

# CQuintero-Actividad 6

## Asignar una IP fija a través de DHCP

Luego de haber configurado DHCP, servidor y dos clientes, ya debemos tener funcionando un ambiente de prueba para entregar direcciones IP dinámicamente. Para asegurarnos de que un equipo dado reciba siempre la misma, hay que asignar una IP fija. En este ejercicio utilizaremos la dirección física, o MAC address, de `enp0s3` en el equipo llamado `client1`.

Asignar una IP fija

En primer lugar, abramos el archivo de configuración `/etc/dhcp/dhcpd.conf` en modo edición. Hacia el final del mismo encontraremos bloques comentados con la forma:

```
host nombre{.....  
...  
}
```

donde `nombre` es simplemente un nombre de cliente. Siguiendo el mismo modelo, agregaremos las siguientes líneas a continuación:

```
host client1 {hardware ethernet 08:00:27:0f:e0:f2;  
fixed-address 192.168.2.223;  
}
```

donde `hardware ethernet` indica la dirección MAC de `enp0s3` en `client1` y `fixed-address` la dirección IP fija que se desea asignar a la misma. Además, la designación `host client1` nos sirve para identificar a qué `host` se aplicará la regla que aparece entre llaves.

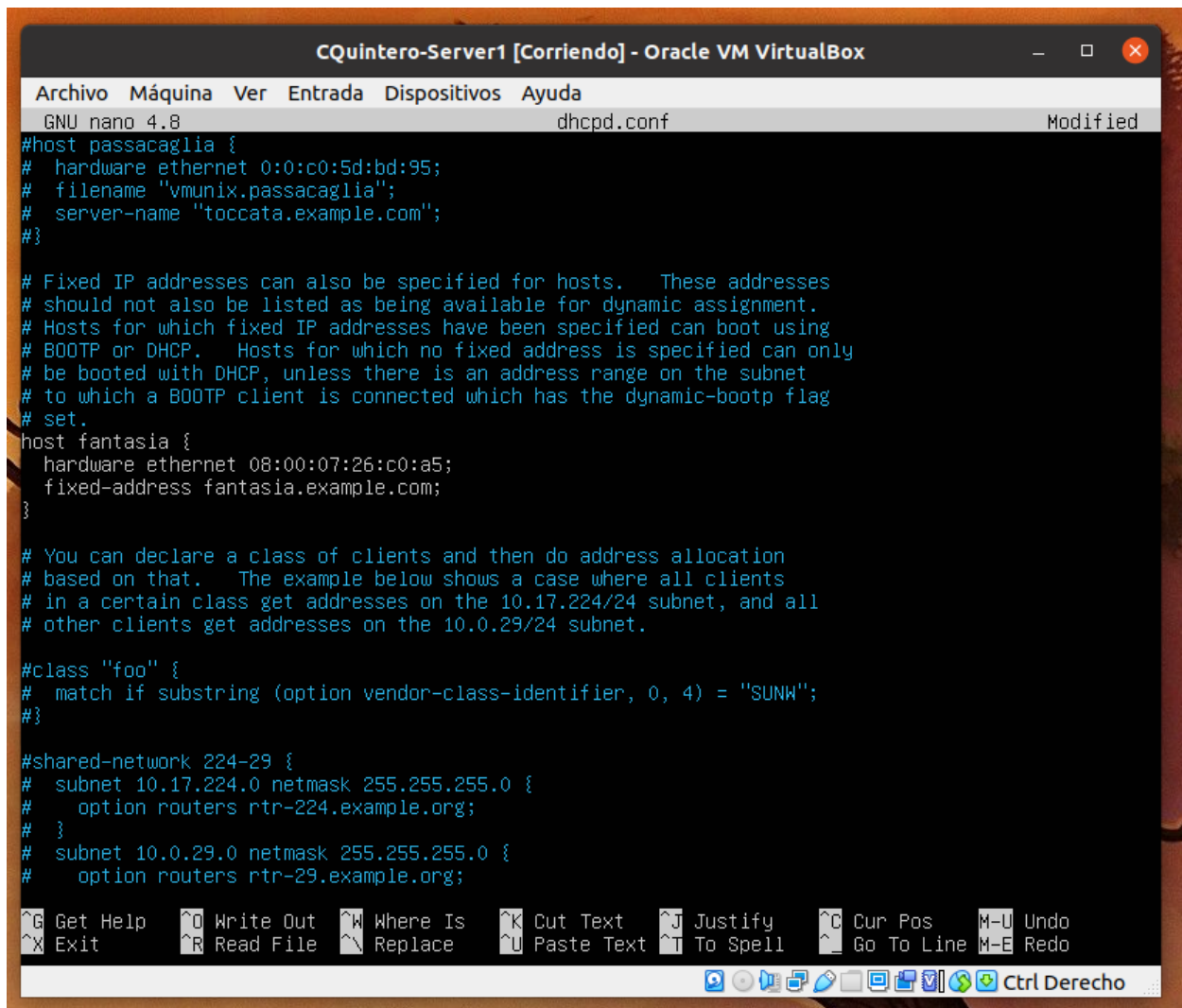
Luego de reiniciar el servicio de DHCP, iniciemos `client1` y utilicemos el comando `ip a show enp0s3` para verificar que la interfaz tenga asignada la dirección deseada.

