

VSEVOLOD ZYABKIN

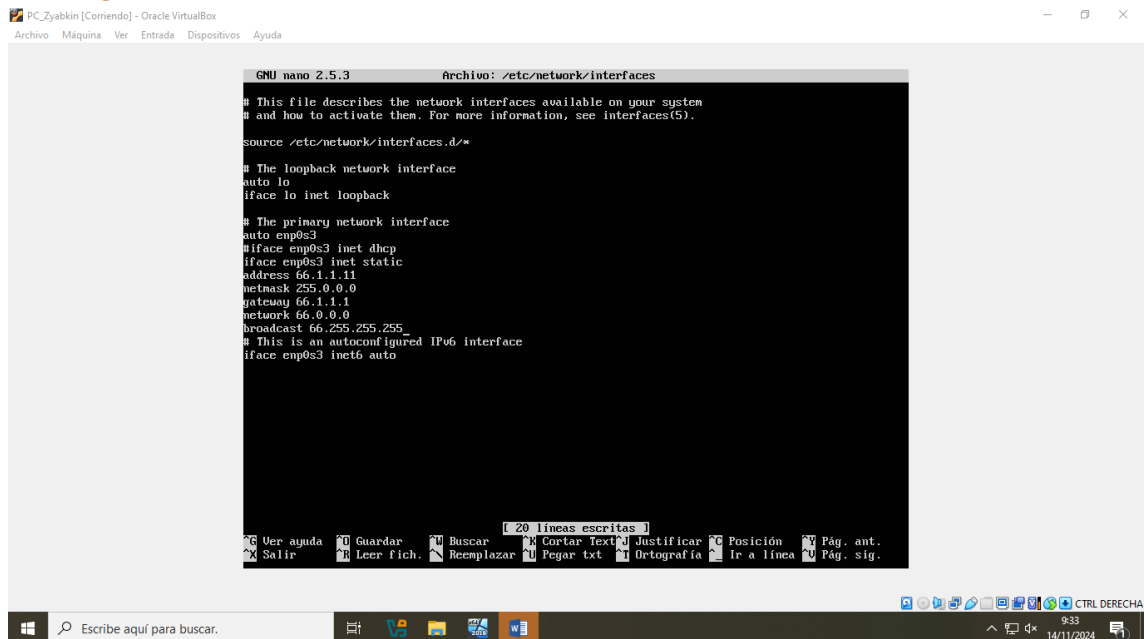
Examen SOR

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# PXE

## 1. Configuración de red



The screenshot shows a terminal window titled "PC\_Zybakin [Corriendo] - Oracle VM VirtualBox". The terminal is running the GNU nano 2.5.3 editor, editing the file /etc/network/interfaces. The content of the file is as follows:

```
GNU nano 2.5.3 Archivo: /etc/network/interfaces

# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

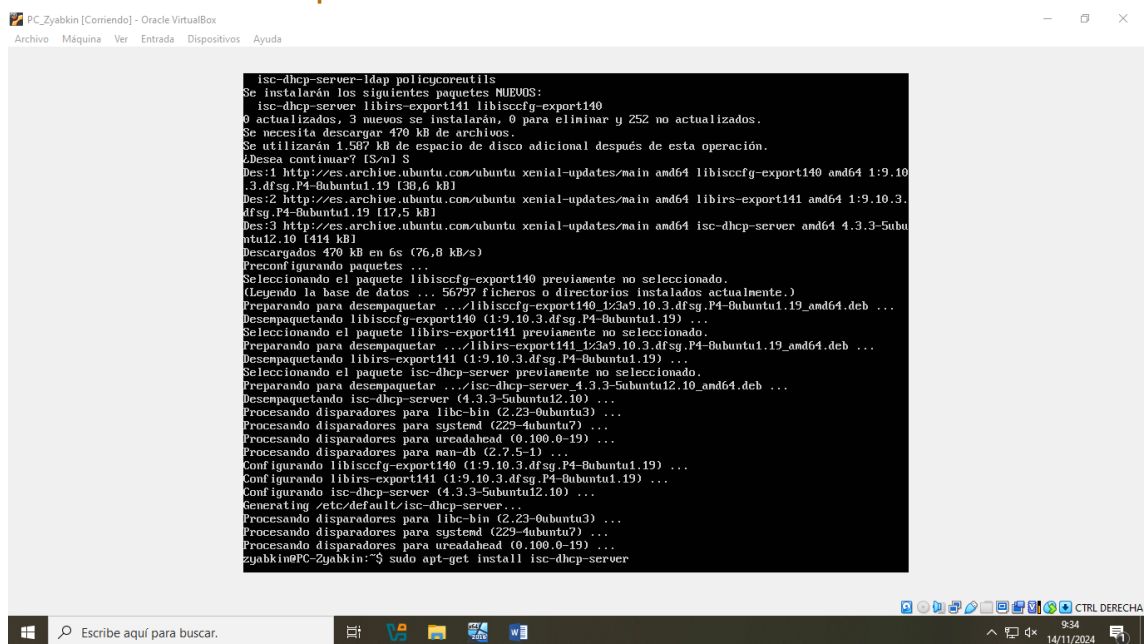
source /etc/network/interfaces.d/*

# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
auto em0s3
iface em0s3 inet dhcp
iface em0s3 inet static
address 66.1.1.11
netmask 255.0.0.0
gateway 66.1.1.1
network 66.0.0.0
broadcast 66.255.255.255
# This is an autoconfigured IPv6 interface
iface em0s3 inet6 auto
```

The terminal window also shows a status bar at the bottom with various icons and a search bar.

## 2. Instalamos isc-dhcp-server

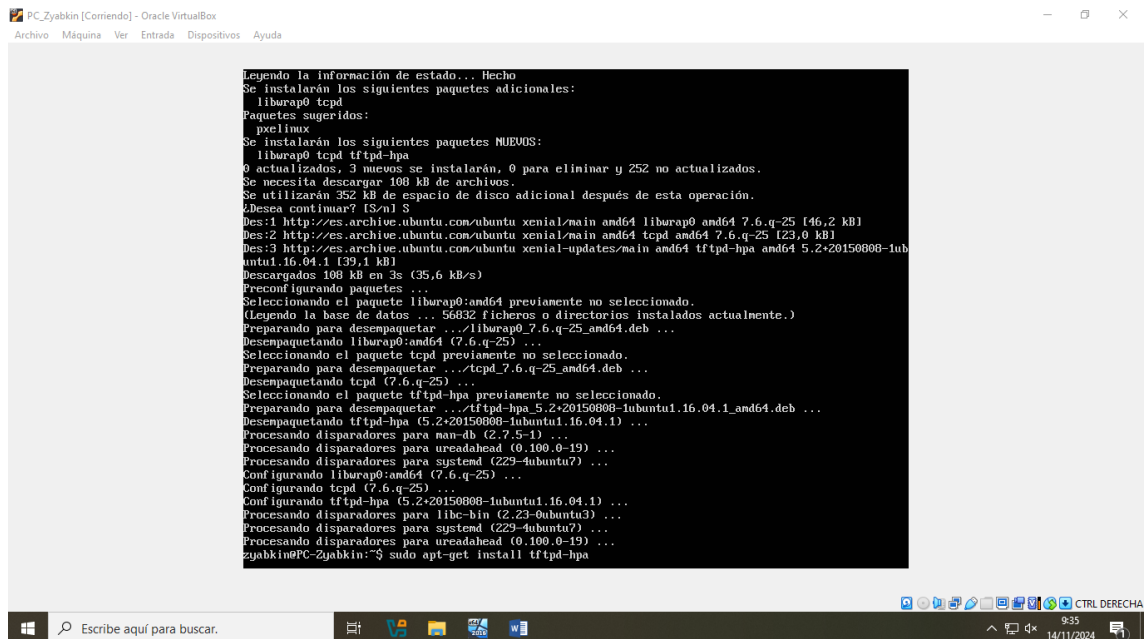


The screenshot shows a terminal window titled "PC\_Zybakin [Corriendo] - Oracle VM VirtualBox". The terminal is running the command `sudo apt-get install isc-dhcp-server`. The output of the command is as follows:

```
isc-dhcp-server-ldap polycoreutils
Se instalarán los siguientes paquetes NUEVOS:
  isc-dhcp-server libirs-export141 libiscfg-export140
0 actualizados, 3 nuevos se instalarán, 0 para eliminar y 252 no actualizados.
Se necesitan descargar 470 kB de archivos.
Se utilizarán 1.567 kB de espacio de disco adicional después de esta operación.
¿Desea continuar? [S/n] S
Des:1 http://es.archive.ubuntu.com/ubuntu xenial-updates/main amd64 libiscfg-export140 amd64 1:9.10.3-
3.dfsg.P4-8ubuntu1.19 [38,6 kB]
Des:2 http://es.archive.ubuntu.com/ubuntu xenial-updates/main amd64 libirs-export141 amd64 1:9.10.3-
3.dfsg.P4-8ubuntu1.19 [17,5 kB]
Des:3 http://es.archive.ubuntu.com/ubuntu xenial-updates/main amd64 isc-dhcp-server amd64 4.3.3-Sub
untu12.10 [414 kB]
Descargados 470 kB en 6s (76,8 kB/s)
Preconfigurando paquetes ...
Seleccionando el paquete libiscfg-export140 previamente no seleccionado.
(Leyendo la base de datos ... 56797 ficheros o directorios instalados actualmente.)
Preparando para desempaquetar .../libiscfg-export140_1:9.10.3-3.dfsg.P4-8ubuntu1.19_amd64.deb ...
Desempaquetando libiscfg-export140 (1:9.10.3-3.dfsg.P4-8ubuntu1.19) ...
Seleccionando el paquete libirs-export141 previamente no seleccionado.
Preparando para desempaquetar .../libirs-export141_1:9.10.3-3.dfsg.P4-8ubuntu1.19_amd64.deb ...
Desempaquetando libirs-export141 (1:9.10.3-3.dfsg.P4-8ubuntu1.19) ...
Seleccionando el paquete isc-dhcp-server previamente no seleccionado.
Preparando para desempaquetar .../isc-dhcp-server_4.3.3-Subuntu12.10_amd64.deb ...
Desempaquetando isc-dhcp-server (4.3.3-Subuntu12.10) ...
Procesando disparadores para libc-bin (2.23-0ubuntu3) ...
Procesando disparadores para systemd (229-4ubuntu7) ...
Procesando disparadores para ureadahead (0.100.0-19) ...
Procesando disparadores para man-db (2.7.5-1) ...
Configurando libiscfg-export140 (1:9.10.3-3.dfsg.P4-8ubuntu1.19) ...
Configurando libirs-export141 (1:9.10.3-3.dfsg.P4-8ubuntu1.19) ...
Configurando isc-dhcp-server (4.3.3-Subuntu12.10) ...
Generating /etc/default/isc-dhcp-server...
Procesando disparadores para libc-bin (2.23-0ubuntu3) ...
Procesando disparadores para systemd (229-4ubuntu7) ...
Procesando disparadores para ureadahead (0.100.0-19) ...
zybakinePC-Zybakin:~$ sudo apt-get install isc-dhcp-server
```

