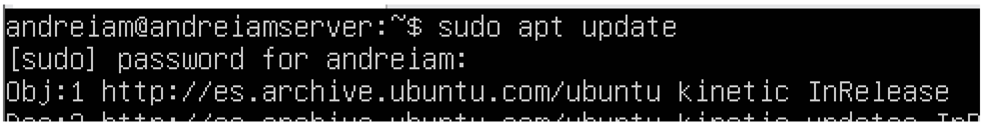
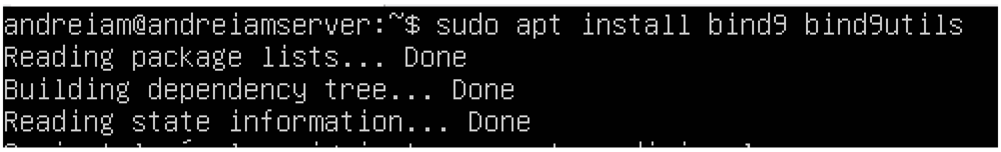


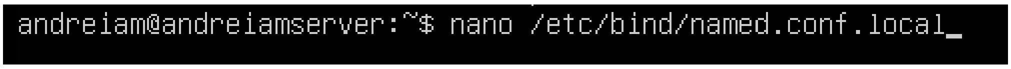
```
andreiam@andreiamserver:~$ sudo apt update
[sudo] password for andreiam:
Obj:1 http://es.archive.ubuntu.com/ubuntu kinetic InRelease
```

Actualizamos los paquetes



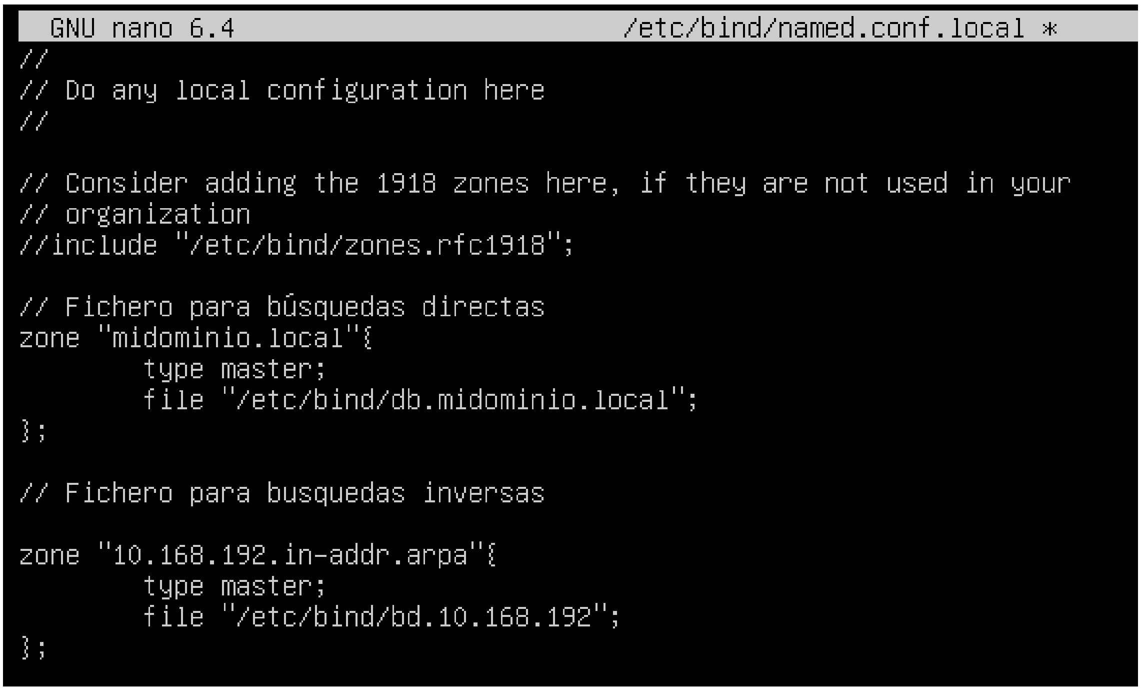
```
andreiam@andreiamserver:~$ sudo apt install bind9 bind9utils
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
```

Instalamos bind9 y bind9utils



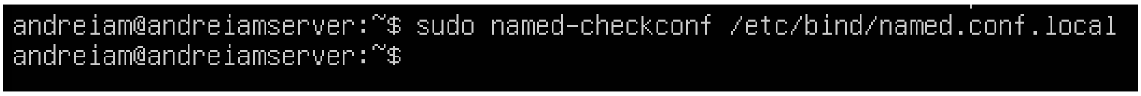
```
andreiam@andreiamserver:~$ nano /etc/bind/named.conf.local_
```