Mostrar el registro de alquiler de direcciones IP en el servidor.

Esta información se guarda en una especie de base de datos dentro del archivo `/var/lib/dhcp/dhcpd.leases`. Sin embargo, la asignación de `192.168.2.223` no aparece en el mismo debido a que se trata de una asignación fija. Lo que sí podemos distinguir arriba es el registro de direcciones IP otorgadas durante el ejercicio anterior.

- Hacer capturas de pantalla y entregar en un documento pdf

## Archivo de configuración `/etc/dhcp/dhcpd.conf`



The screenshot shows a window titled "CQuintero-Server1 [Corriendo] - Oracle VM VirtualBox". Inside the window is a terminal running GNU nano 4.8, editing the file dhcpd.conf. The file content is as follows:

```
#host passacaglia {
#   hardware ethernet 0:0:c0:5d:bd:95;
#   filename "vmunix.passacaglia";
#   server-name "toccata.example.com";
#}

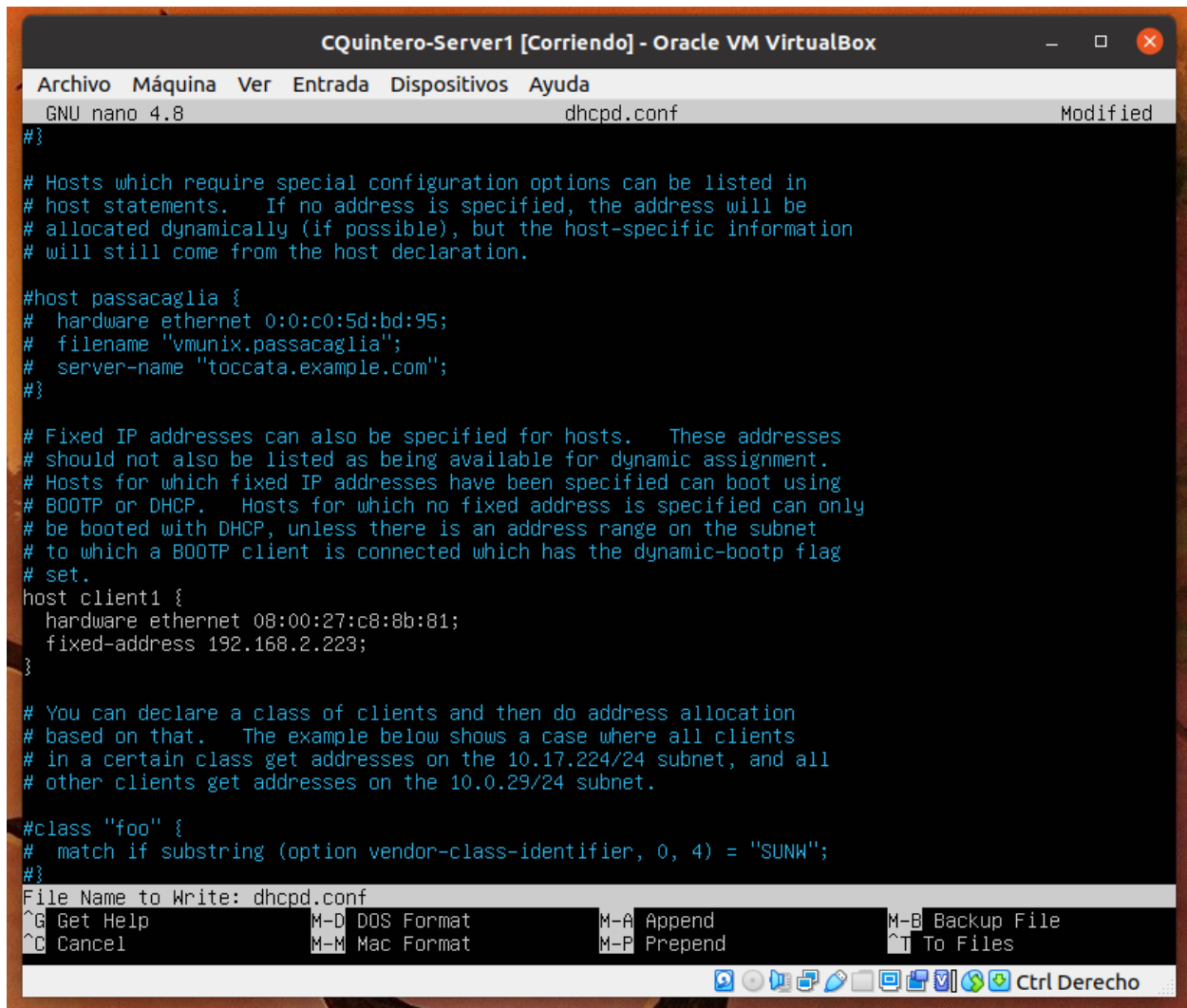
# Fixed IP addresses can also be specified for hosts.  These addresses
# should not also be listed as being available for dynamic assignment.
# Hosts for which fixed IP addresses have been specified can boot using
# BOOTP or DHCP.  Hosts for which no fixed address is specified can only
# be booted with DHCP, unless there is an address range on the subnet
# to which a BOOTP client is connected which has the dynamic-bootp flag
# set.
host fantasia {
    hardware ethernet 08:00:07:26:c0:a5;
    fixed-address fantasia.example.com;
}

# You can declare a class of clients and then do address allocation
# based on that.  The example below shows a case where all clients
# in a certain class get addresses on the 10.17.224/24 subnet, and all
# other clients get addresses on the 10.0.29/24 subnet.

#class "foo" {
#   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;
#   }
#}
```