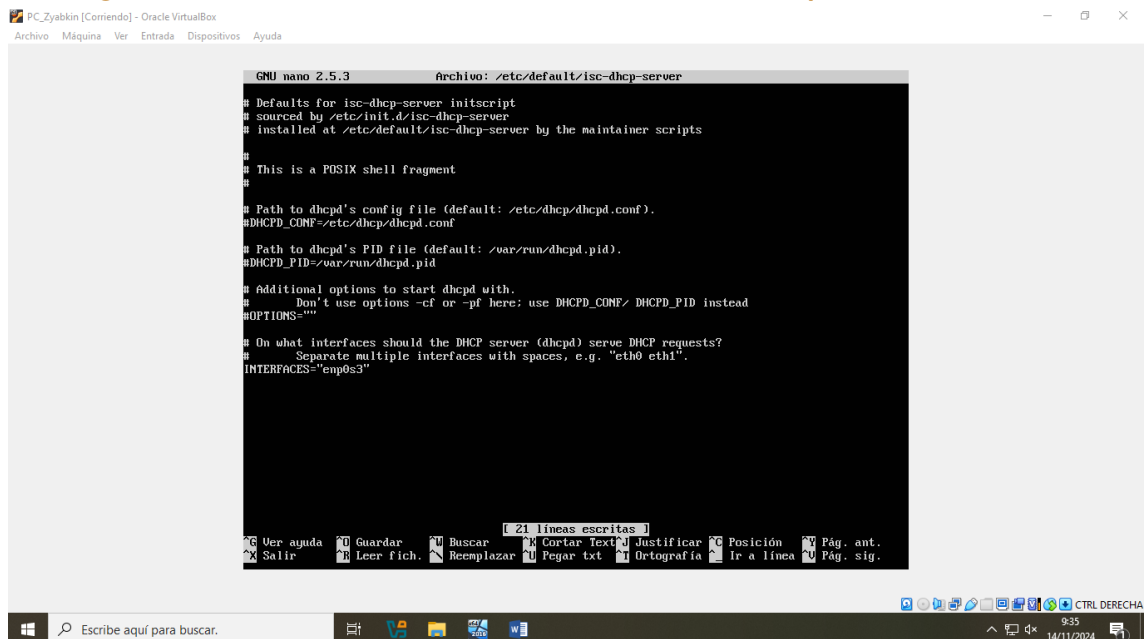
The terminal window also shows a status bar at the bottom with various icons and a search bar.

### 3. Instalamos tftpd-hpa



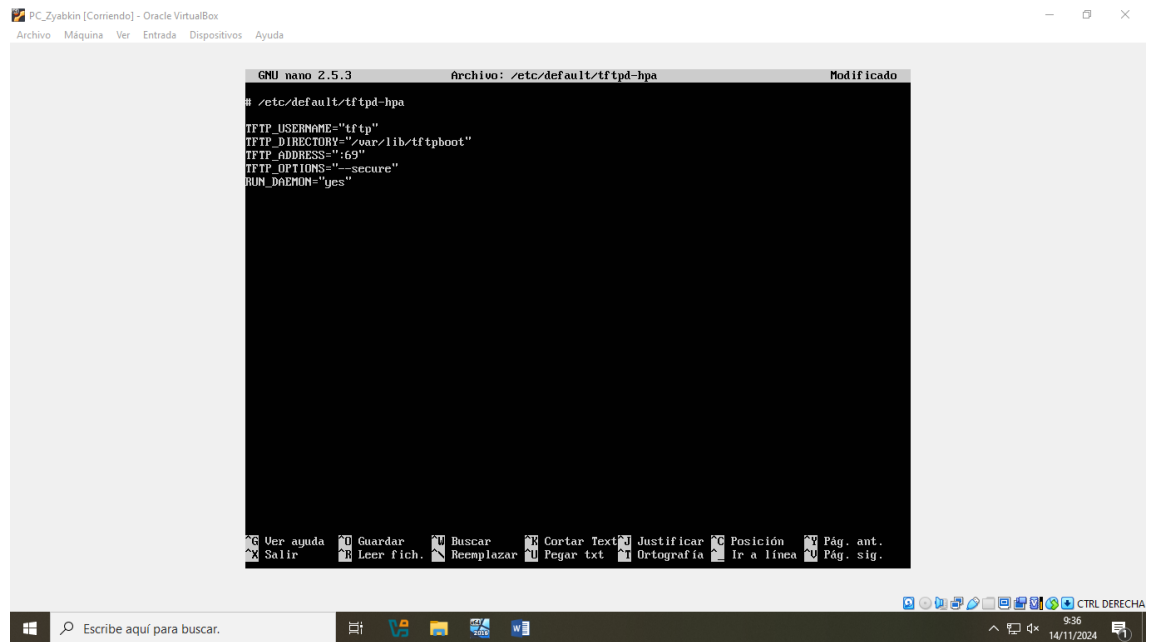
```
zyabkin@PC-Zyabkin:~$ sudo apt-get install tftpd-hpa
Leyendo la información de estado... Hecho
Se instalarán los siguientes paquetes adicionales:
  libarp0 tcpd
Paquetes sugeridos:
  pxelinux
Se instalarán los siguientes paquetes NUEVOS:
  libarp0 tcpd tftpd-hpa
0 actualizados, 3 nuevos se instalarán, 0 para eliminar y 252 no actualizados.
Se necesita descargar 108 kB de archivos.
Se utilizarán 352 kB de espacio de disco adicional después de esta operación.
¿Desea continuar? [S/n] S
Des:1 http://es.archive.ubuntu.com/ubuntu xenial/main amd64 libarp0 amd64 7.6.q-25 [46,2 kB]
Des:2 http://es.archive.ubuntu.com/ubuntu xenial/main amd64 tcpd amd64 7.6.q-25 [23,0 kB]
Des:3 http://es.archive.ubuntu.com/ubuntu xenial-updates/main amd64 tftpd-hpa amd64 5.2+20150808-1ub
untu1.16.04.1 [39,1 kB]
Descargados 108 kB en 3s (35,6 kB/s)
Preconfigurando paquetes ...
Seleccionando el paquete libarp0:amd64 previamente no seleccionado.
(Leyendo la base de datos ... 56832 ficheros o directorios instalados actualmente.)
Preparando para desempaquetar .../libarp0_7.6.q-25_amd64.deb ...
Desempaquetando libarp0:amd64 (7.6.q-25) ...
Seleccionando el paquete tcpd previamente no seleccionado.
Preparando para desempaquetar .../tcpd_7.6.q-25_amd64.deb ...
Desempaquetando tcpd (7.6.q-25) ...
Seleccionando el paquete tftpd-hpa previamente no seleccionado.
Preparando para desempaquetar .../tftpd-hpa_5.2+20150808-1ubuntu1.16.04.1_amd64.deb ...
Desempaquetando tftpd-hpa (5.2+20150808-1ubuntu1.16.04.1) ...
Procesando disparadores para man-db (2.7.5-1) ...
Procesando disparadores para ureadahead (0.100.0-19) ...
Procesando disparadores para systemd (229-ubuntu7) ...
Configurando libarp0:amd64 (7.6.q-25) ...
Configurando tcpd (7.6.q-25) ...
Configurando tftpd-hpa (5.2+20150808-1ubuntu1.16.04.1) ...
Procesando disparadores para libc-bin (2.23-0ubuntu3) ...
Procesando disparadores para systemd (229-ubuntu7) ...
Procesando disparadores para ureadahead (0.100.0-19) ...
zyabkin@PC-Zyabkin:~$ sudo apt-get install tftpd-hpa
```

### 4. Configuración de archivo “/etc/default/isc-dhcp-server”



```
GNU nano 2.5.3 Archivo: /etc/default/isc-dhcp-server
# Defaults for isc-dhcp-server initscript
# sourced by /etc/init.d/isc-dhcp-server
# installed at /etc/default/isc-dhcp-server by the maintainer scripts
#
# This is a POSIX shell fragment
#
# Path to dhcpd's config file (default: /etc/dhcp/dhcpd.conf).
DHCPD_CONF=/etc/dhcp/dhcpd.conf
#
# Path to dhcpd's PID file (default: /var/run/dhcpd.pid).
DHCPD_PID=/var/run/dhcpd.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".
INTERFACES="enp0s3"
```

