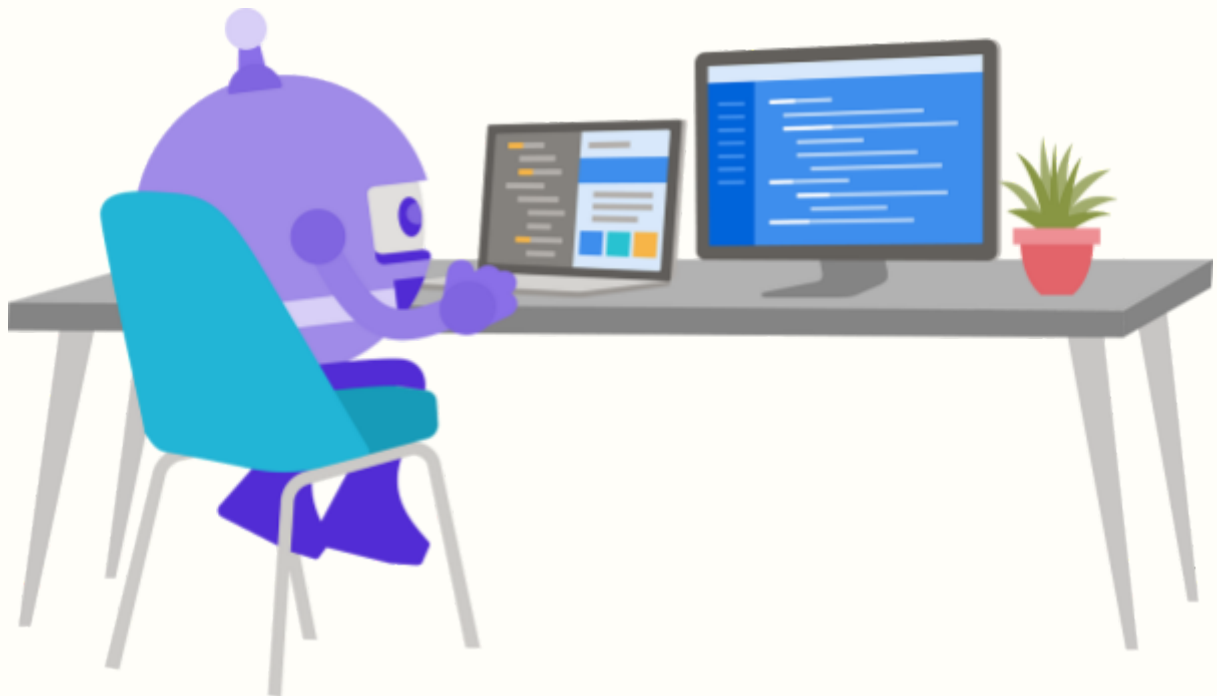


Servicio DNS



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Objetivos

- Analizar la planificación de un servidor en DNS
- Planificar la instalación de un servidor DNS.
- Planificar la configuración de un servidor DNS.
- Configurar servidor DNS
- Comprobar el funcionamiento de un servidor DNS

Información básica / Preparación

Es importante mantener actualizados los sistemas operativos y las aplicaciones para garantizar un funcionamiento estable y enfrentar las vulnerabilidades de seguridad. Estas actualizaciones se denominan revisiones, parches, correcciones o simplemente actualizaciones.

Este laboratorio se llevará a cabo individualmente con la ayuda de uno de tus compañeros en las partes que se te indique.

Se necesitan los siguientes recursos:

- Una computadora con Linux Ubuntu
- Al menos una computadora con Windows

Condiciones de entrega

Debes entregar un documento dónde se indique los pasos dados para llevar a cabo la tarea expuesta.

Pon hincapié en la estructura de dicho documento, portada, índice, paginación, etc