At the bottom of the window, there is a menu bar with the following options: ^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, ^T To Spell, ^\_ Go To Line, M-E Redo. Below the menu bar is a toolbar with various icons and the text "Ctrl Derecho".



```
CQuintero-Server1 [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
GNU nano 4.8      dhcpd.conf      Modified
#}

# Hosts which require special configuration options can be listed in
# host statements.  If no address is specified, the address will be
# allocated dynamically (if possible), but the host-specific information
# will still come from the host declaration.

#host passacaglia {
#  hardware ethernet 0:0:c0:5d:bd:95;
#  filename "vmunix.passacaglia";
#  server-name "toccata.example.com";
#}

# Fixed IP addresses can also be specified for hosts.  These addresses
# should not also be listed as being available for dynamic assignment.
# Hosts for which fixed IP addresses have been specified can boot using
# BOOTP or DHCP.  Hosts for which no fixed address is specified can only
# be booted with DHCP, unless there is an address range on the subnet
# to which a BOOTP client is connected which has the dynamic-bootp flag
# set.
host client1 {
  hardware ethernet 08:00:27:c8:8b:81;
  fixed-address 192.168.2.223;
}

# You can declare a class of clients and then do address allocation
# based on that.  The example below shows a case where all clients
# in a certain class get addresses on the 10.17.224/24 subnet, and all
# other clients get addresses on the 10.0.29/24 subnet.

#class "foo" {
#  match if substring (option vendor-class-identifier, 0, 4) = "SUNW";
#}

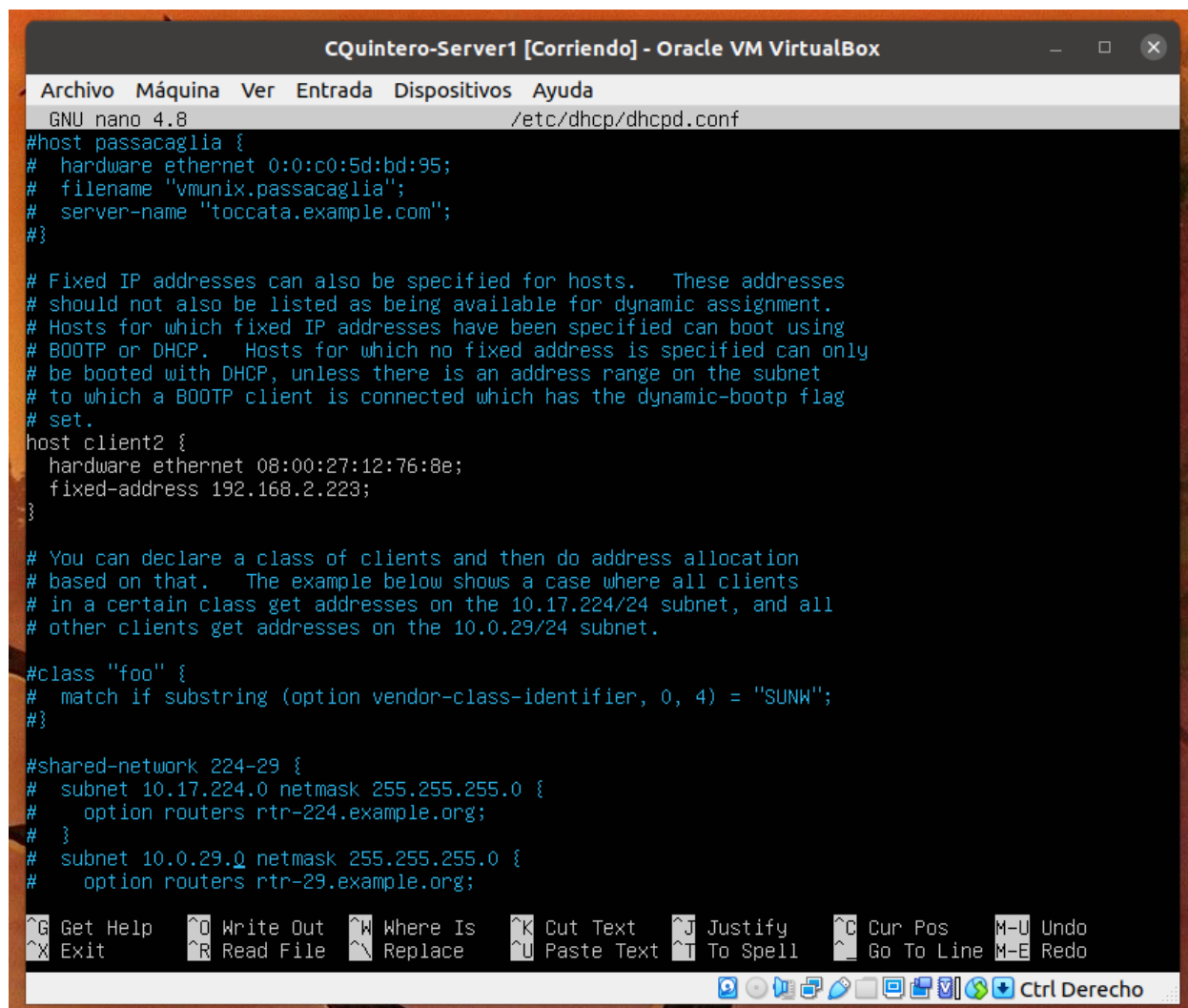
File Name to Write: dhcpd.conf
^G Get Help      M-D DOS Format  M-A Append      M-B Backup File
^C Cancel        M-M Mac Format  M-P Prepend     ^T To Files
Ctrl Derecho
```