## 5. Configuración de archivo “/etc/default/tftpd-hpa”



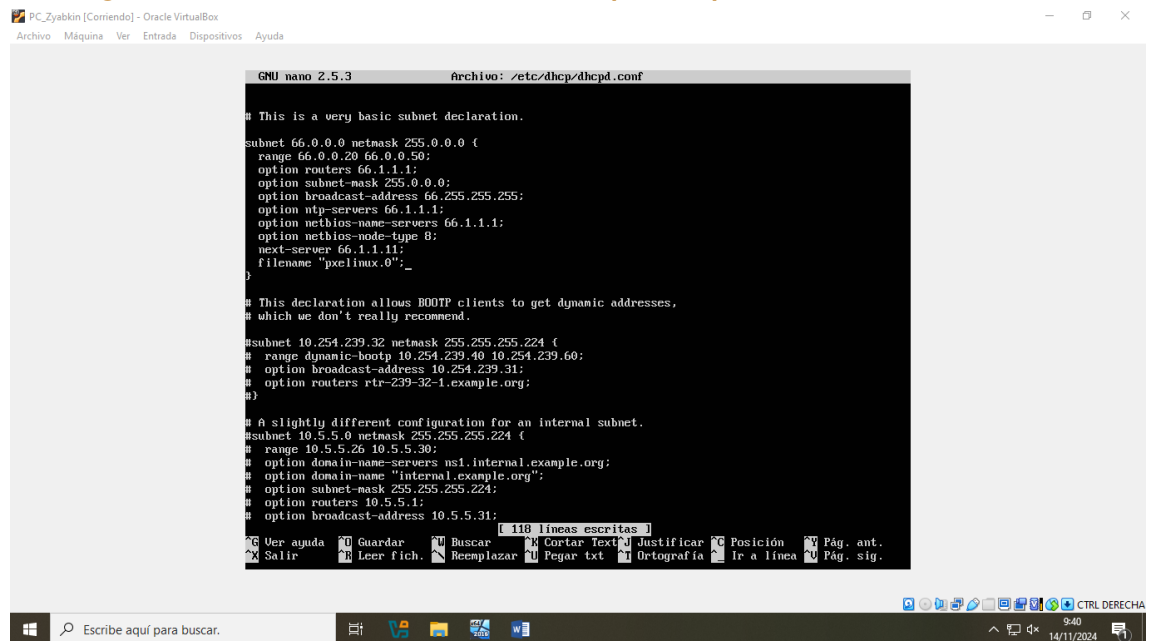
The screenshot shows a terminal window titled "PC\_Zyabkin [Corriendo] - Oracle VirtualBox". The terminal is running the nano editor to edit the file "/etc/default/tftpd-hpa". The file content is as follows:

```
# /etc/default/tftpd-hpa

TFTP_USERNAME="tftp"
TFTP_DIRECTORY="/var/lib/tftpboot"
TFTP_ADDRESS="::69"
TFTP_OPTIONS="--secure"
RUN_DAEMON="yes"
```

The nano editor interface shows the file name "Archivo: /etc/default/tftpd-hpa" and the status "Modificado". The bottom status bar indicates "118 líneas escritas". The terminal window also shows the standard Ubuntu desktop environment with a search bar and system icons.

## 6. Configuración de archivo “/etc/dhcp/dhcpd.conf”



The screenshot shows a terminal window titled "PC\_Zyabkin [Corriendo] - Oracle VirtualBox". The terminal is running the nano editor to edit the file "/etc/dhcp/dhcpd.conf". The file content is as follows:

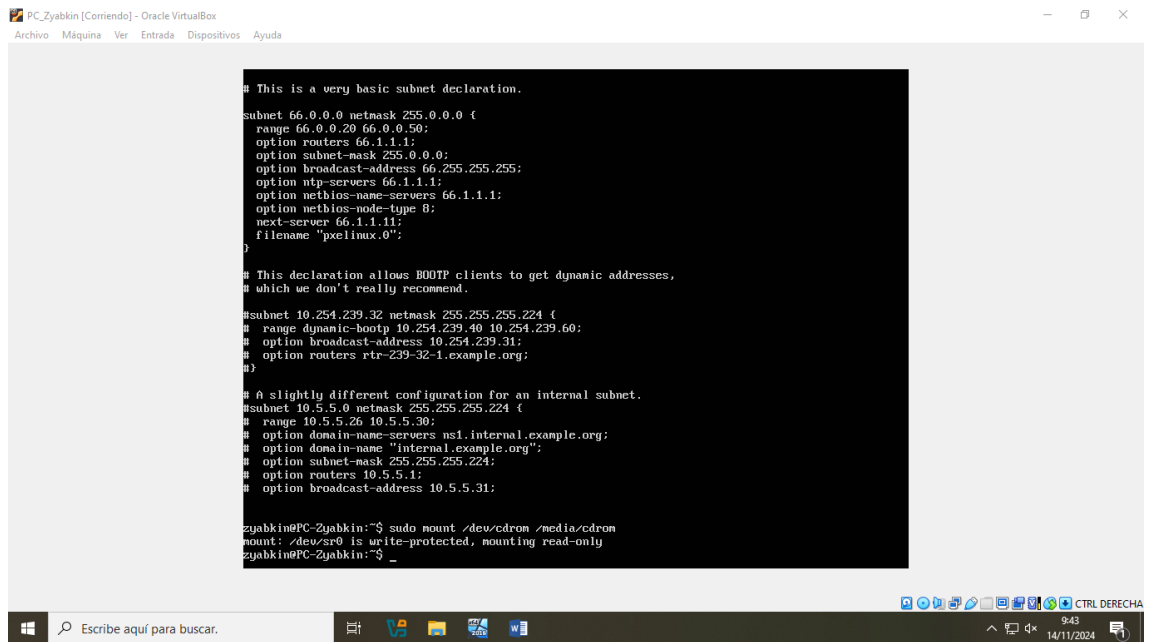
```
# This is a very basic subnet declaration.
subnet 66.0.0.0 netmask 255.0.0.0 {
  range 66.0.0.20 66.0.0.50;
  option routers 66.1.1.1;
  option subnet-mask 255.0.0.0;
  option broadcast-address 66.255.255.255;
  option ntp-servers 66.1.1.1;
  option netbios-name-servers 66.1.1.1;
  option netbios-node-type 8;
  next-server 66.1.1.11;
  filename "pxelinux.0";
}

# This declaration allows BOOTP clients to get dynamic addresses,
# which we don't really recommend.
#
#subnet 10.254.239.32 netmask 255.255.255.224 {
#  range dynamic-bootp 10.254.239.40 10.254.239.60;
#  option broadcast-address 10.254.239.31;
#  option routers rtr-239-32-1.example.org;
#}

# A slightly different configuration for an internal subnet.
#subnet 10.5.5.0 netmask 255.255.255.224 {
#  range 10.5.5.26 10.5.5.30;
#  option domain-name-servers ns1.internal.example.org;
#  option domain-name "internal.example.org";
#  option subnet-mask 255.255.255.224;
#  option routers 10.5.5.1;
#  option broadcast-address 10.5.5.31;
#}
```

The nano editor interface shows the file name "Archivo: /etc/dhcp/dhcpd.conf" and the status "Modificado". The bottom status bar indicates "118 líneas escritas". The terminal window also shows the standard Ubuntu desktop environment with a search bar and system icons.

## 7. Montamos el disco “sudo mount /dev/cdrom /media/cdrom”



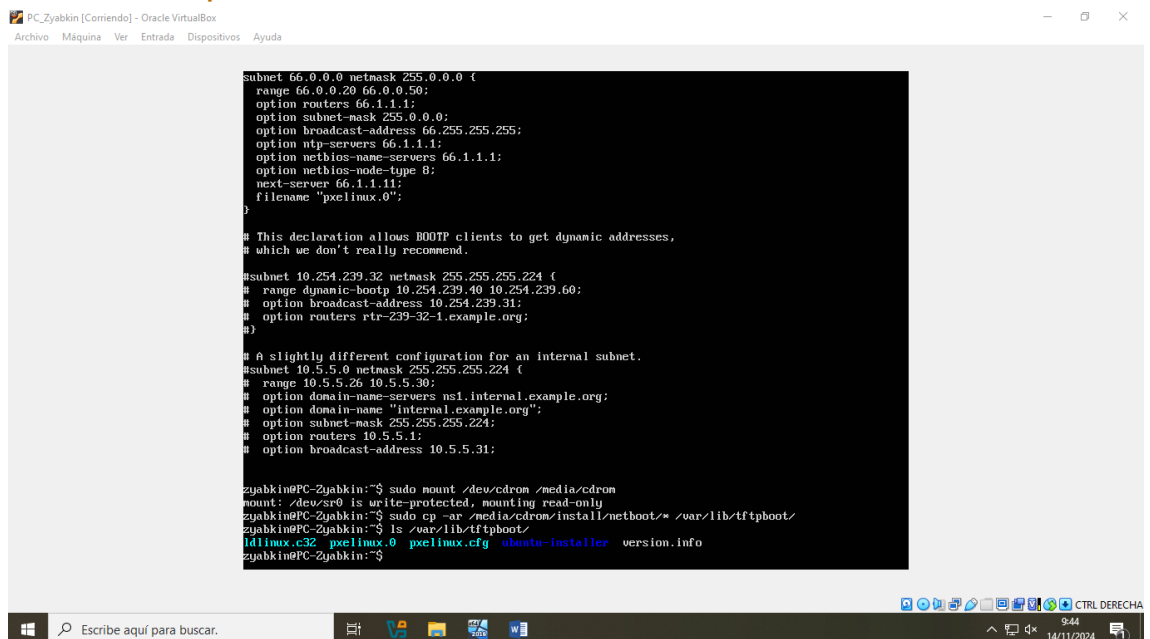
```
# This is a very basic subnet declaration.
subnet 66.0.0.0 netmask 255.0.0.0 {
    range 66.0.0.20 66.0.0.50;
    option routers 66.1.1.1;
    option subnet-mask 255.0.0.0;
    option broadcast-address 66.255.255.255;
    option ntp-servers 66.1.1.1;
    option netbios-name-servers 66.1.1.1;
    option netbios-node-type 8;
    next-server 66.1.1.11;
    filename "pxelinux.0";
}

# This declaration allows BOOTP clients to get dynamic addresses,
# which we don't really recommend.
subnet 10.254.239.32 netmask 255.255.255.224 {
    range dynamic-bootp 10.254.239.40 10.254.239.60;
    option broadcast-address 10.254.239.31;
    option routers rtr-239-32-1.example.org;
}

# A slightly different configuration for an internal subnet.
subnet 10.5.5.0 netmask 255.255.255.224 {
    range 10.5.5.26 10.5.5.30;
    option domain-name-servers ns1.internal.example.org;
    option domain-name "internal.example.org";
    option subnet-mask 255.255.255.224;
    option routers 10.5.5.1;
    option broadcast-address 10.5.5.31;
}

zyabkin@PC-Zyabkin:~$ sudo mount /dev/cdrom /media/cdrom
mount: /dev/sr0 is write-protected, mounting read-only
zyabkin@PC-Zyabkin:~$ _
```

