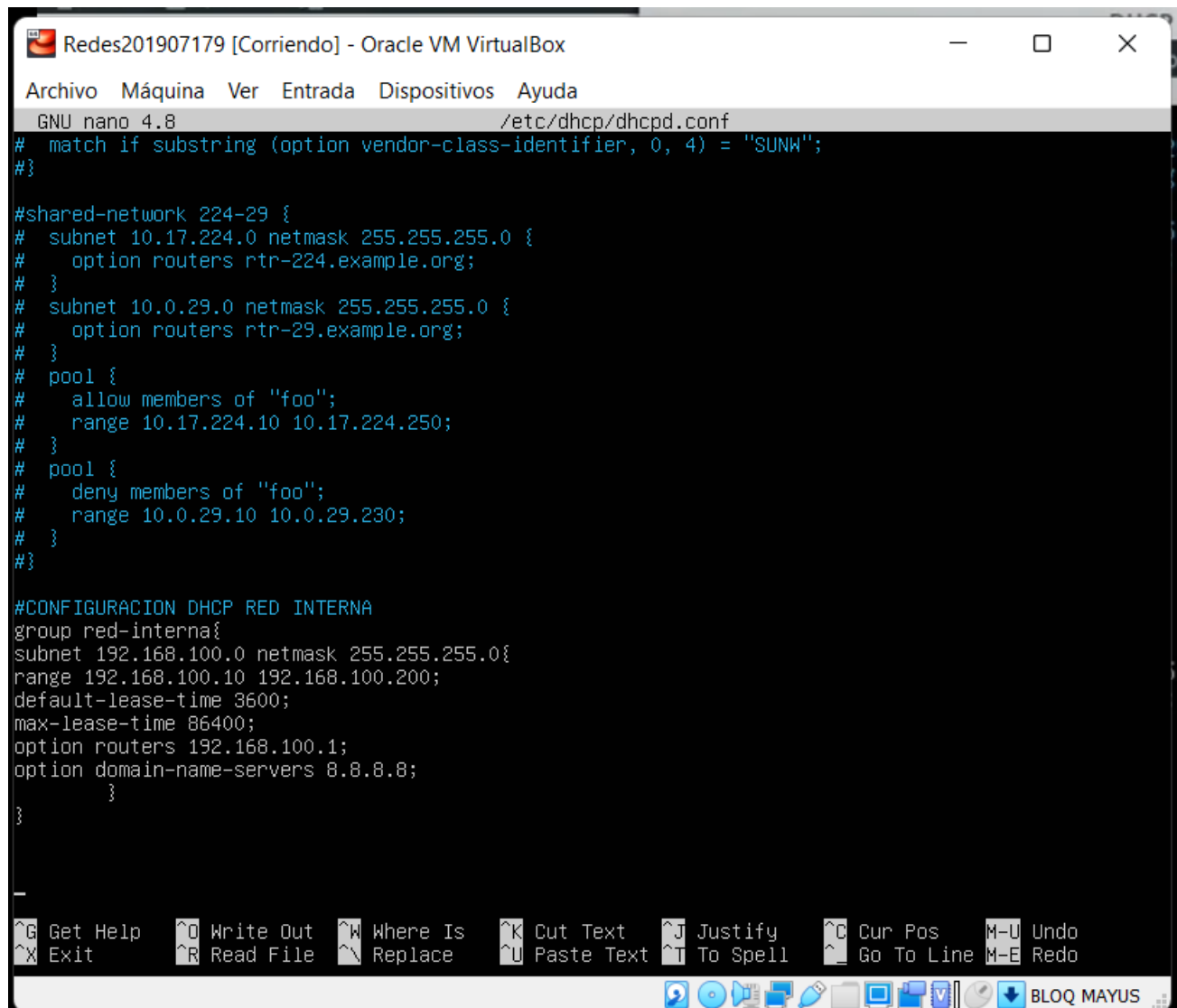
# On what interfaces should the DHCP server (dhcpd) serve DHCP requests?
# Separate multiple interfaces with spaces, e.g. "eth0 eth1".
INTERFACESv4="enp0se3"
INTERFACESv6=""

^G Get Help  ^O Write Out  ^W Where Is  ^K Cut Text  ^J Justify  ^C Cur Pos  M-U Undo
^X Exit      ^R Read File  ^_ Replace  ^U Paste Text  ^I To Spell  ^_ Go To Line  M-E Redo
```

Guardamos y salimos.