### \*\*\* IMPORTANTE \*\*\*

El enunciado del ejercicio es imposible de hacer, mis motivos aquí:

- Pide que al client1 el cual esta en la red interna intnet y en intnet solo van las ip's **192.168.1.X**.
- Tendría que ser a client2 que tiene la red interna intnet2 y si puede recibir la ip que se pide en el ejercicio **(192.168.2.223)**.

Por lo cual vamos a proceder:

A screenshot of a virtual machine window titled "CQuintero-Server1 [Corriendo] - Oracle VM VirtualBox". Inside the VM, the GNU nano 4.8 text editor is open, editing the file /etc/dhcp/dhcpd.conf. The editor shows a configuration for a DHCP server. It includes a host named "passacaglia" with a hardware address of 0:0:c0:5d:bd:95 and a server name of "toccata.example.com". There is a comment block explaining that fixed IP addresses can be specified for hosts. Below this, a host named "client2" is configured with a hardware address of 08:00:27:12:76:8e and a fixed IP address of 192.168.2.223. Another comment block explains how to declare a class of clients. At the bottom, a shared-network section is defined for the 224-29 range, with subnets for 10.17.224.0 and 10.0.29.0, each with its own router option. The nano editor's status bar at the bottom shows various keyboard shortcuts like ^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, ^T To Spell, ^\_ Go To Line, ^M-E Redo, and a "Ctrl Derecho" button on the right. The window has a menu bar with "Archivo", "Máquina", "Ver", "Entrada", "Dispositivos", and "Ayuda".