## 8. Copias archivos “sudo cp -ar /media/cdrom/install/netboot/\* /var/lib/tftpboot/”



```
subnet 66.0.0.0 netmask 255.0.0.0 {
    range 66.0.0.20 66.0.0.50;
    option routers 66.1.1.1;
    option subnet-mask 255.0.0.0;
    option broadcast-address 66.255.255.255;
    option ntp-servers 66.1.1.1;
    option netbios-name-servers 66.1.1.1;
    option netbios-node-type 8;
    next-server 66.1.1.11;
    filename "pxelinux.0";
}

# This declaration allows BOOTP clients to get dynamic addresses,
# which we don't really recommend.
subnet 10.254.239.32 netmask 255.255.255.224 {
    range dynamic-bootp 10.254.239.40 10.254.239.60;
    option broadcast-address 10.254.239.31;
    option routers rtr-239-32-1.example.org;
}

# A slightly different configuration for an internal subnet.
subnet 10.5.5.0 netmask 255.255.255.224 {
    range 10.5.5.26 10.5.5.30;
    option domain-name-servers ns1.internal.example.org;
    option domain-name "internal.example.org";
    option subnet-mask 255.255.255.224;
    option routers 10.5.5.1;
    option broadcast-address 10.5.5.31;
}

zyabkin@PC-Zyabkin:~$ sudo mount /dev/cdrom /media/cdrom
mount: /dev/sr0 is write-protected, mounting read-only
zyabkin@PC-Zyabkin:~$ sudo cp -ar /media/cdrom/install/netboot/* /var/lib/tftpboot/
zyabkin@PC-Zyabkin:~$ ls /var/lib/tftpboot/
pxelinux.c32  pxelinux.0  pxelinux.cfg  ubuntu-installer  version.info
zyabkin@PC-Zyabkin:~$
```

## 9. Servicio de DHCP

PC\_Zybakin [Corriendo] - Oracle VirtualBox

Archivo Máquina Ver Entrada Dispositivos Ayuda

```
Welcome to Ubuntu 16.04.1 LTS (GNU/Linux 4.4.0-31-generic x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:        https://ubuntu.com/advantage

Pueden actualizarse 267 paquetes.
179 actualizaciones son de seguridad.

New release '16.04.6 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

zyabkin@PC-Zybakin:~$ sudo service isc-dhcp-server status
[sudo] password for zyabkin:
* 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 Tue 2024-11-14 09:49:34 CET; 43s ago
     Docs: man:dhcpd(8)
   Main PID: 2171 (dhcpd)
      Tasks: 1
     Memory: 11.0M
        CPU: 93ms
   CGroup: /system.slice/isc-dhcp-server.service
           └─2171 dhcpd -user dhcpd -group dhcpd -f -4 -pf /run/dhcp-server/dhcpd.pid -cf /etc/dhcp/

nov 14 09:49:39 PC-Zybakin dhcpd[2171]: For info, please visit https://www.isc.org/software/dhcp/
nov 14 09:49:39 PC-Zybakin dhcpd[2171]: Wrote 0 leases to leases file.
nov 14 09:49:39 PC-Zybakin sh[2171]: Wrote 0 leases to leases file.
nov 14 09:49:39 PC-Zybakin dhcpd[2171]: Listening on LFF/emp0s3:08:00:27:2e:a5:c7:66.0.0.0/8
nov 14 09:49:39 PC-Zybakin sh[2171]: Listening on LFF/emp0s3:08:00:27:2e:a5:c7:66.0.0.0/8
nov 14 09:49:39 PC-Zybakin sh[2171]: Sending on LFF/emp0s3:08:00:27:2e:a5:c7:66.0.0.0/8
nov 14 09:49:39 PC-Zybakin sh[2171]: Sending on Socket/fallback/fallback-net
nov 14 09:49:39 PC-Zybakin dhcpd[2171]: Sending on LFF/emp0s3:08:00:27:2e:a5:c7:66.0.0.0/8
nov 14 09:49:39 PC-Zybakin dhcpd[2171]: Sending on Socket/fallback/fallback-net
nov 14 09:49:39 PC-Zybakin dhcpd[2171]: Server starting service.
lines 1-21/21 (END)
```

Integración de ratón...

Escribe aquí para buscar.

9:50 14/11/2024

## 10. Servicio de Tftpd

PC\_Zybakin [Corriendo] - Oracle VirtualBox

Archivo Máquina Ver Entrada Dispositivos Ayuda

```
Active: active (running) since Tue 2024-11-14 09:49:34 CET; 43s ago
   Docs: man:dhcpd(8)
  Main PID: 2171 (dhcpd)
     Tasks: 1
    Memory: 11.0M
       CPU: 93ms
   CGroup: /system.slice/isc-dhcp-server.service
           └─2171 dhcpd -user dhcpd -group dhcpd -f -4 -pf /run/dhcp-server/dhcpd.pid -cf /etc/dhcp/

nov 14 09:49:39 PC-Zybakin dhcpd[2171]: For info, please visit https://www.isc.org/software/dhcp/
nov 14 09:49:39 PC-Zybakin dhcpd[2171]: Wrote 0 leases to leases file.
nov 14 09:49:39 PC-Zybakin sh[2171]: Wrote 0 leases to leases file.
nov 14 09:49:39 PC-Zybakin dhcpd[2171]: Listening on LFF/emp0s3:08:00:27:2e:a5:c7:66.0.0.0/8
nov 14 09:49:39 PC-Zybakin sh[2171]: Listening on LFF/emp0s3:08:00:27:2e:a5:c7:66.0.0.0/8
nov 14 09:49:39 PC-Zybakin sh[2171]: Sending on LFF/emp0s3:08:00:27:2e:a5:c7:66.0.0.0/8
nov 14 09:49:39 PC-Zybakin sh[2171]: Sending on Socket/fallback/fallback-net
nov 14 09:49:39 PC-Zybakin dhcpd[2171]: Sending on LFF/emp0s3:08:00:27:2e:a5:c7:66.0.0.0/8
nov 14 09:49:39 PC-Zybakin dhcpd[2171]: Sending on Socket/fallback/fallback-net
nov 14 09:49:39 PC-Zybakin dhcpd[2171]: Server starting service.

zyabkin@PC-Zybakin:~$ sudo service tftpd-hpa status
* tftpd-hpa.service - LSB: HPa's tftp server
   Loaded: loaded (/etc/init.d/tftpd-hpa; bad; vendor preset: enabled)
   Active: active (running) since Tue 2024-11-14 09:49:35 CET; 1min 19s ago
     Docs: man:systemd-sysv-generator(8)
  Process: 2197 ExecStart=/etc/init.d/tftpd-hpa start (code=exited, status=0/SUCCESS)
     Tasks: 1
    Memory: 240.0K
       CPU: 14ms
   CGroup: /system.slice/tftpd-hpa.service
           └─2255 /usr/sbin/in.tftpd --listen --user tftp --address :69 --secure /var/lib/tftpboot

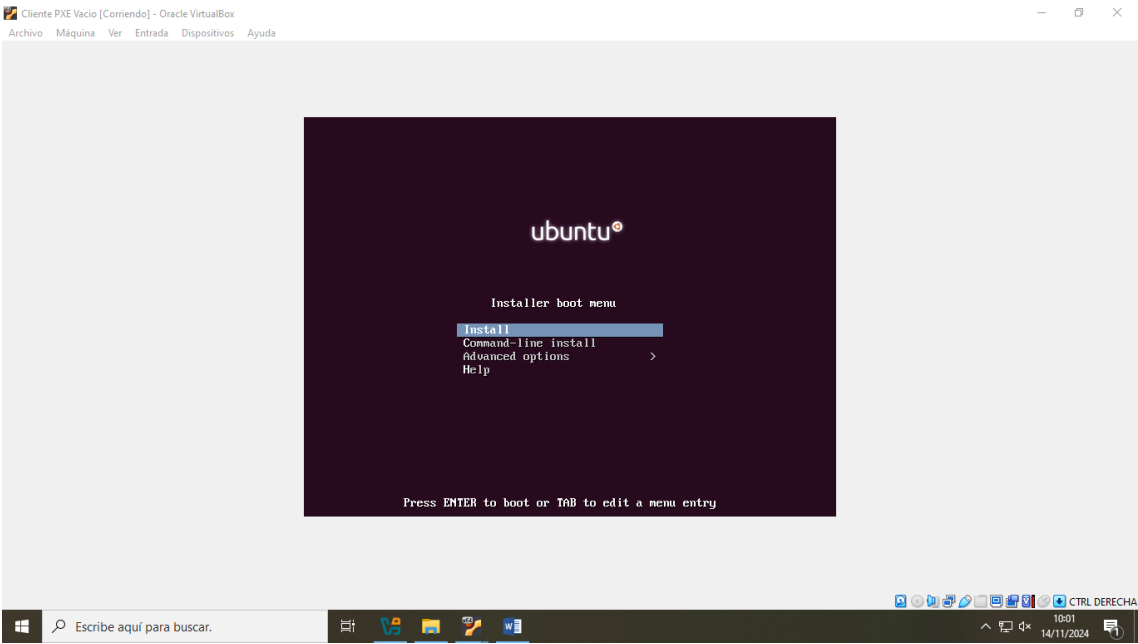
nov 14 09:49:35 PC-Zybakin systemd[1]: Starting LSB: HPa's tftp server...
nov 14 09:49:35 PC-Zybakin tftpd-hpa[2197]: * Starting HPa's tftp in.tftpd
nov 14 09:49:35 PC-Zybakin tftpd-hpa[2197]: ...done.
nov 14 09:49:35 PC-Zybakin systemd[1]: Started LSB: HPa's tftp server.
zyabkin@PC-Zybakin:~$
```

Integración de ratón...

