



DHCP EN UBUNTU SERVER

SRI



2ºASIR

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Cambiar IP.

Para cambiar la IP en modo comando haremos:

```
sudo nano /etc/netplan/01-netcfg.yaml
```

```
GNU nano 7.2
# This file is generated from information p
# to it will not persist across an instance
# network configuration capabilities, write
# /etc/cloud/cloud.cfg.d/99-disable-network
# network: {config: disabled}
network:
  ethernets:
    enp0s3:
      dhcp4: no
      addresses:
        - 192.168.1.99/24
      gateway4: 192.168.1.1
      nameservers:
        addresses:
          - 8.8.8.8
          - 8.8.4.4
    enp0s8:
      addresses:
        - 10.0.0.1/8
  version: 2
```

Para aplicarlo haremos

```
Sudo netplan apply
```

```
ana@ana:~$
ana@ana:~$ sudo netplan apply
```

*Importante:

hacer sudo apt update y sudo apt upgrade

Instalación.

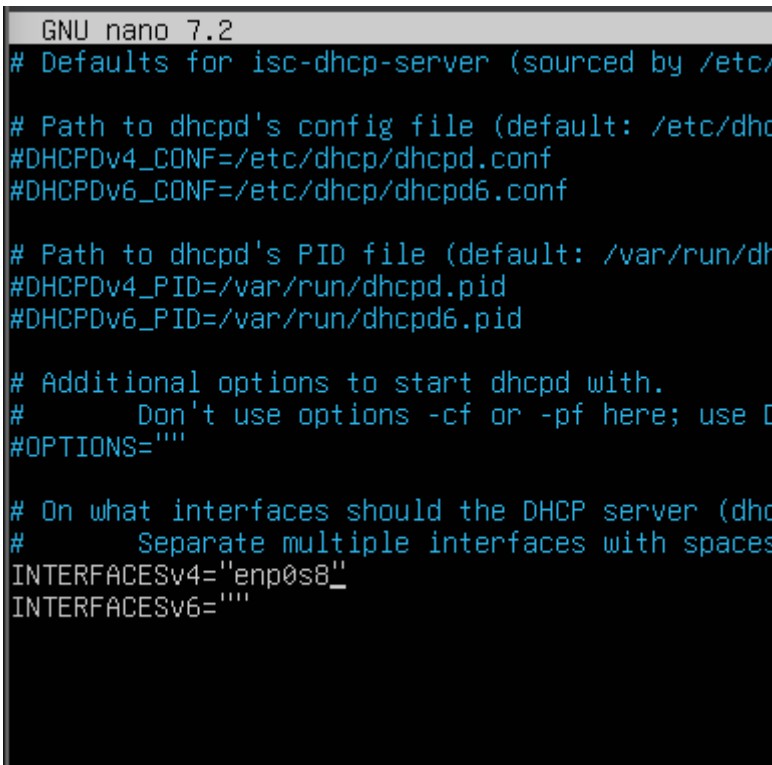
Haremos la instalación

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

Cambiar el archivo de interfaces.

Cambiar en archivo para poner la interfaz de la red interna:

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



```
GNU nano 7.2
# Defaults for isc-dhcp-server (sourced by /etc/default/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 those in /etc/default/isc-dhcp-server
#OPTIONS=""

# On what interfaces should the DHCP server (dhcpd) serve clients?
# Separate multiple interfaces with spaces
INTERFACESv4="enp0s8"
INTERFACESv6=""
```

Cambiar archivo de configuración del servidor DHCP.