Contenido

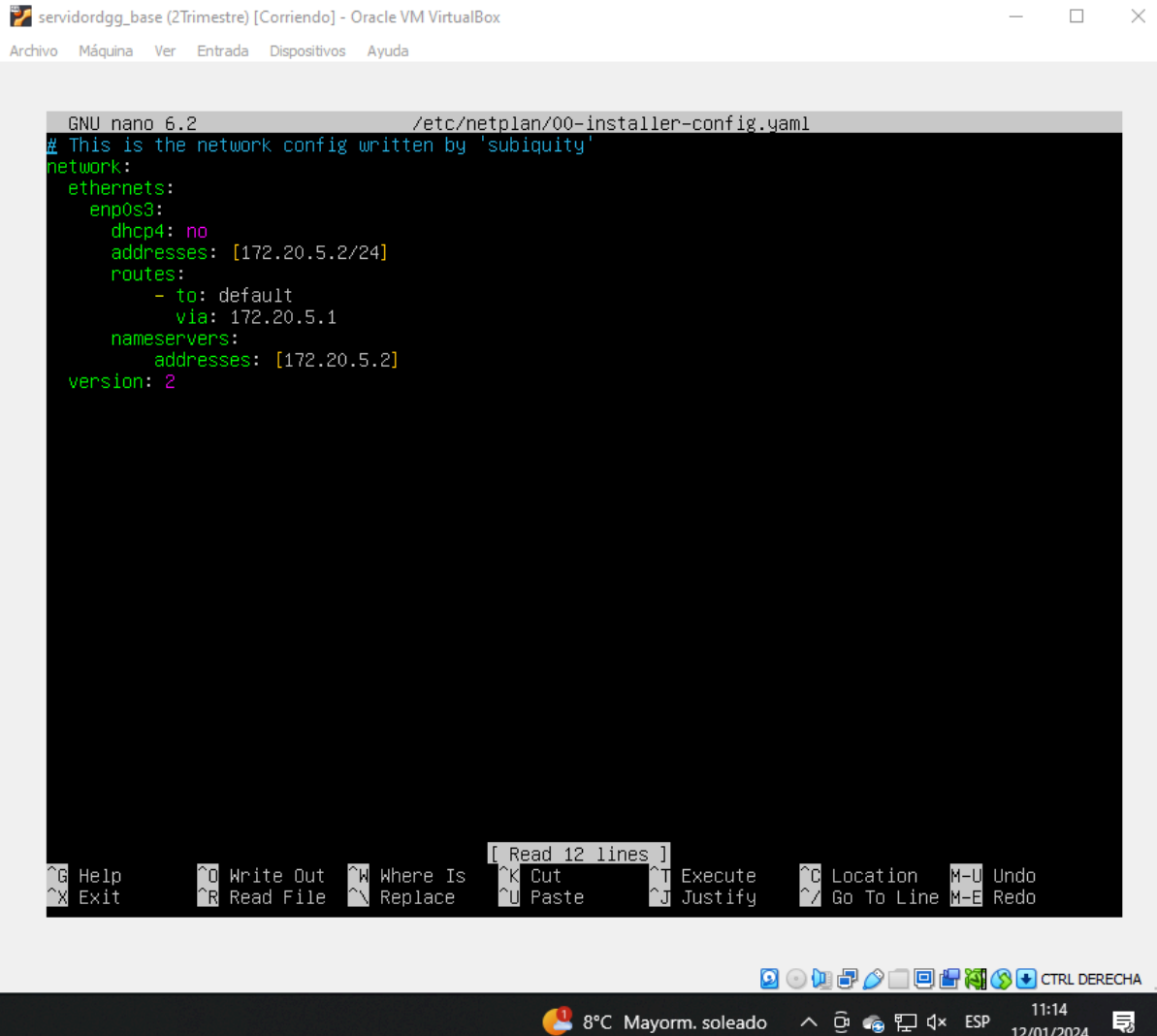
Paso 1: Guardar la configuración actual

No olvides guardar la configuración actual para luego al término de la actividad volver a ella.

Paso 2: Configurar servidor DNS

Configurar un servicio DNS, cuyo dominio sea inicial del nombre y el segundo apellido. Ejemplo Amapola Gutiérrez de la Vega sería agutierrez.inf con las siguientes características:

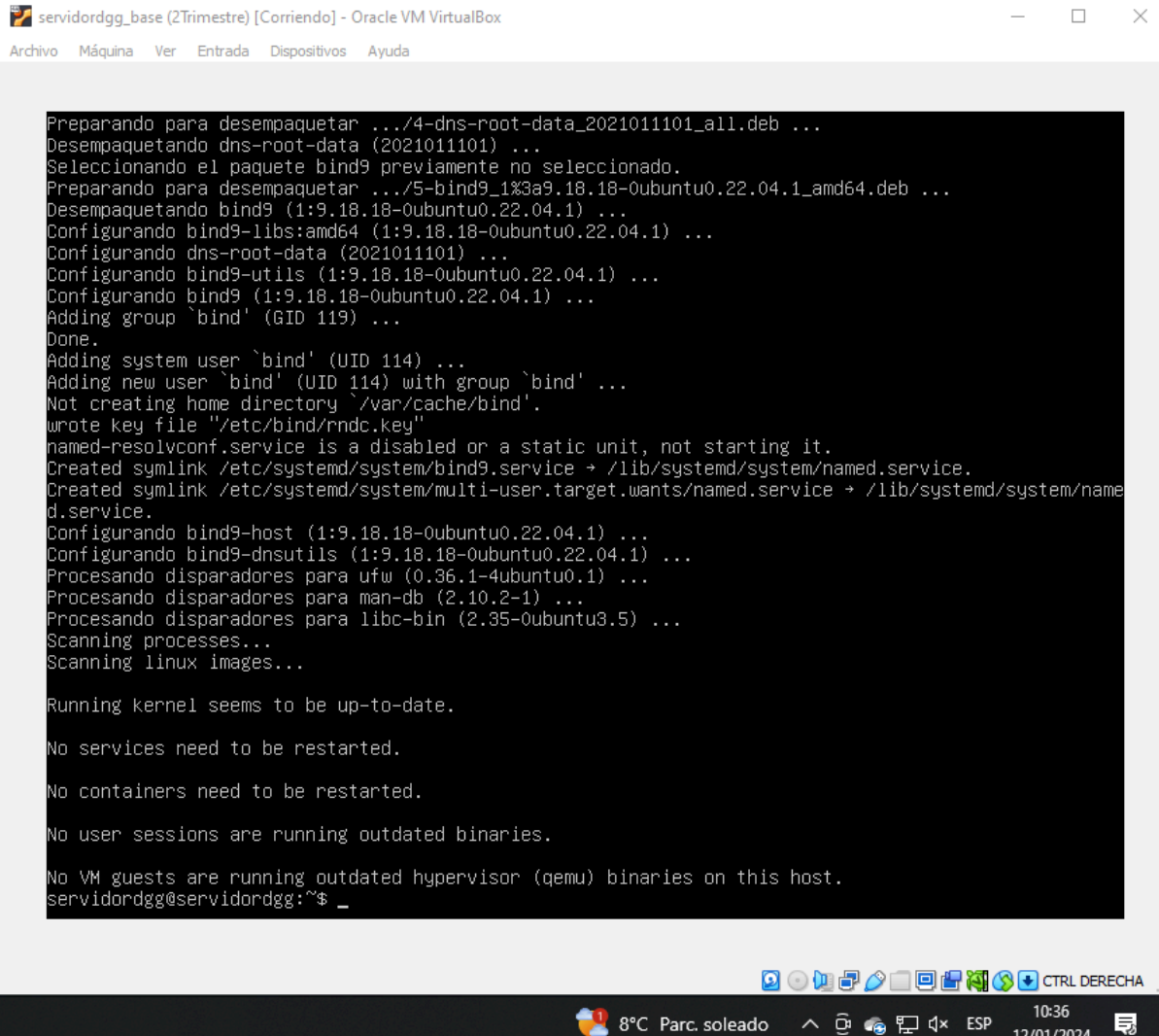
- La dirección de red será 172.20.XY.0/24
- Configurar al menos 3 ordenadores en el dominio a parte del servidor.
- www.tunombre.inf 172.20.XY.2



The screenshot shows a terminal window titled "servidordgg_base (2Trimestre) [Corriendo] - Oracle VM VirtualBox". The terminal is running GNU nano 6.2, editing the file /etc/netplan/00-installer-config.yaml. The configuration is for a network interface named enp0s3, set to use DHCP. It also includes a default route and nameservers. The terminal output is as follows:

```
GNU nano 6.2 /etc/netplan/00-installer-config.yaml
# This is the network config written by 'subiquity'
network:
  ethernet:
    enp0s3:
      dhcp4: no
      addresses: [172.20.5.2/24]
      routes:
        - to: default
          via: 172.20.5.1
      nameservers:
        addresses: [172.20.5.2]
  version: 2
```