Escribe aquí para buscar.

9:50 14/11/2024

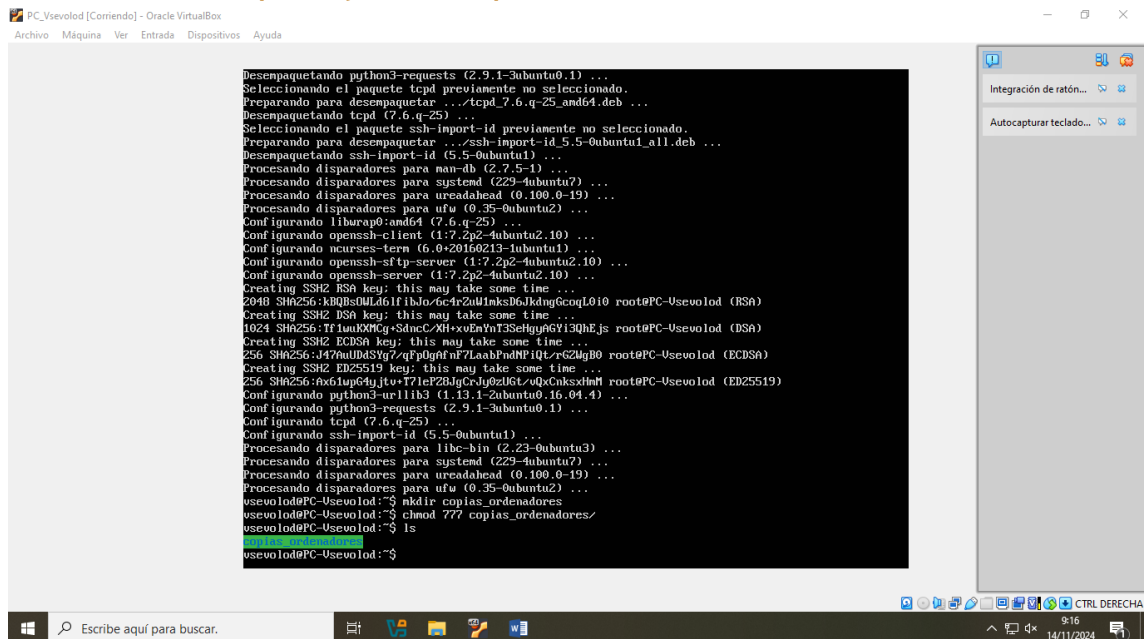
11. Cliente de PXE





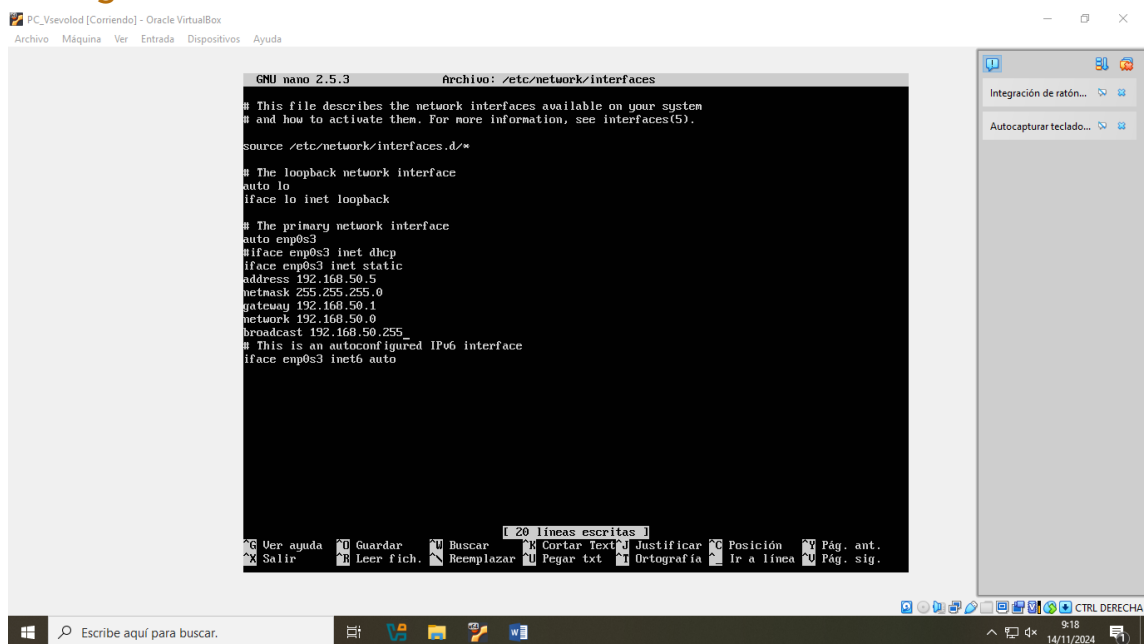
# Clonezilla

## 1. Creamos la carpeta y damos permisos “chmod 777”



```
Desempaquetando python3-requests (2.9.1-3ubuntu0.1) ...
Seleccionando el paquete tcpd previamente no seleccionado.
Preparando para desempaquetar .../tcpd_7.6.q-25_and64.deb ...
Desempaquetando tcpd (7.6.q-25) ...
Seleccionando el paquete ssh-import-id previamente no seleccionado.
Preparando para desempaquetar .../ssh-import-id_5.5-0ubuntu1_all.deb ...
Desempaquetando ssh-import-id (5.5-0ubuntu1) ...
Procesando disparadores para man-db (2.7.5-1) ...
Procesando disparadores para systemd (229-4ubuntu7) ...
Procesando disparadores para ureadahead (0.100.0-19) ...
Procesando disparadores para ufw (0.35-0ubuntu2) ...
Configurando liburp6:and64 (7.6.q-25) ...
Configurando openssh-client (1:7.2p2-4ubuntu2.10) ...
Configurando ncurses-term (6.0+20160213-1ubuntu1) ...
Configurando openssh-sftp-server (1:7.2p2-4ubuntu2.10) ...
Configurando openssh-server (1:7.2p2-4ubuntu2.10) ...
Creating SSH2 RSA key; this may take some time ...
2048 SHA256:K8Q8sDULd6l1bdo/c64rZuJmksD6JdmgGcoqL010 root@PC-Usevolod (RSA)
Creating SSH2 RSA key; this may take some time ...
1024 SHA256:1f1uuXMCg+SdncC/XH+x0EnVt3SeHgyAGY13QNE.js root@PC-Usevolod (RSA)
Creating SSH2 ECDSA key; this may take some time ...
256 SHA256:J47AuUDdSVg7/qPp0GfNF7LaabPndMFIQt/rG2MgB0 root@PC-Usevolod (ECDSA)
Creating SSH2 ED25519 key; this may take some time ...
256 SHA256:hx61up64yJtu+1771eP2BjGCrJy0ZUGL/oQxGksxhMf root@PC-Usevolod (ED25519)
Configurando python3-urllib3 (1.13.1-2ubuntu0.16.04.4) ...
Configurando python3-requests (2.9.1-3ubuntu0.1) ...
Configurando tcpd (7.6.q-25) ...
Configurando ssh-import-id (5.5-0ubuntu1) ...
Procesando disparadores para libc-bin (2.23-0ubuntu3) ...
Procesando disparadores para systemd (229-4ubuntu7) ...
Procesando disparadores para ureadahead (0.100.0-19) ...
Procesando disparadores para ufw (0.35-0ubuntu2) ...
vsevolod@PC-Usevolod:~$ mkdir copias_ordenadores
vsevolod@PC-Usevolod:~$ chmod 777 copias_ordenadores/
vsevolod@PC-Usevolod:~$ ls
vsevolod@PC-Usevolod:~$
```