Editamos el fichero named.conf.local



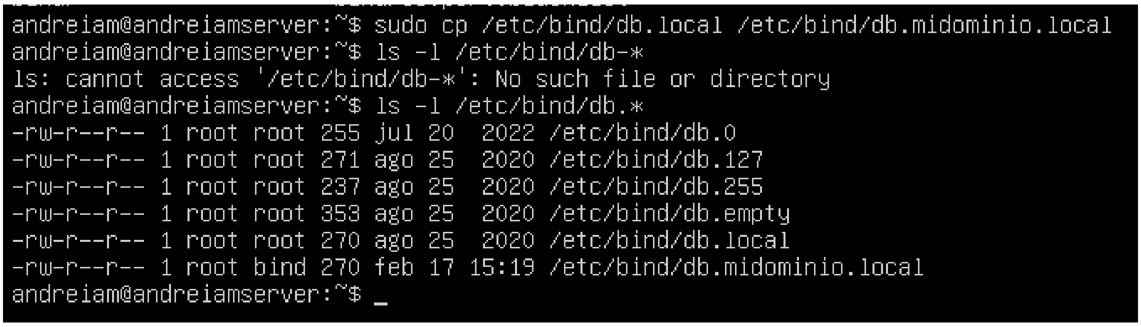
```
  GNU nano 6.4                          /etc/bind/named.conf.local *
//
// Do any local configuration here
//

// Consider adding the 1918 zones here, if they are not used in your
// organization
//include "/etc/bind/zones.rfc1918";

// Fichero para búsquedas directas
zone "midominio.local"{
        type master;
        file "/etc/bind/db.midominio.local";
};

// Fichero para busquedas inversas

zone "10.168.192.in-addr.arpa"{
        type master;
        file "/etc/bind/bd.10.168.192";
};
```

Le pondremos la configuración de búsquedas directas e inversas



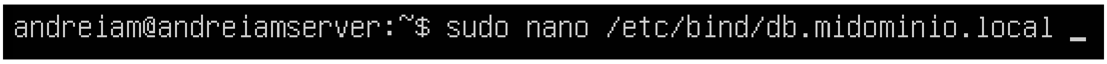
```
andreiam@andreiamserver:~$ sudo named-checkconf /etc/bind/named.conf.local
andreiam@andreiamserver:~$
```

Con el siguiente comando comprobamos que la sintaxis sea correcta y no hayamos cometido errores.



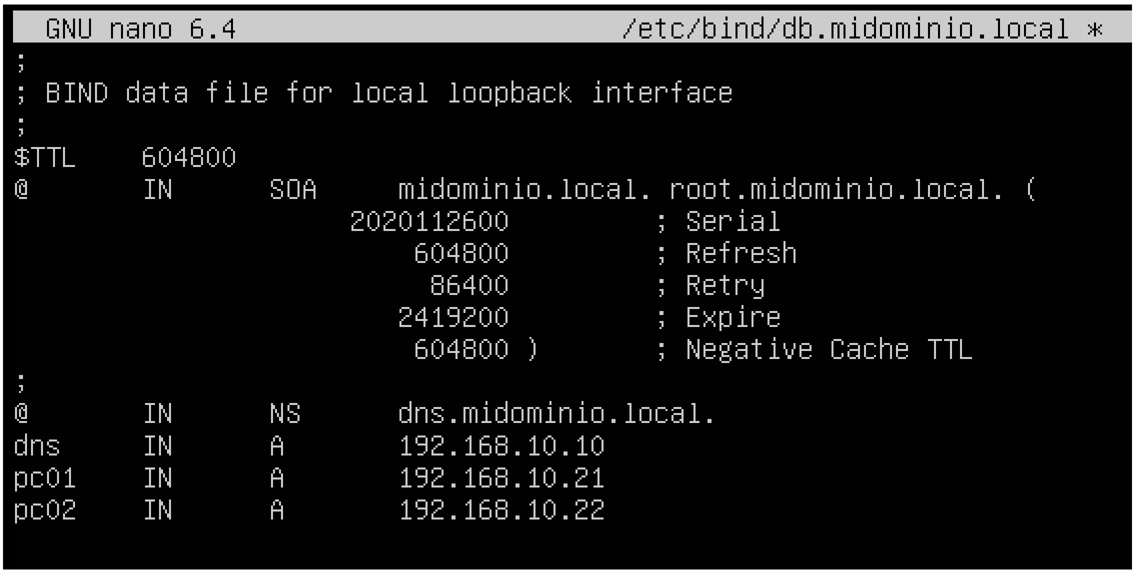
```
andreiam@andreiamserver:~$ sudo cp /etc/bind/db.local /etc/bind/db.midominio.local
andreiam@andreiamserver:~$ ls -l /etc/bind/db-*
ls: cannot access '/etc/bind/db-*': No such file or directory
andreiam@andreiamserver:~$ ls -l /etc/bind/db.*
-rw-r--r-- 1 root root 255 jul 20  2022 /etc/bind/db.0
-rw-r--r-- 1 root root 271 ago 25  2020 /etc/bind/db.127
-rw-r--r-- 1 root root 237 ago 25  2020 /etc/bind/db.255
-rw-r--r-- 1 root root 353 ago 25  2020 /etc/bind/db.empty
-rw-r--r-- 1 root root 270 ago 25  2020 /etc/bind/db.local
-rw-r--r-- 1 root bind 270 feb 17 15:19 /etc/bind/db.midominio.local
andreiam@andreiamserver:~$ _
```

Creamos el fichero para zona directa.