```
sudo nano /etc/dhcp/dhcpd.conf
```

```
group red-interna{  
  subnet 192.168.100.0 netmask 255.255.255.0{  
    range 192.168.100.10 192.168.100.200;  
    default-lease-time 3600;  
    max-lease-time 86400;  
    option routers 192.168.100.1;  
    option domain-name-servers 8.8.8.8;  
  }  
}
```



```
Redes201907179 [Corriendo] - Oracle VM VirtualBox  
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda  
GNU nano 4.8 /etc/dhcp/dhcpd.conf  
# match if substring (option vendor-class-identifier, 0, 4) = "SUNW";  
#}  
  
#shared-network 224-29 {  
#  subnet 10.17.224.0 netmask 255.255.255.0 {  
#    option routers rtr-224.example.org;  
#  }  
#  subnet 10.0.29.0 netmask 255.255.255.0 {  
#    option routers rtr-29.example.org;  
#  }  
#  pool {  
#    allow members of "foo";  
#    range 10.17.224.10 10.17.224.250;  
#  }  
#  pool {  
#    deny members of "foo";  
#    range 10.0.29.10 10.0.29.230;  
#  }  
#}  
  
#CONFIGURACION DHCP RED INTERNA  
group red-interna{  
  subnet 192.168.100.0 netmask 255.255.255.0{  
    range 192.168.100.10 192.168.100.200;  
    default-lease-time 3600;  
    max-lease-time 86400;  
    option routers 192.168.100.1;  
    option domain-name-servers 8.8.8.8;  
  }  
}  
  
_
```

Get Help Write Out Where Is Cut Text Justify Cur Pos M-U Undo  
Exit Read File Replace Paste Text To Spell Go To Line M-E Redo

BLOQ MAYUS

Verificamos que no haya error:

**sudo dhcpd -t -cf /etc/dhcp/dhcpd.conf**

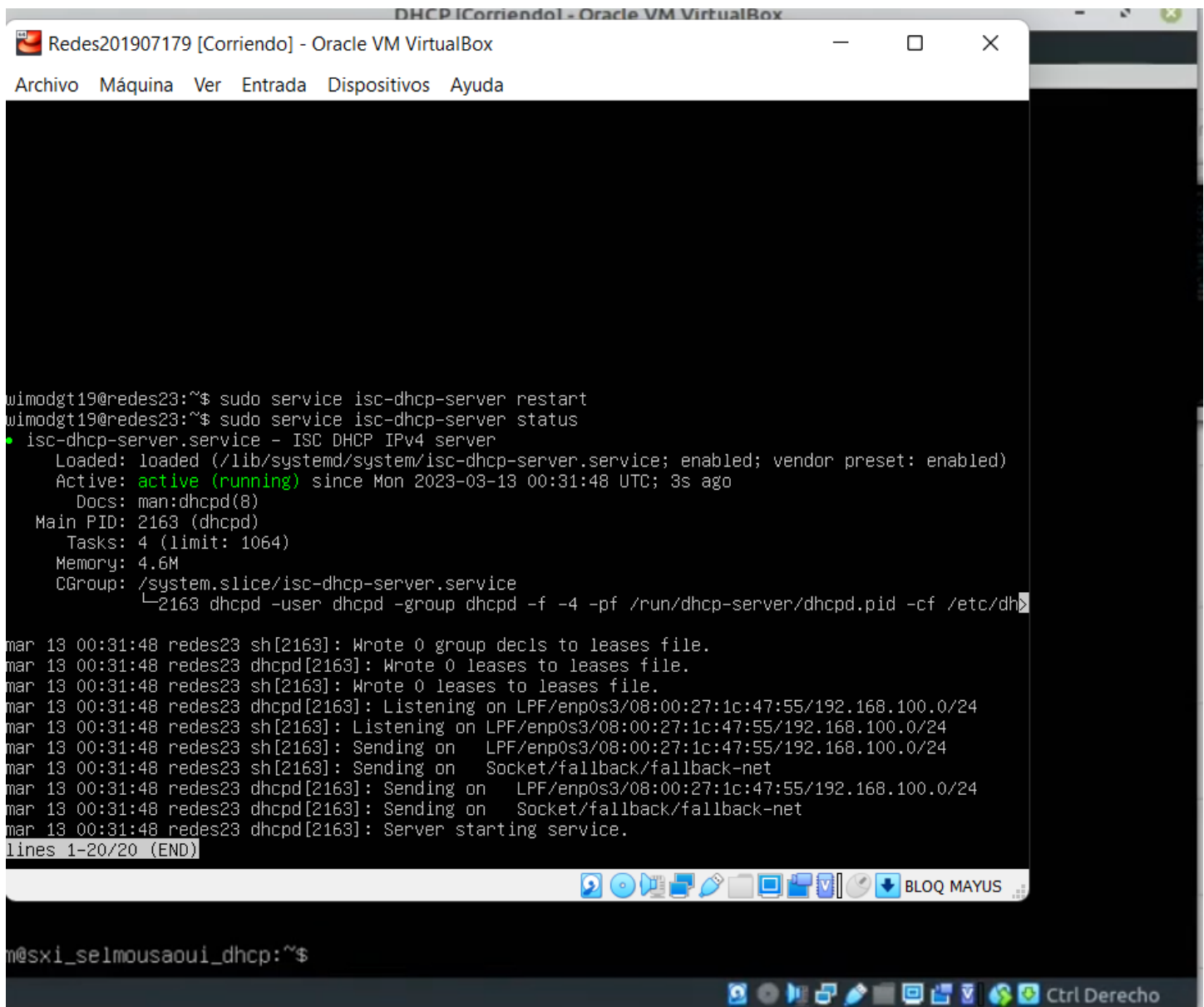
```
# }
#}