Haremos

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

Y una vez dentro del archivo haremos que se parezca a esta captura:

```
# configuration file instead of this file.
#

# option definitions common to all supported networks...
option domain-name "example.org";
option domain-name-servers ns1.example.org, ns2.example.org;

default-lease-time 600;
max-lease-time 7200;

# The ddns-update-style parameter controls whether or not the server will
# attempt to do a DNS update when a lease is confirmed. We default to the
# behavior of the version 2 packages ('none', since DHCP v2 didn't
# have support for DDNS.)
ddns-update-style none;

# If this DHCP server is the official DHCP server for the local
# network, the authoritative directive should be uncommented.
#authoritative;

# Use this to send dhcp log messages to a different log file (you also
# have to hack syslog.conf to complete the redirection).
#log-facility local7;

# No service will be given on this subnet, but declaring it helps the
# DHCP server to understand the network topology.

#subnet 10.152.187.0 netmask 255.255.255.0 {
#}

# This is a very basic subnet declaration.

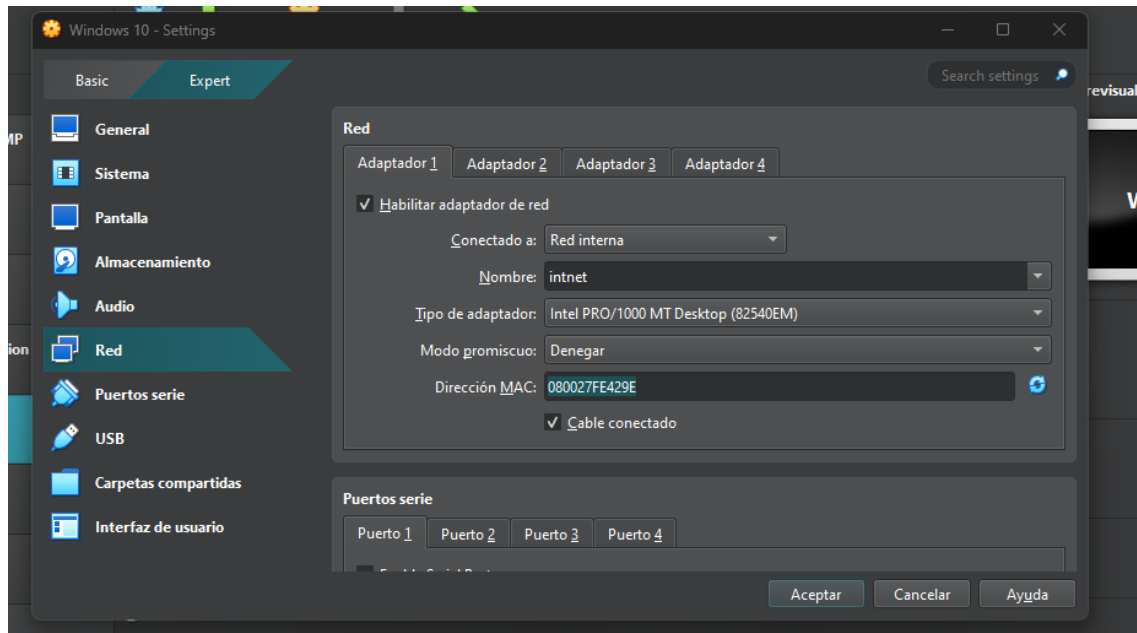
subnet 10.0.0.0 netmask 255.0.0.0 {
    range 10.0.0.100 10.0.0.200;
    option routers 10.0.0.1;
    option subnet-mask 255.0.0.0;
    option domain-name-servers 8.8.8.8, 8.8.4.4;_
}

# This declaration allows BOOTP clients to get dynamic addresses,
# which we don't really recommend.
```

Asignar IP fija fuera del rango a una máquina cliente.

En el cliente iremos a la configuración de la maquina virtual > Red y veremos la MAC del adaptador red(red interna).

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En el servidor iremos a

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

Lo cambiaremos para que se parezca a esto:

```
# option broadcast-address 10.5.5.31;
# default-lease-time 600;
# max-lease-time 7200;
#}

# 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 ana {
    hardware ethernet 08:00:27:FE:42:9E;
    fixed-address 10.0.0.99;
}

# Fixed IP addresses can also be specified for hosts.  These addresses
# should not also be listed as being available for dynamic assignment.
```

Activar el forwarding de los paquetes (para que haya trafico entre ambas interfaces).

*importante: poner sudo su

Pondremos:

```
sudo echo "1" > /proc/sys/net/ipv4/ip_forward
```

```
root@ana:/home/ana# echo "1" > /proc/sys/net/ipv4/ip_forward
root@ana:/home/ana# _
```

IPTABLES.