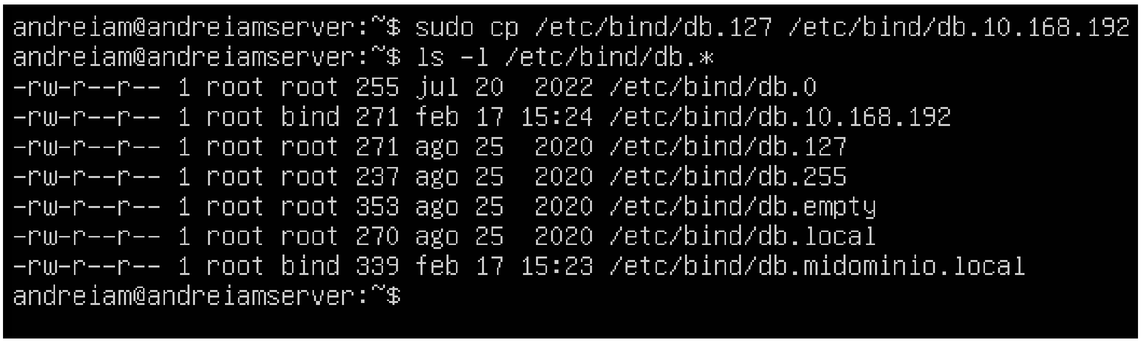
```
andreiam@andreiamserver:~$ sudo nano /etc/bind/db.midominio.local _
```

Editaremos el fichero



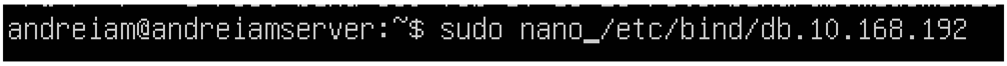
```
  GNU nano 6.4                        /etc/bind/db.midominio.local *
;
; BIND data file for local loopback interface
;
$TTL    604800
@       IN      SOA     midominio.local. root.midominio.local. (
                     2020112600         ; Serial
                         604800         ; Refresh
                          86400         ; Retry
                        2419200         ; Expire
                         604800 )       ; Negative Cache TTL
;
@       IN      NS      dns.midominio.local.
dns     IN      A       192.168.10.10
pc01    IN      A       192.168.10.21
pc02    IN      A       192.168.10.22
```

Dentro pondremos la siguiente configuración



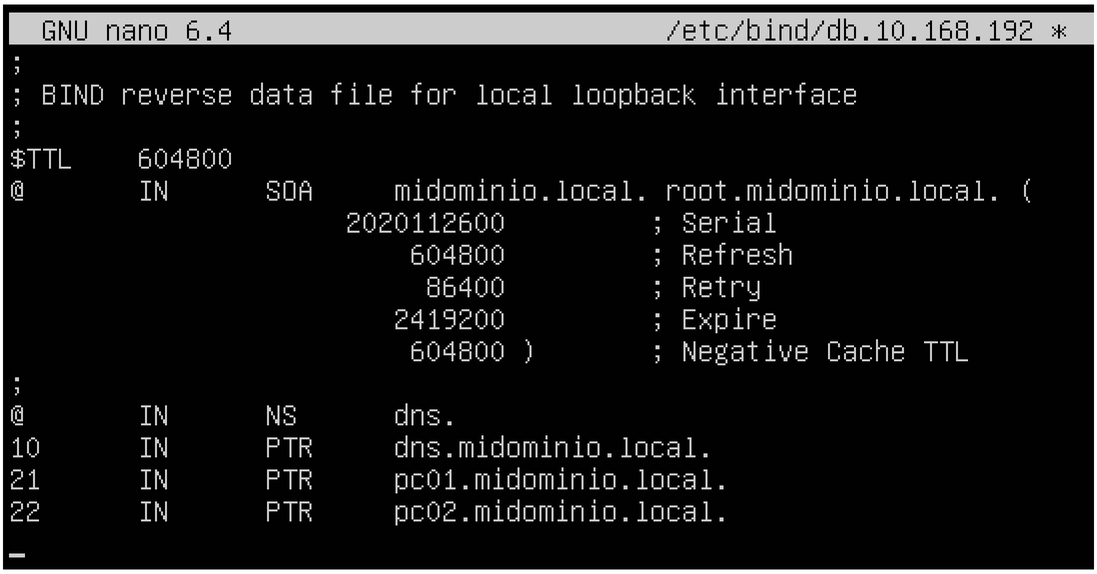
```
andreiam@andreiamserver:~$ sudo cp /etc/bind/db.127 /etc/bind/db.10.168.192
andreiam@andreiamserver:~$ ls -l /etc/bind/db.*
-rw-r--r-- 1 root root 255 jul 20  2022 /etc/bind/db.0
-rw-r--r-- 1 root bind 271 feb 17 15:24 /etc/bind/db.10.168.192
-rw-r--r-- 1 root root 271 ago 25  2020 /etc/bind/db.127
-rw-r--r-- 1 root root 237 ago 25  2020 /etc/bind/db.255
-rw-r--r-- 1 root root 353 ago 25  2020 /etc/bind/db.empty
-rw-r--r-- 1 root root 270 ago 25  2020 /etc/bind/db.local
-rw-r--r-- 1 root bind 339 feb 17 15:23 /etc/bind/db.midominio.local
andreiam@andreiamserver:~$
```

Creamos el fichero para zona inversa



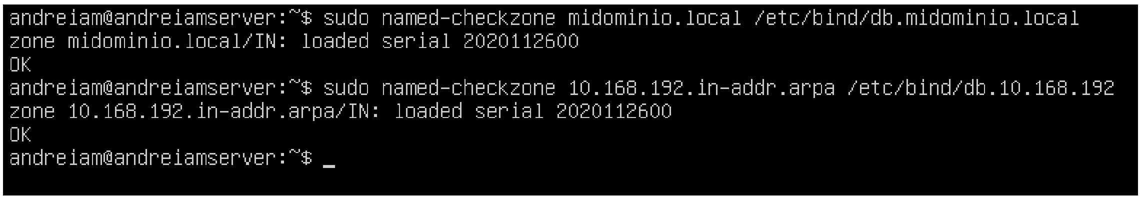
```
andreiam@andreiamserver:~$ sudo nano_/etc/bind/db.10.168.192
```