#CONFIGURACION DHCP RED INTERNA
group red-interna{
subnet 192.168.100.0 netmask 255.255.255.0{
range 192.168.100.10 192.168.100.200;
default-lease-time 3600;
max-lease-time 86400;
option routers 192.168.100.1;
option domain-name-servers 8.8.8.8;
}
}

wimodgt19@redes23:~$ sudo dhcpd -t -cf /etc/dhcp/dhcpd.conf
Internet Systems Consortium DHCP Server 4.4.1
Copyright 2004-2018 Internet Systems Consortium.
All rights reserved.
For info, please visit https://www.isc.org/software/dhcp/
Config file: /etc/dhcp/dhcpd.conf
Database file: /var/lib/dhcp/dhcpd.leases
PID file: /var/run/dhcpd.pid
wimodgt19@redes23:~$
```

## Reiniciamos el server dhcp

```
:~$ sudo service isc-dhcp-server restart
:~$ sudo service isc-dhcp-server status
```



The screenshot shows a VirtualBox window titled "DHCP | Corriendo1 - Oracle VM VirtualBox". Inside, a terminal window titled "Redes201907179 [Corriendo] - Oracle VM VirtualBox" displays the following output:

```
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda

wimodgt19@redes23:~$ sudo service isc-dhcp-server restart
wimodgt19@redes23:~$ sudo service isc-dhcp-server status
• isc-dhcp-server.service - ISC DHCP IPv4 server
   Loaded: loaded (/lib/systemd/system/isc-dhcp-server.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2023-03-13 00:31:48 UTC; 3s ago
     Docs: man:dhcpd(8)
  Main PID: 2163 (dhcpd)
    Tasks: 4 (limit: 1064)
   Memory: 4.6M
   CGroup: /system.slice/isc-dhcp-server.service
           └─2163 dhcpd -user dhcpd -group dhcpd -f -4 -pf /run/dhcp-server/dhcpd.pid -cf /etc/dh