Pondremos este comando

```
Sudo iptables -t nat -A POSTROUTING -o enp0s3 -j MASQUERADE
```

```
ana@ana:~$ sudo iptables -t nat -A POSTROUTING -o enp0s3 -j MASQUERADE
ana@ana:~$ _
```

Reiniciar servicio y comprobar status.

```
ana@ana:~$ sudo systemctl restart isc-dhcp-server
ana@ana:~$ sudo systemctl status isc-dhcp-server
● isc-dhcp-server.service - ISC DHCP IPv4 server
   Loaded: loaded (/usr/lib/systemd/system/isc-dhcp-server.service; enabled; preset: enabled)
   Active: active (running) since Tue 2024-10-22 17:05:05 UTC; 9s ago
     Docs: man:dhcpd(8)
    Main PID: 10567 (dhcpd)
      Tasks: 1 (limit: 2276)
    Memory: 4.1M (peak: 4.3M)
       CPU: 15ms
    CGroup: /system.slice/isc-dhcp-server.service
            └─10567 dhcpd -user dhcpd -group dhcpd -f -4 -pf /run/dhcp-server/dhcpd.pid -cf /etc/dhcp/dhcpd.conf enp0s8

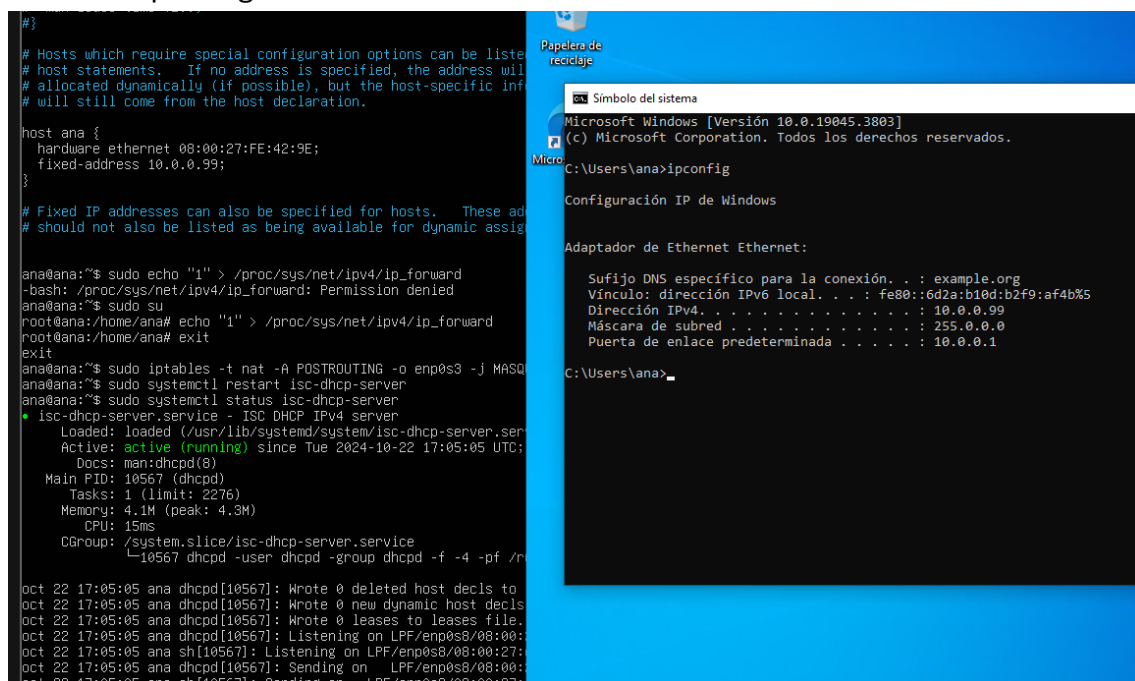
oct 22 17:05:05 ana dhcpd[10567]: Wrote 0 deleted host decls to leases file.
oct 22 17:05:05 ana dhcpd[10567]: Wrote 0 new dynamic host decls to leases file.
oct 22 17:05:05 ana dhcpd[10567]: Wrote 0 leases to leases file.
oct 22 17:05:05 ana dhcpd[10567]: Listening on LPF/enp0s8/08:00:27:ea:89:f4/10.0.0.0/8
oct 22 17:05:05 ana sh[10567]: Listening on LPF/enp0s8/08:00:27:ea:89:f4/10.0.0.0/8
oct 22 17:05:05 ana dhcpd[10567]: Sending on LPF/enp0s8/08:00:27:ea:89:f4/10.0.0.0/8
oct 22 17:05:05 ana sh[10567]: Sending on LPF/enp0s8/08:00:27:ea:89:f4/10.0.0.0/8
oct 22 17:05:05 ana dhcpd[10567]: Sending on Socket/fallback/fallback-net
oct 22 17:05:05 ana sh[10567]: Sending on Socket/fallback/fallback-net
oct 22 17:05:05 ana dhcpd[10567]: Server starting service.
```

Comprobar en cliente.