Editaremos el fichero



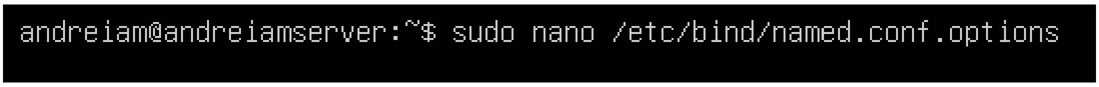
```
  GNU nano 6.4                                  /etc/bind/db.10.168.192 *
;
; BIND reverse data file for local loopback interface
;
$TTL    604800
@       IN      SOA     midominio.local. root.midominio.local. (
                     2020112600         ; Serial
                         604800         ; Refresh
                          86400         ; Retry
                        2419200         ; Expire
                         604800 )       ; Negative Cache TTL
;
@       IN      NS      dns.
10      IN      PTR     dns.midominio.local.
21      IN      PTR     pc01.midominio.local.
22      IN      PTR     pc02.midominio.local.
_
```

Le pondremos la siguiente configuración



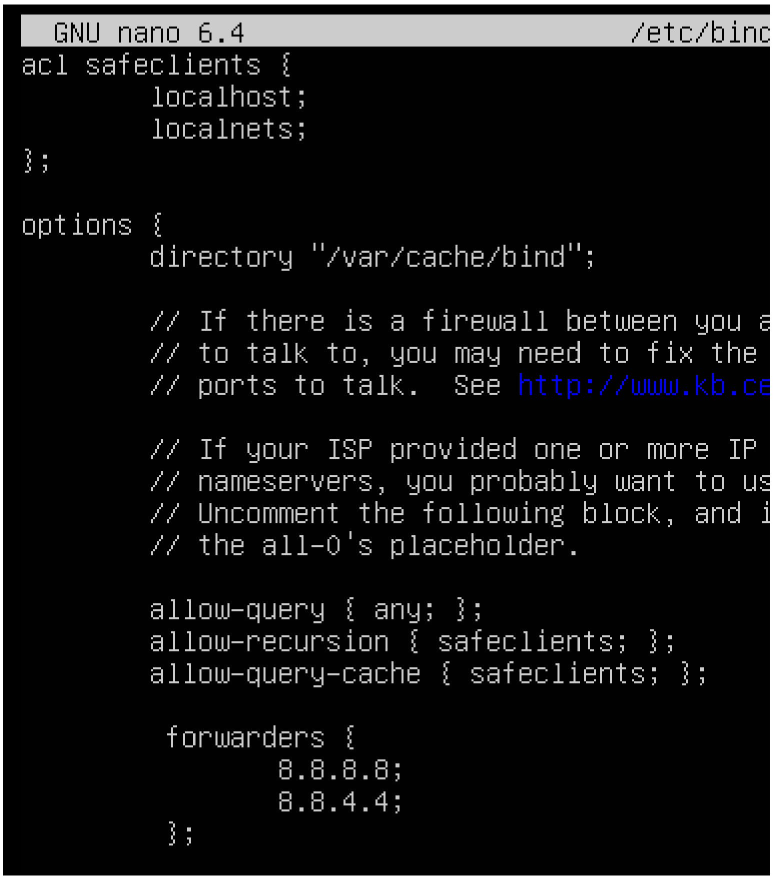
```
andreiam@andreiamserver:~$ sudo named-checkzone midominio.local /etc/bind/db.midominio.local
zone midominio.local/IN: loaded serial 2020112600
OK
andreiam@andreiamserver:~$ sudo named-checkzone 10.168.192.in-addr.arpa /etc/bind/db.10.168.192
zone 10.168.192.in-addr.arpa/IN: loaded serial 2020112600
OK
andreiam@andreiamserver:~$ _
```

Comprobamos que esté todo bien.



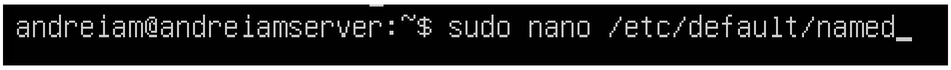
```
andreiam@andreiamserver:~$ sudo nano /etc/bind/named.conf.options
```

Editaremos el siguiente fichero, donde crearemos una lista de acceso.



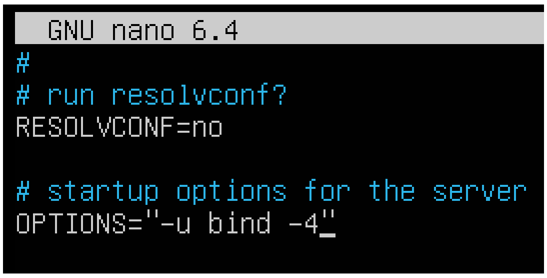
```
  GNU nano 6.4                     /etc/binc
acl safeclients {
        localhost;
        localnets;
};

options {
        directory "/var/cache/bind";

        // If there is a firewall between you a
        // to talk to, you may need to fix the
        // ports to talk.  See http://www.kb.ce

        // If your ISP provided one or more IP
        // nameservers, you probably want to us
        // Uncomment the following block, and i
        // the all-0's placeholder.

        allow-query { any; };
        allow-recursion { safeclients; };
        allow-query-cache { safeclients; };

         forwarders {
                8.8.8.8;
                8.8.4.4;
         };
```

Añadiremos y cambiaremos las siguientes líneas.