mar 13 00:31:48 redes23 sh[2163]: Wrote 0 group decls to leases file.
mar 13 00:31:48 redes23 dhcpd[2163]: Wrote 0 leases to leases file.
mar 13 00:31:48 redes23 sh[2163]: Wrote 0 leases to leases file.
mar 13 00:31:48 redes23 dhcpd[2163]: Listening on LPF/enp0s3/08:00:27:1c:47:55/192.168.100.0/24
mar 13 00:31:48 redes23 sh[2163]: Listening on LPF/enp0s3/08:00:27:1c:47:55/192.168.100.0/24
mar 13 00:31:48 redes23 sh[2163]: Sending on LPF/enp0s3/08:00:27:1c:47:55/192.168.100.0/24
mar 13 00:31:48 redes23 sh[2163]: Sending on Socket/fallback/fallback-net
mar 13 00:31:48 redes23 dhcpd[2163]: Sending on LPF/enp0s3/08:00:27:1c:47:55/192.168.100.0/24
mar 13 00:31:48 redes23 dhcpd[2163]: Sending on Socket/fallback/fallback-net
mar 13 00:31:48 redes23 dhcpd[2163]: Server starting service.
lines 1-20/20 (END)
```

The terminal window has a taskbar at the bottom with icons for a terminal, file manager, and other applications, along with the text "BLOQ MAYUS". Below the terminal window, the prompt "m@sxi\_selmousaoui\_dhcp:~\$" is visible, and another taskbar at the very bottom shows icons and the text "Ctrl Derecho".

Papelera de  
reciclaje

C:\Windows\system32\cmd.exe

Microsoft Windows [Versión 6.1.7601]

Copyright (c) 2009 Microsoft Corporation. Reservados todos los derechos.

C:\Users\REDES&gt;ipconfig

Configuración IP de Windows

Adaptador de Ethernet Conexión de área local:

```
Sufijo DNS específico para la conexión. . : example.org
Dirección IPv4. . . . . : 192.168.100.11
Máscara de subred . . . . . : 255.255.255.0
Puerta de enlace predeterminada . . . . . : 192.168.100.1
```

Adaptador de túnel isatap.example.org:

```
Estado de los medios. . . . . : medios desconectados
Sufijo DNS específico para la conexión. . : example.org
```

C:\Users\REDES&gt;S



ES

18:39  
12/03/2023

BLOQ MAYUS





Si queremos asignar una ip fija a una maquina se realiza lo siguiente:

```
host Windows7-SEIMousaoui{  
    hardware ethernet 08:00:27:99:B1:5F;  
    fixed-address 192.168.100.5;  
}
```

#### Comandos útiles

**ipconfig /release**

**Ipconfig /renew**

sudo apt install gcc make perl

instalamos los servicios de dhcp

1. sudo apt-get install isc-dhcp-server

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

addresses: [192.168.100.10/24]

2. sudo nano /etc/default/isc-dhcp-server

3. sudo nano /etc/dhcp/dhcpd.conf

group red-interna{

subnet 192.168.100.0 netmask 255.255.255.0{

range 192.168.100.10 192.168.100.200;

default-lease-time 3600;

max-lease-time 86400;

option routers 192.168.100.1;

option domain-name-servers 8.8.8.8;

\_}

}

verificar sintaxis

sudo dhcpd -t -cf /etc/dhcp/dhcpd.conf

reiniciar

sudo service isc-dhcp-server restart

ver estado

sudo service isc-dhcp-server status

isc-dhcp-server.services: failed with result 'exit-code



Los comandos "ipconfig /release" y "ipconfig /renew" son comandos utilizados en sistemas operativos Windows para liberar y renovar la dirección IP asignada a una computadora por un servidor DHCP (Protocolo de Configuración Dinámica de Hosts).

DHCP es un protocolo de red que asigna automáticamente direcciones IP y otra información de configuración de red a los dispositivos que se conectan a una red. En lugar de tener que configurar manualmente cada dispositivo con una dirección IP estática, DHCP permite que los dispositivos se configuren automáticamente.

El comando "ipconfig /release" libera la dirección IP actualmente asignada a la computadora y el comando "ipconfig /renew" solicita una nueva dirección IP del servidor DHCP. Esto es útil si la dirección IP de la computadora no está funcionando correctamente o si se ha cambiado la configuración de la red.