## 2. Configuración de red



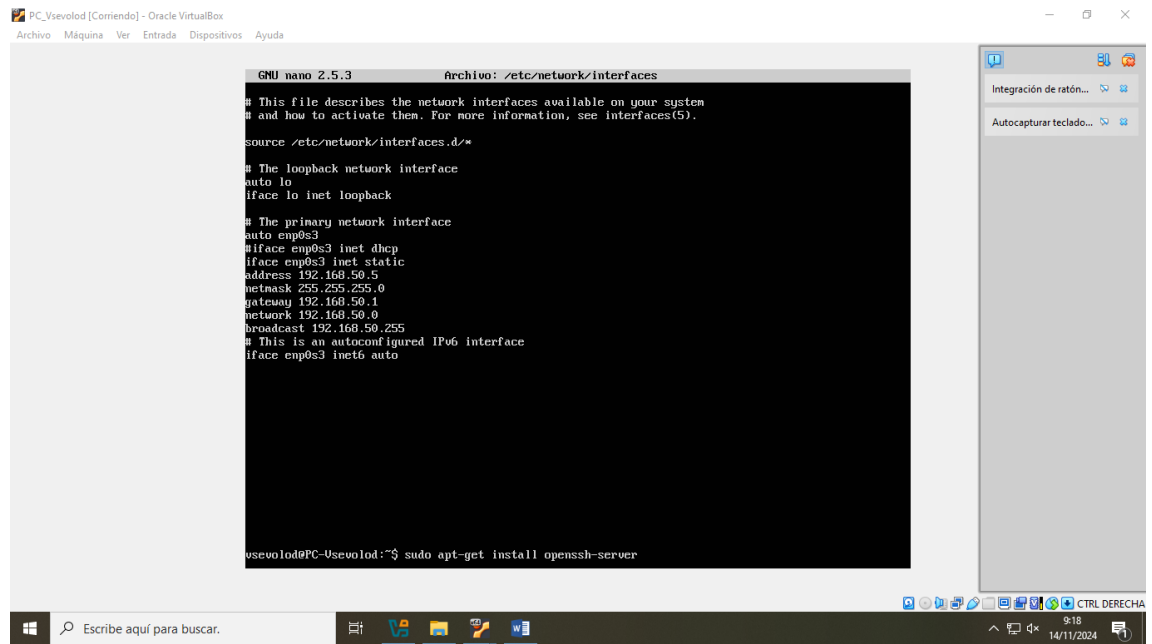
```
GNU nano 2.5.3 Archivo: /etc/network/interfaces
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

source /etc/network/interfaces.d/*

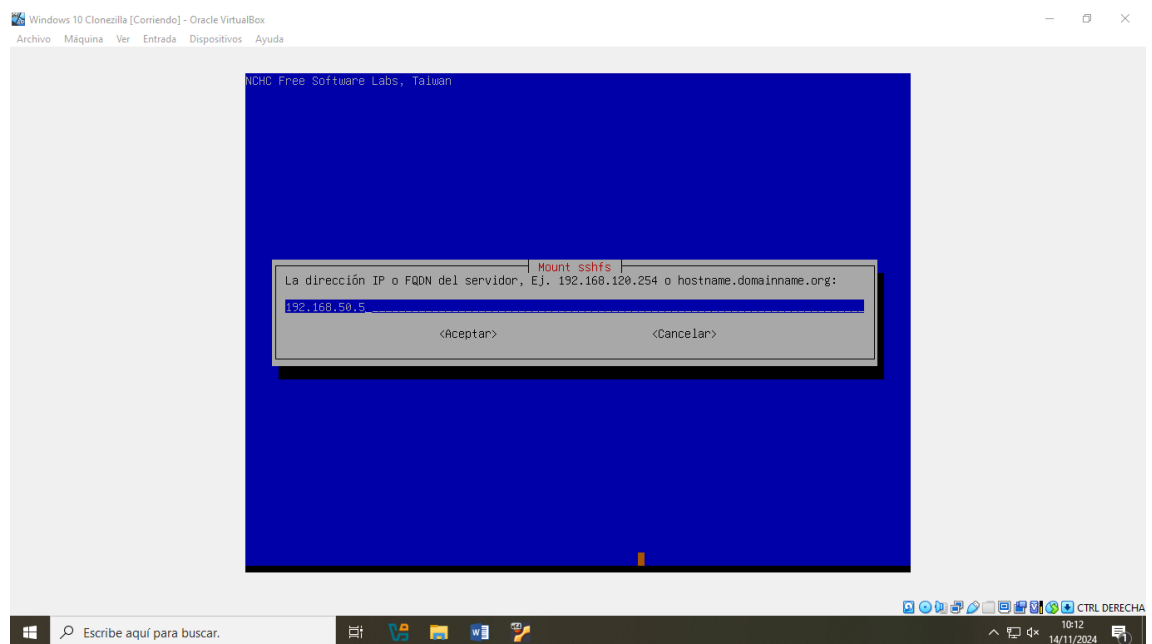
# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
auto enp0s3
iface enp0s3 inet dhcp
iface enp0s3 inet static
address 192.168.50.5
netmask 255.255.255.0
gateway 192.168.50.1
network 192.168.50.0
broadcast 192.168.50.255
# This is an autoconfigured IPv6 interface
iface enp0s3 inet6 auto
```

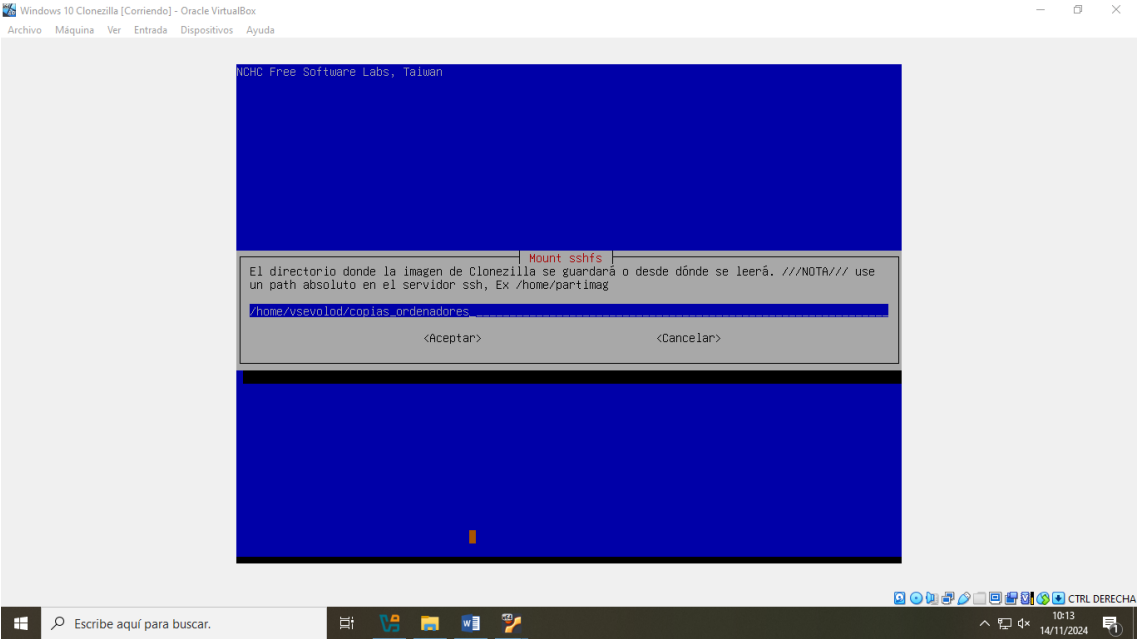
### 3. Instalamos openssh-server



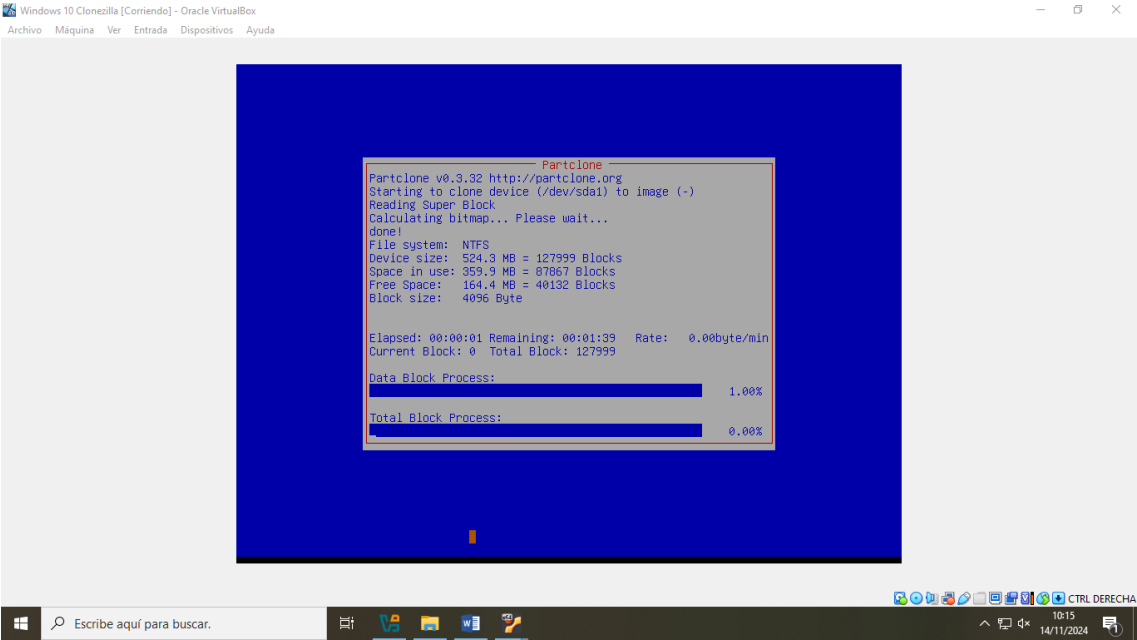
### 4. IP de servidor



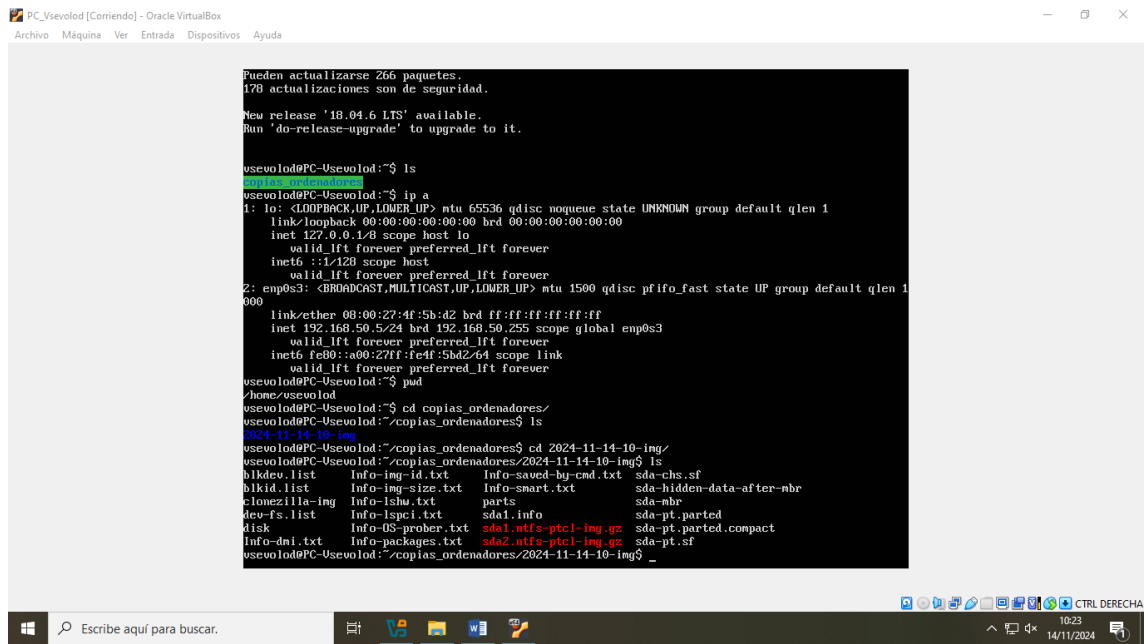
5. La ruta donde van a guardarse archivos