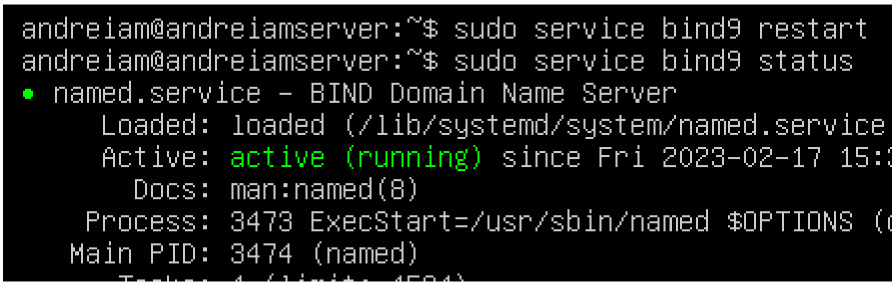
```
andreiam@andreiamserver:~$ sudo nano /etc/default/named_
```

Editaremos el siguiente fichero para forzar al usuario bind a usar ipv4



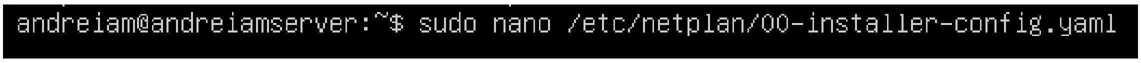
```
  GNU nano 6.4
#
# run resolvconf?
RESOLVCONF=no

# startup options for the server
OPTIONS="-u bind -4"
```

Esto se hace poniendo -4. Guardaremos el archivo.



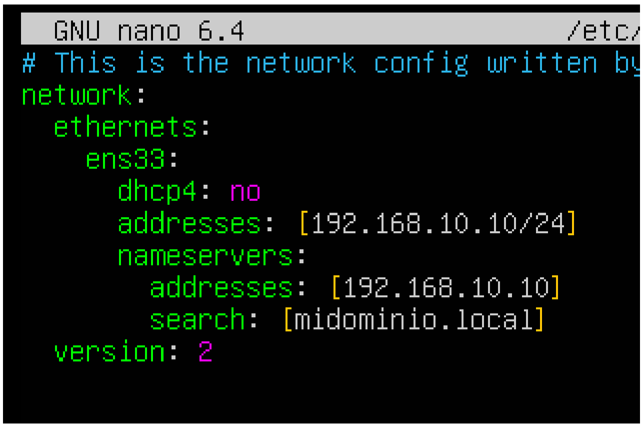
```
andreiam@andreiamserver:~$ sudo service bind9 restart
andreiam@andreiamserver:~$ sudo service bind9 status
● named.service - BIND Domain Name Server
     Loaded: loaded (/lib/systemd/system/named.service
     Active: active (running) since Fri 2023-02-17 15:
       Docs: man:named(8)
    Process: 3473 ExecStart=/usr/sbin/named $OPTIONS (
   Main PID: 3474 (named)
```

Reiniciamos el servicio y comprobamos el estado del mismo.



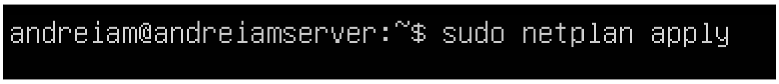
```
andreiam@andreiamserver:~$ sudo nano /etc/netplan/00-installer-config.yaml
```

Editaremos el fichero para cambiar la configuración de red.



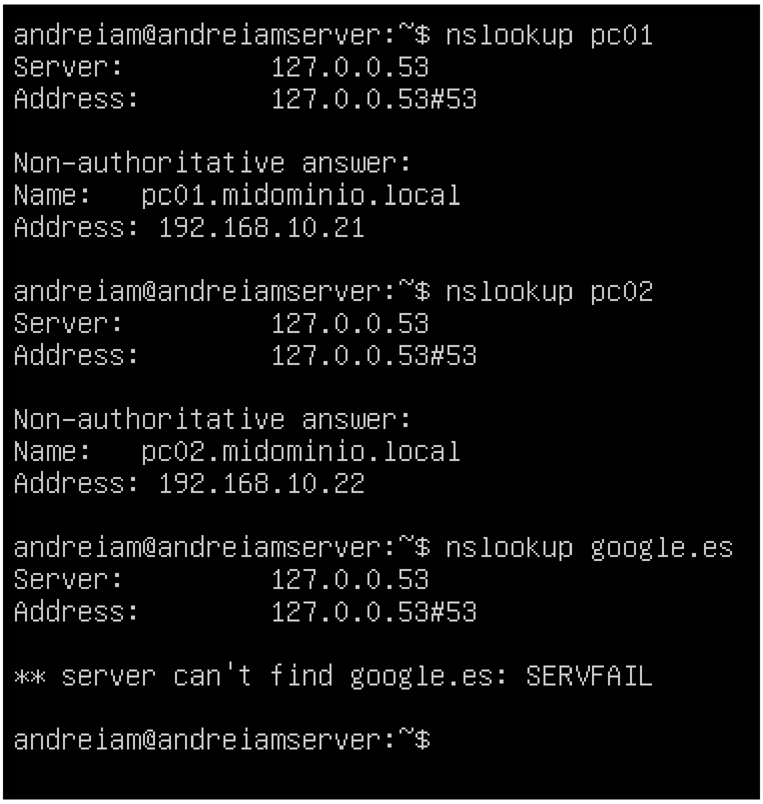
```
  GNU nano 6.4                      /etc/
# This is the network config written by
network:
  ethernets:
    ens33:
      dhcp4: no
      addresses: [192.168.10.10/24]
      nameservers:
        addresses: [192.168.10.10]
        search: [midominio.local]
  version: 2
```

Le pondremos los siguientes datos. Guardamos.