Comprobamos que esté puesto obtener ip automáticamente, es decir DHCP.

Desactivar Firewall > Activar o desactivar ...

Haremos ipconfig :



The image shows two side-by-side screenshots. The left screenshot is a Linux terminal window with a black background and white text. It shows the configuration of a host named 'ana' with a fixed IP address of 10.0.0.99. The user 'ana' runs several commands: 'sudo echo "1" > /proc/sys/net/ipv4/ip_forward', 'sudo su', and 'sudo iptables -t nat -A POSTROUTING -o enp0s3 -j MASQ'. After these, the user runs 'sudo systemctl restart isc-dhcp-server' and 'sudo systemctl status isc-dhcp-server'. The status output shows the service is active and running. The right screenshot is a Windows command prompt window with a blue title bar and black background. It shows the user running 'ipconfig' in the command prompt, which displays the IP configuration for the 'Ethernet' adapter, including the IPv4 address 10.0.0.99 and the default gateway 255.0.0.0.

```
#}
# Hosts which require special configuration options can be listed
# here.  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 ana {
    hardware ethernet 08:00:27:FE:42:9E;
    fixed-address 10.0.0.99;
}

# Fixed IP addresses can also be specified for hosts.  These addresses
# should not also be listed as being available for dynamic assignment.

ana@ana:~$ sudo echo "1" > /proc/sys/net/ipv4/ip_forward
-bash: /proc/sys/net/ipv4/ip_forward: Permission denied
ana@ana:~$ sudo su
root@ana:/home/ana# echo "1" > /proc/sys/net/ipv4/ip_forward
root@ana:/home/ana# exit
exit
ana@ana:~$ sudo iptables -t nat -A POSTROUTING -o enp0s3 -j MASQ
ana@ana:~$ sudo systemctl restart isc-dhcp-server
ana@ana:~$ sudo systemctl status isc-dhcp-server
● isc-dhcp-server.service - ISC DHCP IPv4 server
   Loaded: loaded (/usr/lib/systemd/system/isc-dhcp-server.service; enabled; preset: enabled)
   Active: active (running) since Tue 2024-10-22 17:05:05 UTC; 9s ago
     Docs: man:dhcpd(8)
    Main PID: 10567 (dhcpd)
      Tasks: 1 (limit: 2276)
    Memory: 4.1M (peak: 4.3M)
       CPU: 15ms
    CGroup: /system.slice/isc-dhcp-server.service
            └─10567 dhcpd -user dhcpd -group dhcpd -f -4 -pf /run/dhcp-server/dhcpd.pid -cf /etc/dhcp/dhcpd.conf enp0s8

oct 22 17:05:05 ana dhcpd[10567]: Wrote 0 deleted host decls to leases file.
oct 22 17:05:05 ana dhcpd[10567]: Wrote 0 new dynamic host decls to leases file.
oct 22 17:05:05 ana dhcpd[10567]: Wrote 0 leases to leases file.
oct 22 17:05:05 ana dhcpd[10567]: Listening on LPF/enp0s8/08:00:27:ea:89:f4/10.0.0.0/8
oct 22 17:05:05 ana sh[10567]: Listening on LPF/enp0s8/08:00:27:ea:89:f4/10.0.0.0/8
oct 22 17:05:05 ana dhcpd[10567]: Sending on LPF/enp0s8/08:00:27:ea:89:f4/10.0.0.0/8
oct 22 17:05:05 ana sh[10567]: Sending on LPF/enp0s8/08:00:27:ea:89:f4/10.0.0.0/8
oct 22 17:05:05 ana dhcpd[10567]: Sending on Socket/fallback/fallback-net
oct 22 17:05:05 ana sh[10567]: Sending on Socket/fallback/fallback-net
oct 22 17:05:05 ana dhcpd[10567]: Server starting service.
```

```
Microsoft Windows [Versión 10.0.19045.3803]
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C:\Users\ana>ipconfig

Configuración IP de Windows

Adaptador de Ethernet Ethernet:

    Sufijo DNS específico para la conexión. . . : example.org
    Vínculo: dirección IPv6 local. . . : fe80::6d2a:b10d:b2f9:af4b%5
    Dirección IPv4. . . . . : 10.0.0.99
    Máscara de subred. . . . . : 255.0.0.0
    Puerta de enlace predeterminada. . . . . : 10.0.0.1

C:\Users\ana>
```