6. Copiamos los archivos "Savedisk"



## 7. Los archivos están en nuestro servidor “Backup”



The screenshot shows a terminal window titled "PC\_Vsevolod [Corriendo] - Oracle VM VirtualBox". The terminal output includes:

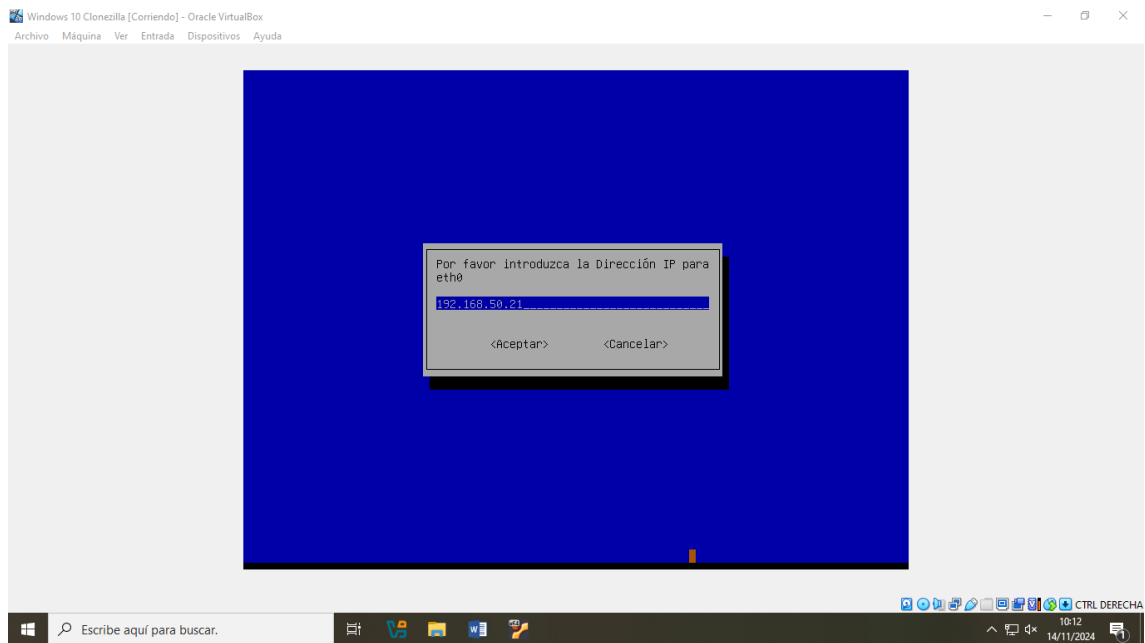
```
Pueden actualizarse 266 paquetes,
178 actualizaciones son de seguridad.

New release '18.04.6 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

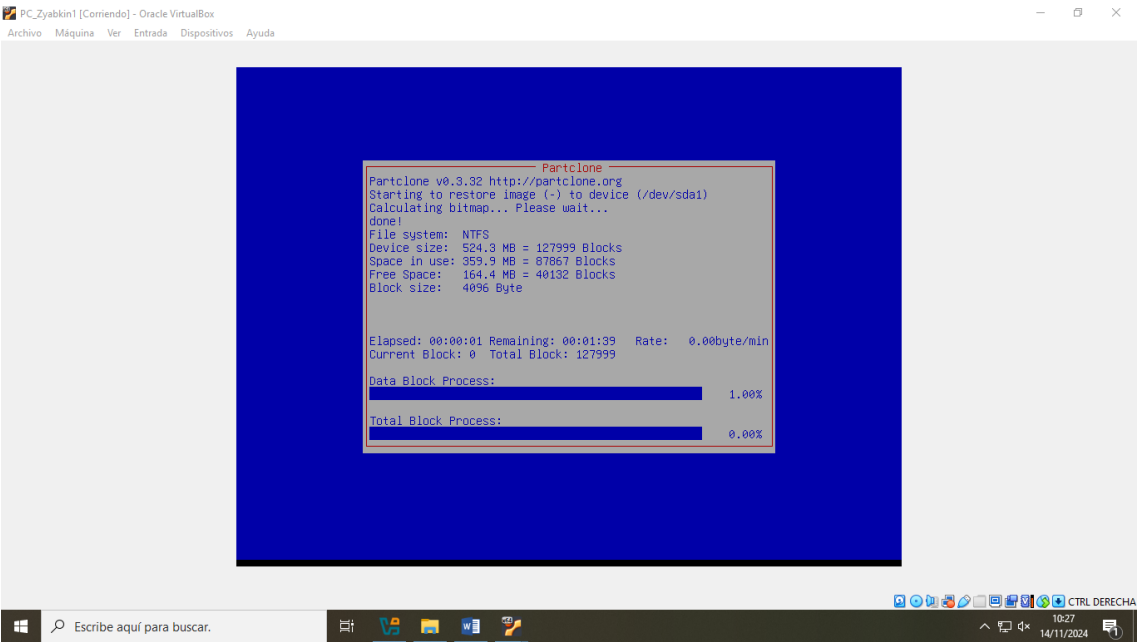
vsevolod@PC-Vsevolod:~$ ls
vsevolod@PC-Vsevolod:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1
    link/ether 00:00:27:4f:5b:d2 brd ff:ff:ff:ff:ff:ff
    inet 192.168.50.24/24 brd 192.168.50.255 scope global enp0s3
        valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe4f:5bd2/64 scope link
        valid_lft forever preferred_lft forever
vsevolod@PC-Vsevolod:~$ pwd
/home/vsevolod
vsevolod@PC-Vsevolod:~$ cd copias_ordenadores/
vsevolod@PC-Vsevolod:~/copias_ordenadores$ ls
2024-11-14-10-img
vsevolod@PC-Vsevolod:~/copias_ordenadores$ cd 2024-11-14-10-img/
vsevolod@PC-Vsevolod:~/copias_ordenadores/2024-11-14-10-img$ ls
blkdev.list  Info-img-id.txt  Info-saved-by-cmd.txt  sda-chs.sf
blkid.list   Info-img-size.txt  Info-smart.txt          sda-hidden-data-after-mbr
clonezilla-img  Info-lshw.txt      parts                   sda-mbr
dev-fs.list   Info-lspci.txt     sda1.info              sda-pt.parted
disk          Info-OS-prober.txt sda1.ntfs-ptcl-img.gz  sda-pt.parted.compact
Info-dmi.txt  Info-packages.txt sda2.ntfs-ptcl-img.gz  sda-pt.sf
vsevolod@PC-Vsevolod:~/copias_ordenadores/2024-11-14-10-img$ _
```

The Windows taskbar at the bottom shows the search bar with the text "Escribe aquí para buscar.", taskbar icons for various applications, and system tray icons including the date and time "10:23 14/11/2024".