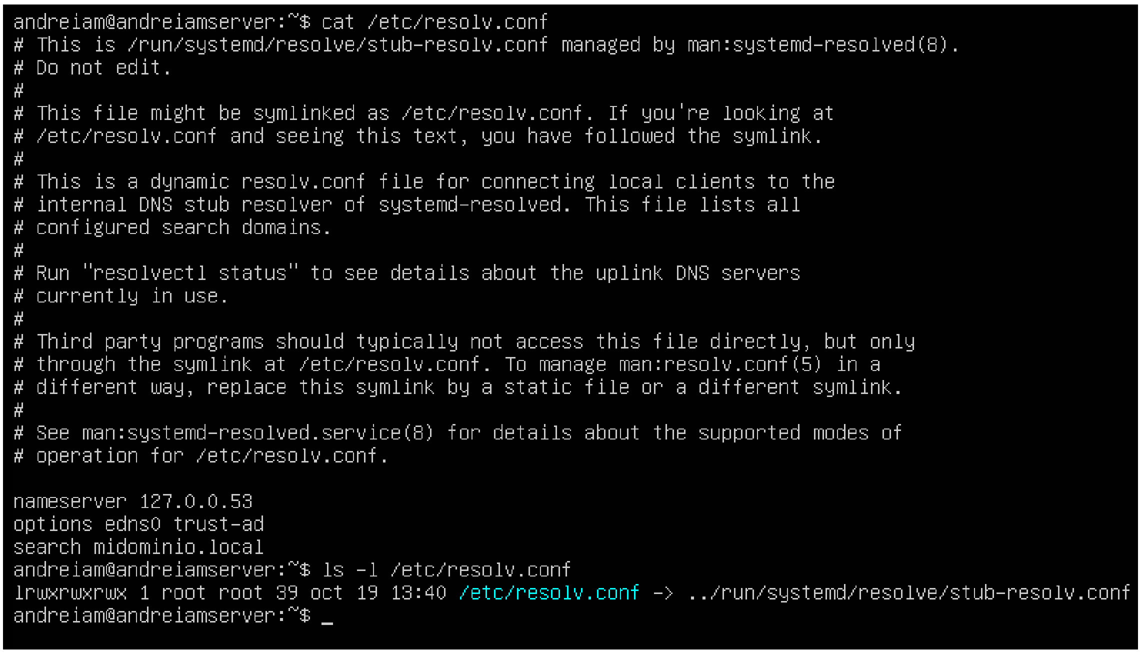
```
andreiam@andreiamserver:~$ sudo netplan apply
```

Pondremos este comando para aplicar los cambios.



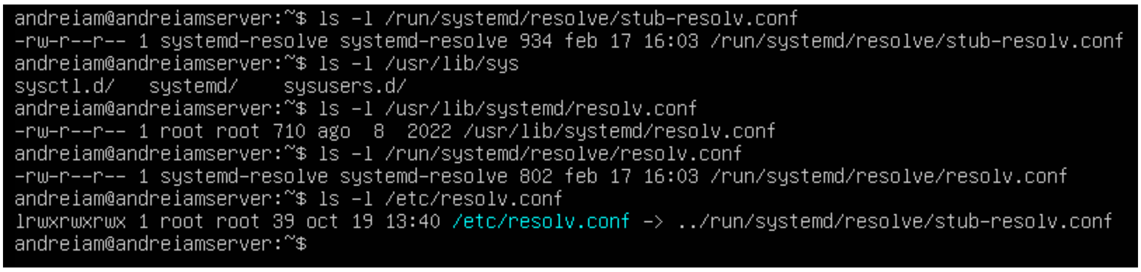
```
andreiam@andreiamserver:~$ nslookup pc01
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
Name:   pc01.midominio.local
Address: 192.168.10.21

andreiam@andreiamserver:~$ nslookup pc02
Server:         127.0.0.53
Address:        127.0.0.53#53

Non-authoritative answer:
Name:   pc02.midominio.local
Address: 192.168.10.22

andreiam@andreiamserver:~$ nslookup google.es
Server:         127.0.0.53
Address:        127.0.0.53#53

** server can't find google.es: SERVFAIL

andreiam@andreiamserver:~$
```

Comprobamos que da acceso no autorizado (Google no funciona porque quitamos el gateway4 del fichero de configuración de red)