```
CQuintero-Server1 [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
GNU nano 4.8 /etc/dhcp/dhcpd.conf
#host passacaglia {
#  hardware ethernet 0:0:c0:5d:bd:95;
#  filename "vmunix.passacaglia";
#  server-name "toccata.example.com";
#}

# Fixed IP addresses can also be specified for hosts.  These addresses
# should not also be listed as being available for dynamic assignment.
# Hosts for which fixed IP addresses have been specified can boot using
# BOOTP or DHCP.  Hosts for which no fixed address is specified can only
# be booted with DHCP, unless there is an address range on the subnet
# to which a BOOTP client is connected which has the dynamic-bootp flag
# set.
host client2 {
  hardware ethernet 08:00:27:12:76:8e;
  fixed-address 192.168.2.223;
}

# You can declare a class of clients and then do address allocation
# based on that.  The example below shows a case where all clients
# in a certain class get addresses on the 10.17.224/24 subnet, and all
# other clients get addresses on the 10.0.29/24 subnet.

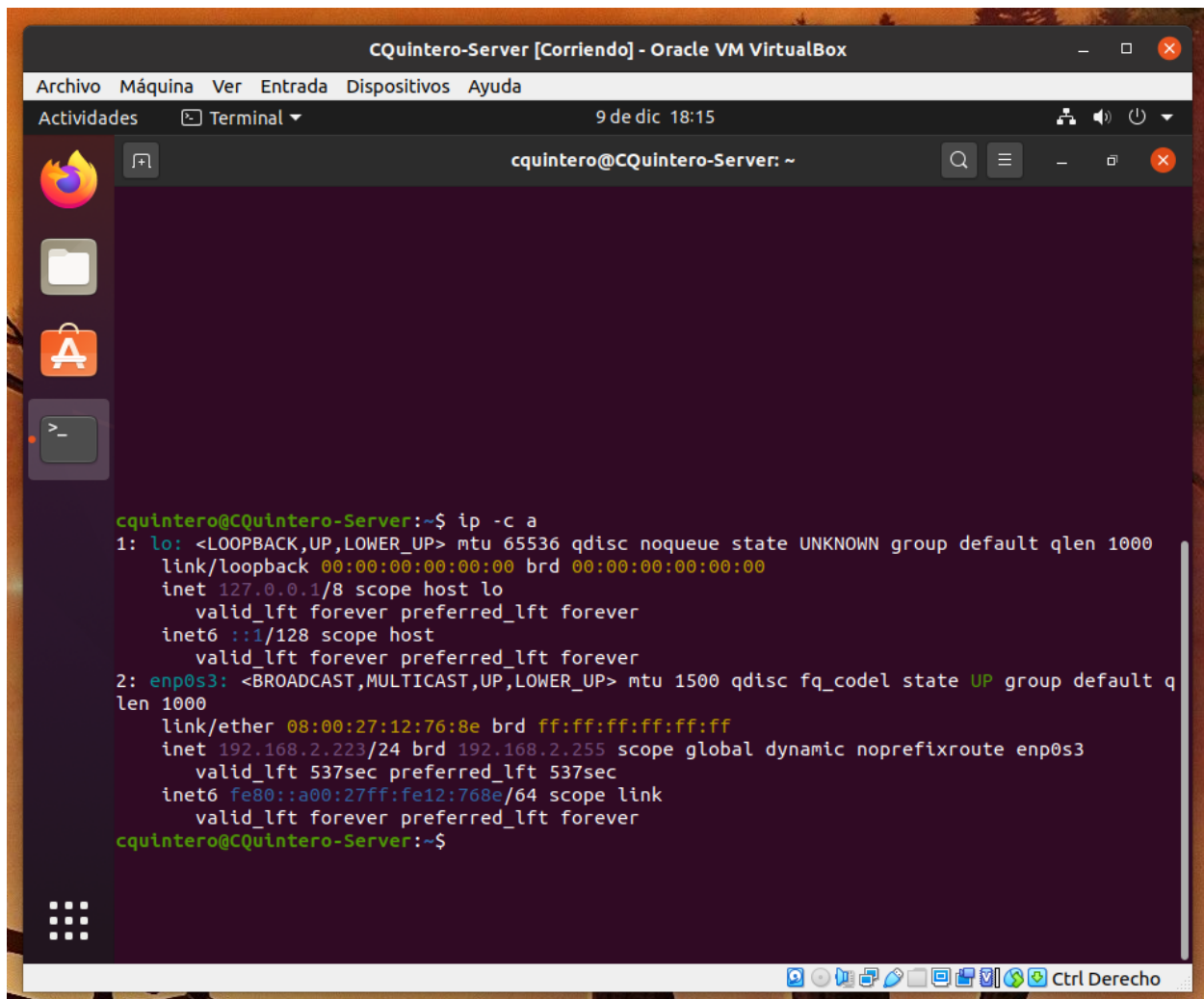
#class "foo" {
#  match if substring (option vendor-class-identifier, 0, 4) = "SUNW";
#}

#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;
#  }
#}

^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 ^T To Spell  ^_ Go To Line ^M-E Redo

Ctrl Derecho
```