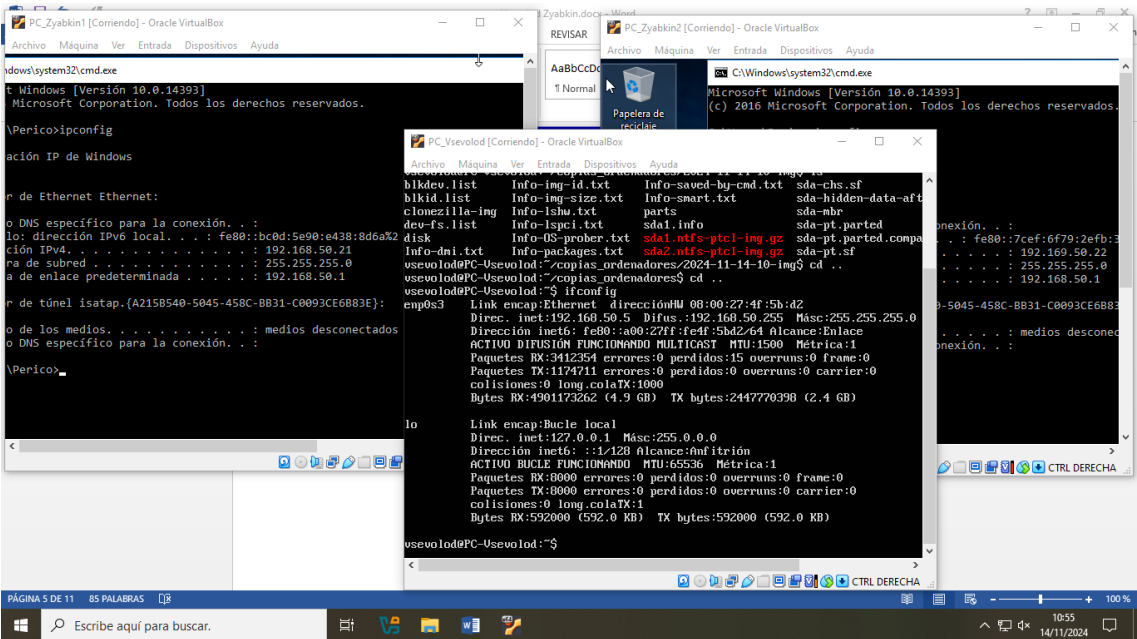
## 8. IP de cliente



## 9. Restauramos el disco “Restore disk”

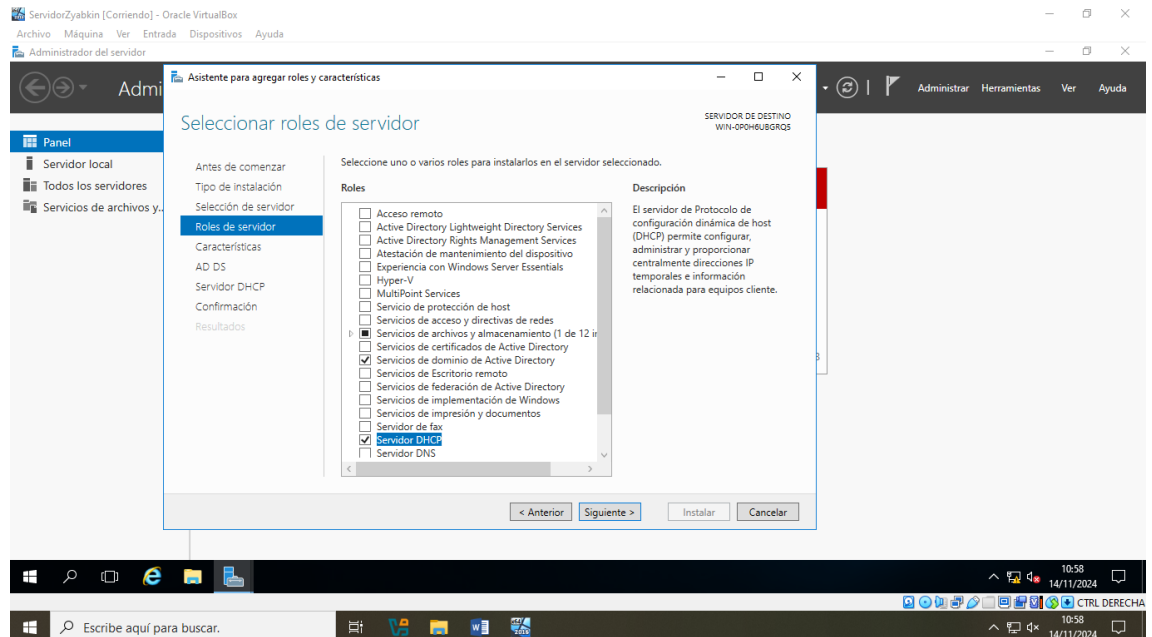


## 10. Tres máquinas hechas “fin”

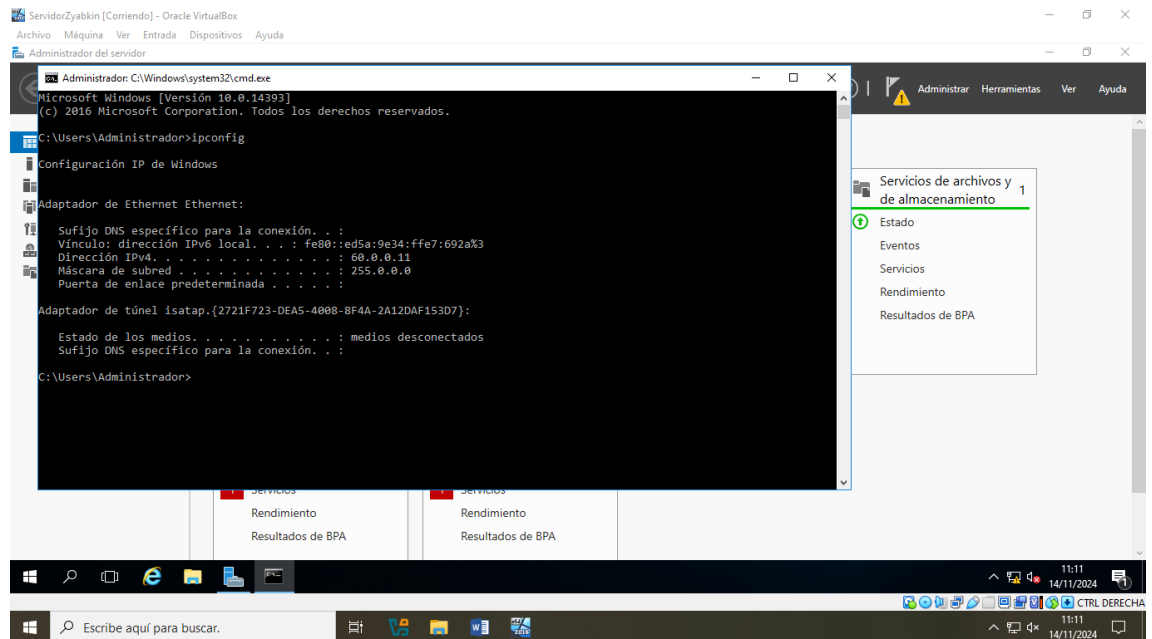


# Active Directory

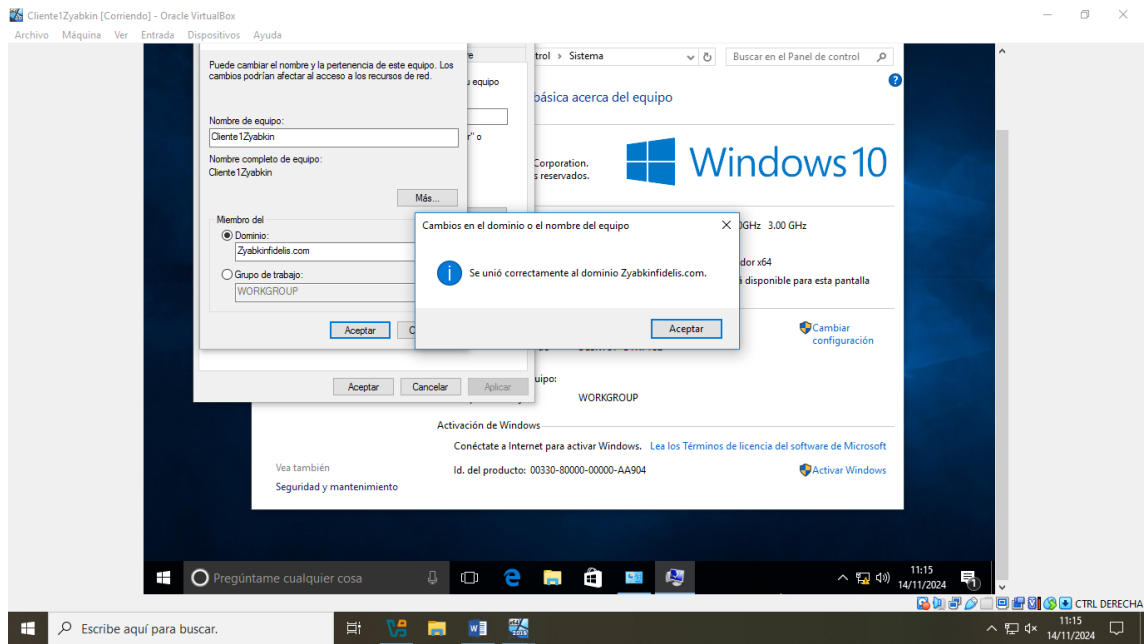
## 1. Instalar Servicio de dominio de Active Directory y Servidor DHCP



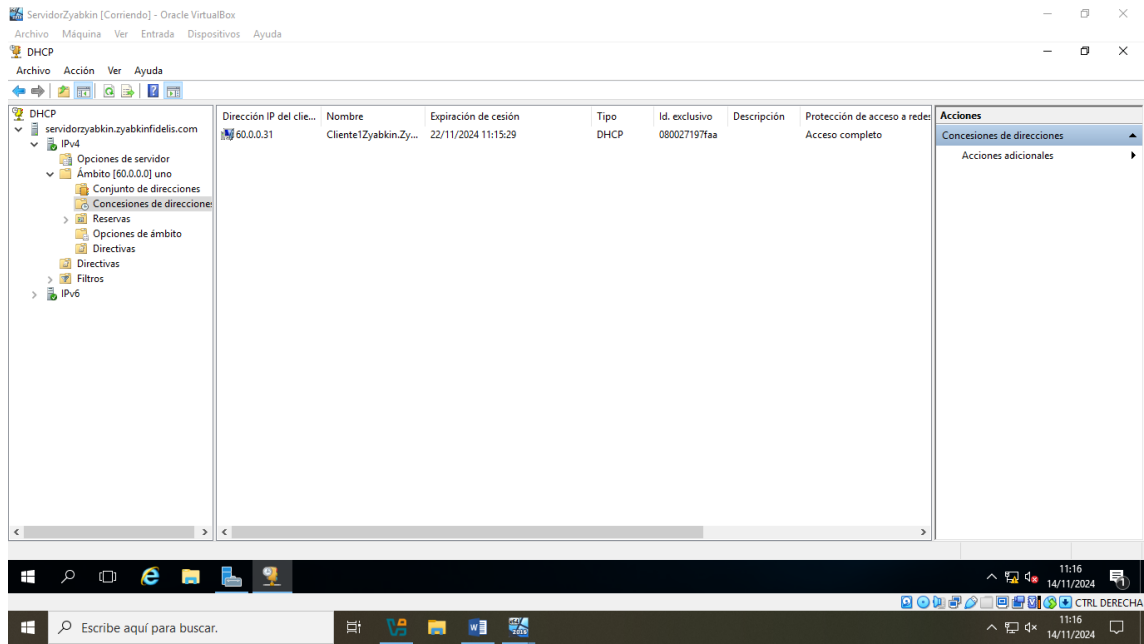
## 2. IP de servidor



3. Cliente se conectó al dominio



4. Cliente de DHCP



5. Clientes de Dominio