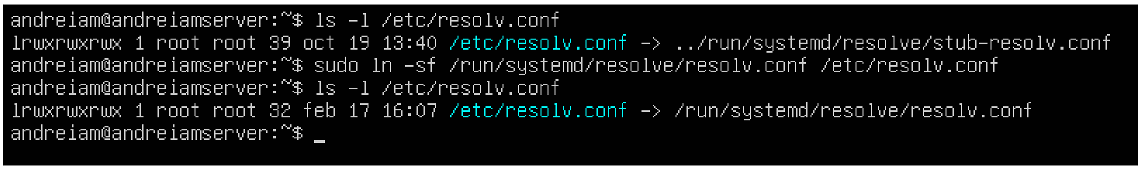
```
andreiam@andreiamserver:~$ cat /etc/resolv.conf
# This is /run/systemd/resolve/stub-resolv.conf managed by man:systemd-resolved(8).
# Do not edit.
#
# This file might be symlinked as /etc/resolv.conf. If you're looking at
# /etc/resolv.conf and seeing this text, you have followed the symlink.
#
# This is a dynamic resolv.conf file for connecting local clients to the
# internal DNS stub resolver of systemd-resolved. This file lists all
# configured search domains.
#
# Run "resolvectl status" to see details about the uplink DNS servers
# currently in use.
#
# Third party programs should typically not access this file directly, but only
# through the symlink at /etc/resolv.conf. To manage man:resolv.conf(5) in a
# different way, replace this symlink by a static file or a different symlink.
#
# See man:systemd-resolved.service(8) for details about the supported modes of
# operation for /etc/resolv.conf.

nameserver 127.0.0.53
options edns0 trust-ad
search midominio.local
andreiam@andreiamserver:~$ ls -l /etc/resolv.conf
lrwxrwxrwx 1 root root 39 oct 19 13:40 /etc/resolv.conf -> ../run/systemd/resolve/stub-resolv.conf
andreiam@andreiamserver:~$ _
```

Consultamos el fichero resolv.conf y comprobamos que es un enlace simbólico



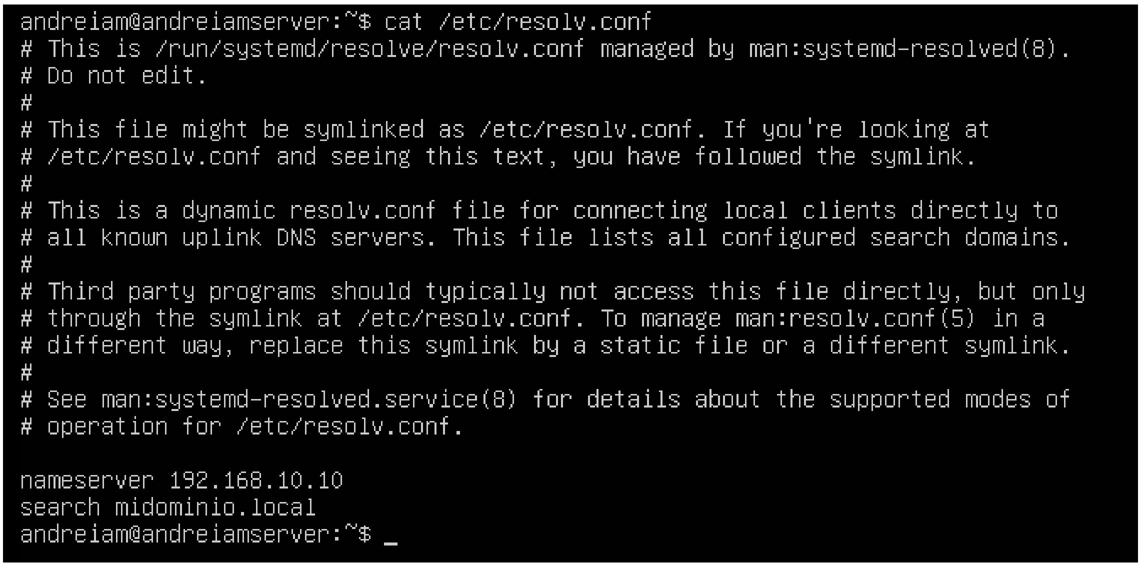
```
andreiam@andreiamserver:~$ ls -l /run/systemd/resolve/stub-resolv.conf
-rw-r--r-- 1 systemd-resolve systemd-resolve 934 feb 17 16:03 /run/systemd/resolve/stub-resolv.conf
andreiam@andreiamserver:~$ ls -l /usr/lib/sys
sysctl.d/   systemd/    sysusers.d/
andreiam@andreiamserver:~$ ls -l /usr/lib/systemd/resolv.conf
-rw-r--r-- 1 root root 710 ago  8  2022 /usr/lib/systemd/resolv.conf
andreiam@andreiamserver:~$ ls -l /run/systemd/resolve/resolv.conf
-rw-r--r-- 1 systemd-resolve systemd-resolve 802 feb 17 16:03 /run/systemd/resolve/resolv.conf
andreiam@andreiamserver:~$ ls -l /etc/resolv.conf
lrwxrwxrwx 1 root root 39 oct 19 13:40 /etc/resolv.conf -> ../run/systemd/resolve/stub-resolv.conf
andreiam@andreiamserver:~$
```