## IP -C A en client2



The screenshot shows a terminal window titled "CQuintero-Server [Corriendo] - Oracle VM VirtualBox". The window has a menu bar with "Archivo", "Máquina", "Ver", "Entrada", "Dispositivos", and "Ayuda". Below the menu bar is a toolbar with "Actividades" and a "Terminal" dropdown. The terminal itself has a title bar "cquintero@CQuintero-Server: ~" and a search icon. The terminal output shows the command "ip -c a" and its results for the loopback interface "lo" and the ethernet interface "enp0s3".

```
cquintero@CQuintero-Server:~$ ip -c 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
   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 08:00:27:12:76:8e brd ff:ff:ff:ff:ff:ff
   inet 192.168.2.223/24 brd 192.168.2.255 scope global dynamic noprefixroute enp0s3
       valid_lft 537sec preferred_lft 537sec
   inet6 fe80::a00:27ff:fe12:768e/64 scope link
       valid_lft forever preferred_lft forever
cquintero@CQuintero-Server:~$
```

**NANO a /var/lib/dhcp/dhclient.leases**

CQuintero-Server [Corriendo] - Oracle VM VirtualBox

Archivo Máquina Ver Entrada Dispositivos Ayuda

Actividades Terminal 9 de dic 18:18

cquintero@cQuintero-Server: ~

GNU nano 4.8 /var/lib/dhcp/dhclient.leases

```
lease {
  interface "enp0s3";
  fixed-address 192.168.2.223;
  option subnet-mask 255.255.255.0;
  option dhcp-lease-time 600;
  option dhcp-message-type 5;
  option domain-name-servers 192.168.2.200;
  option dhcp-server-identifier 192.168.2.200;
  option broadcast-address 192.168.2.255;
  option domain-name "example.org";
  renew 3 2020/12/09 17:21:49;
  rebind 3 2020/12/09 17:26:03;
  expire 3 2020/12/09 17:27:18;
}
```

[ El fichero «/var/lib/dhcp/dhclient.leases» no es de escritura ]

Ver ayuda	Guardar	Buscar	Cortar Texto	Justificar	Posición
Salir	Leer fich.	Reemplazar	Pegar	Ortografía	Ir a línea

Ctrl Derecho