Miramos los permisos de los resolv.conf



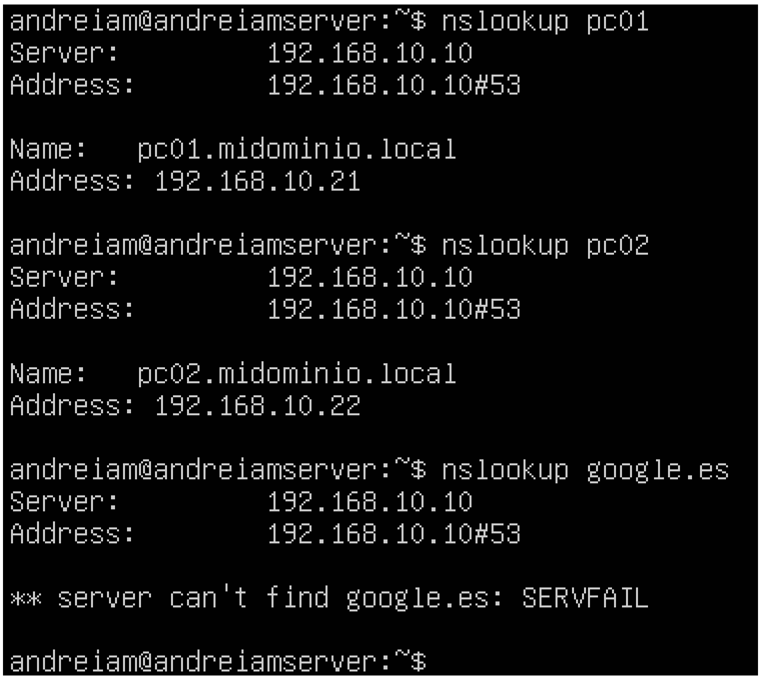
```
andreiam@andreiamserver:~$ ls -l /etc/resolv.conf
lrwxrwxrwx 1 root root 39 oct 19 13:40 /etc/resolv.conf -> ../run/systemd/resolve/stub-resolv.conf
andreiam@andreiamserver:~$ sudo ln -sf /run/systemd/resolve/resolv.conf /etc/resolv.conf
andreiam@andreiamserver:~$ ls -l /etc/resolv.conf
lrwxrwxrwx 1 root root 32 feb 17 16:07 /etc/resolv.conf -> /run/systemd/resolve/resolv.conf
andreiam@andreiamserver:~$ _
```

Cambiamos el enlace simbólico



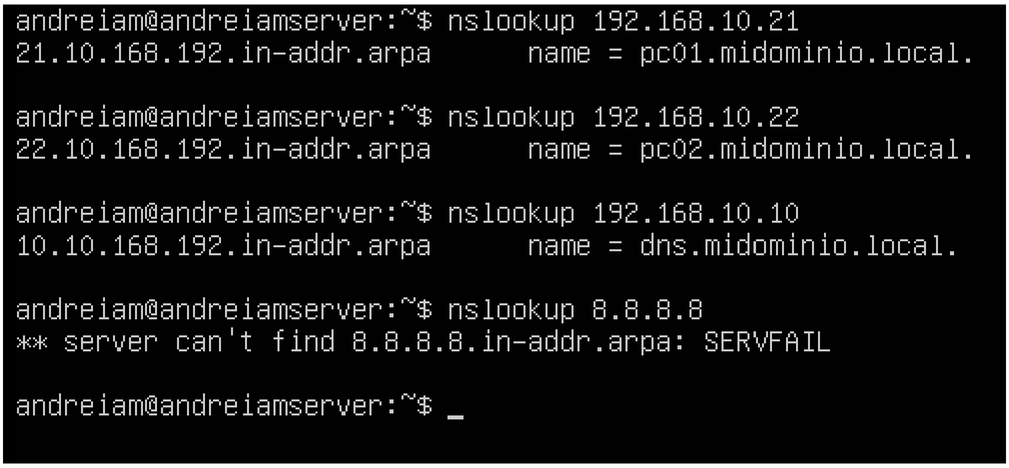
```
andreiam@andreiamserver:~$ cat /etc/resolv.conf
# This is /run/systemd/resolve/resolv.conf managed by man:systemd-resolved(8).
# Do not edit.
#
# This file might be symlinked as /etc/resolv.conf. If you're looking at
# /etc/resolv.conf and seeing this text, you have followed the symlink.
#
# This is a dynamic resolv.conf file for connecting local clients directly to
# all known uplink DNS servers. This file lists all configured search domains.
#
# Third party programs should typically not access this file directly, but only
# through the symlink at /etc/resolv.conf. To manage man:resolv.conf(5) in a
# different way, replace this symlink by a static file or a different symlink.
#
# See man:systemd-resolved.service(8) for details about the supported modes of
# operation for /etc/resolv.conf.

nameserver 192.168.10.10
search midominio.local
andreiam@andreiamserver:~$ _
```

Miramos el resolv.conf, aparece el nameserver.



```
andreiam@andreiamserver:~$ nslookup pc01
Server:         192.168.10.10
Address:        192.168.10.10#53

Name:   pc01.midominio.local
Address: 192.168.10.21

andreiam@andreiamserver:~$ nslookup pc02
Server:         192.168.10.10
Address:        192.168.10.10#53

Name:   pc02.midominio.local
Address: 192.168.10.22

andreiam@andreiamserver:~$ nslookup google.es
Server:         192.168.10.10
Address:        192.168.10.10#53

** server can't find google.es: SERVFAIL

andreiam@andreiamserver:~$
```

Vemos que funciona, excepto Google por el Gateway que quitamos en la configuración



```
andreiam@andreiamserver:~$ nslookup 192.168.10.21
21.10.168.192.in-addr.arpa      name = pc01.midominio.local.

andreiam@andreiamserver:~$ nslookup 192.168.10.22
22.10.168.192.in-addr.arpa      name = pc02.midominio.local.

andreiam@andreiamserver:~$ nslookup 192.168.10.10
10.10.168.192.in-addr.arpa      name = dns.midominio.local.

andreiam@andreiamserver:~$ nslookup 8.8.8.8
** server can't find 8.8.8.8.in-addr.arpa: SERVFAIL

andreiam@andreiamserver:~$ _
```

Realizando consultas inversas vemos que funciona igual.