The terminal also displays a help menu at the bottom of the nano editor, including options like Help, Exit, Write Out, Read File, Where Is, Replace, Cut, Paste, Execute, Justify, Location, Go To Line, Undo, and Redo. The status bar at the bottom of the window shows the system temperature as 8°C, the date and time as 11:14 on 12/01/2024, and the language as ESP.



```
servidordgg_base (2Trimestre) [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda

Preparando para desempaquetar .../4-dns-root-data_2021011101_all.deb ...
Desempaquetando dns-root-data (2021011101) ...
Seleccionando el paquete bind9 previamente no seleccionado.
Preparando para desempaquetar .../5-bind9_1%3a9.18.18-0ubuntu0.22.04.1_amd64.deb ...
Desempaquetando bind9 (1:9.18.18-0ubuntu0.22.04.1) ...
Configurando bind9-libs:amd64 (1:9.18.18-0ubuntu0.22.04.1) ...
Configurando dns-root-data (2021011101) ...
Configurando bind9-utils (1:9.18.18-0ubuntu0.22.04.1) ...
Configurando bind9 (1:9.18.18-0ubuntu0.22.04.1) ...
Adding group `bind' (GID 119) ...
Done.
Adding system user `bind' (UID 114) ...
Adding new user `bind' (UID 114) with group `bind' ...
Not creating home directory `/var/cache/bind'.
wrote key file "/etc/bind/rndc.key"
named-resolvconf.service is a disabled or a static unit, not starting it.
Created symlink /etc/systemd/system/bind9.service → /lib/systemd/system/named.service.
Created symlink /etc/systemd/system/multi-user.target.wants/named.service → /lib/systemd/system/named.service.
Configurando bind9-host (1:9.18.18-0ubuntu0.22.04.1) ...
Configurando bind9-dnsutils (1:9.18.18-0ubuntu0.22.04.1) ...
Procesando disparadores para ufw (0.36.1-4ubuntu0.1) ...
Procesando disparadores para man-db (2.10.2-1) ...
Procesando disparadores para libc-bin (2.35-0ubuntu3.5) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

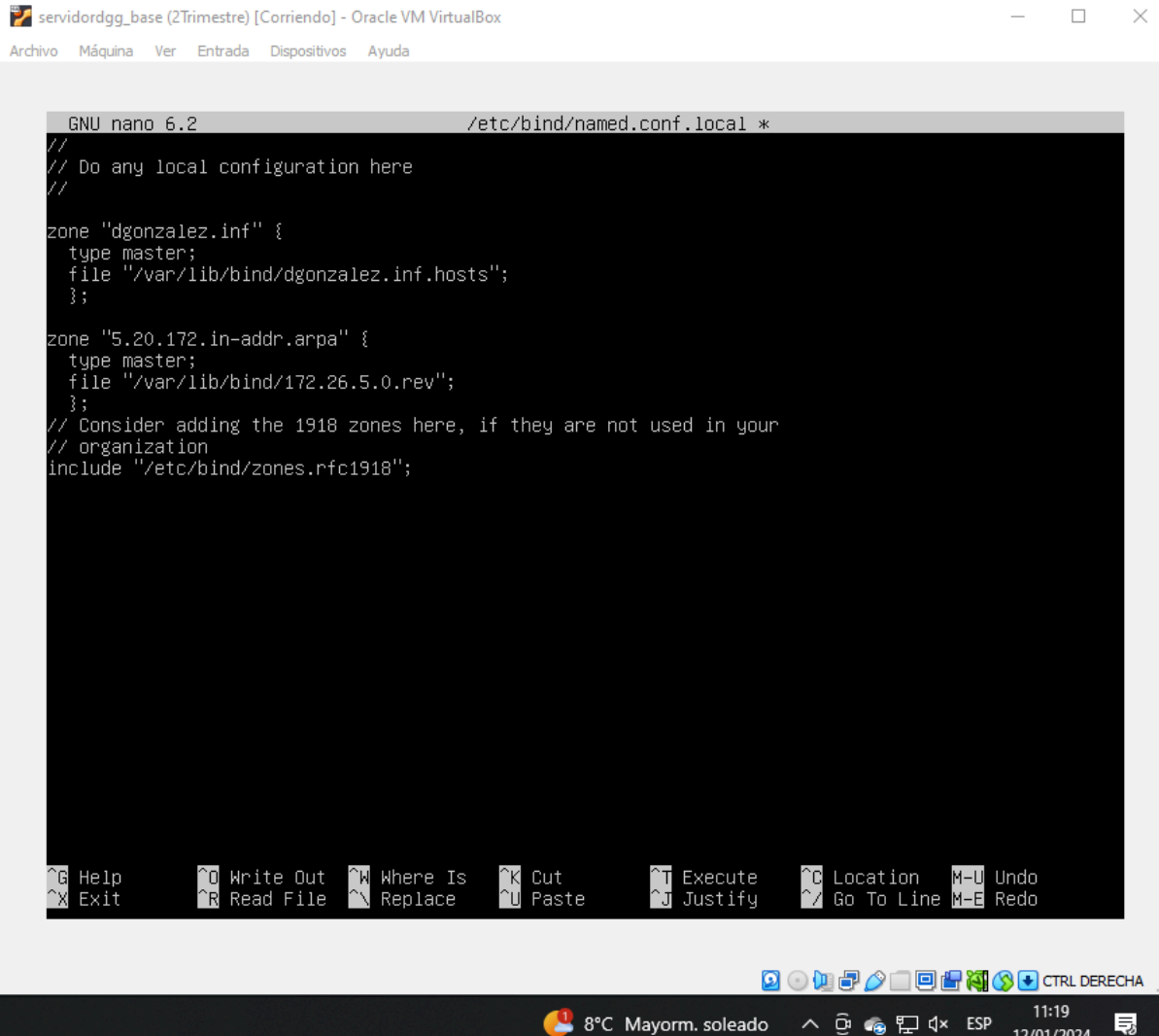
No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
servidordgg@servidordgg:~$ _
```

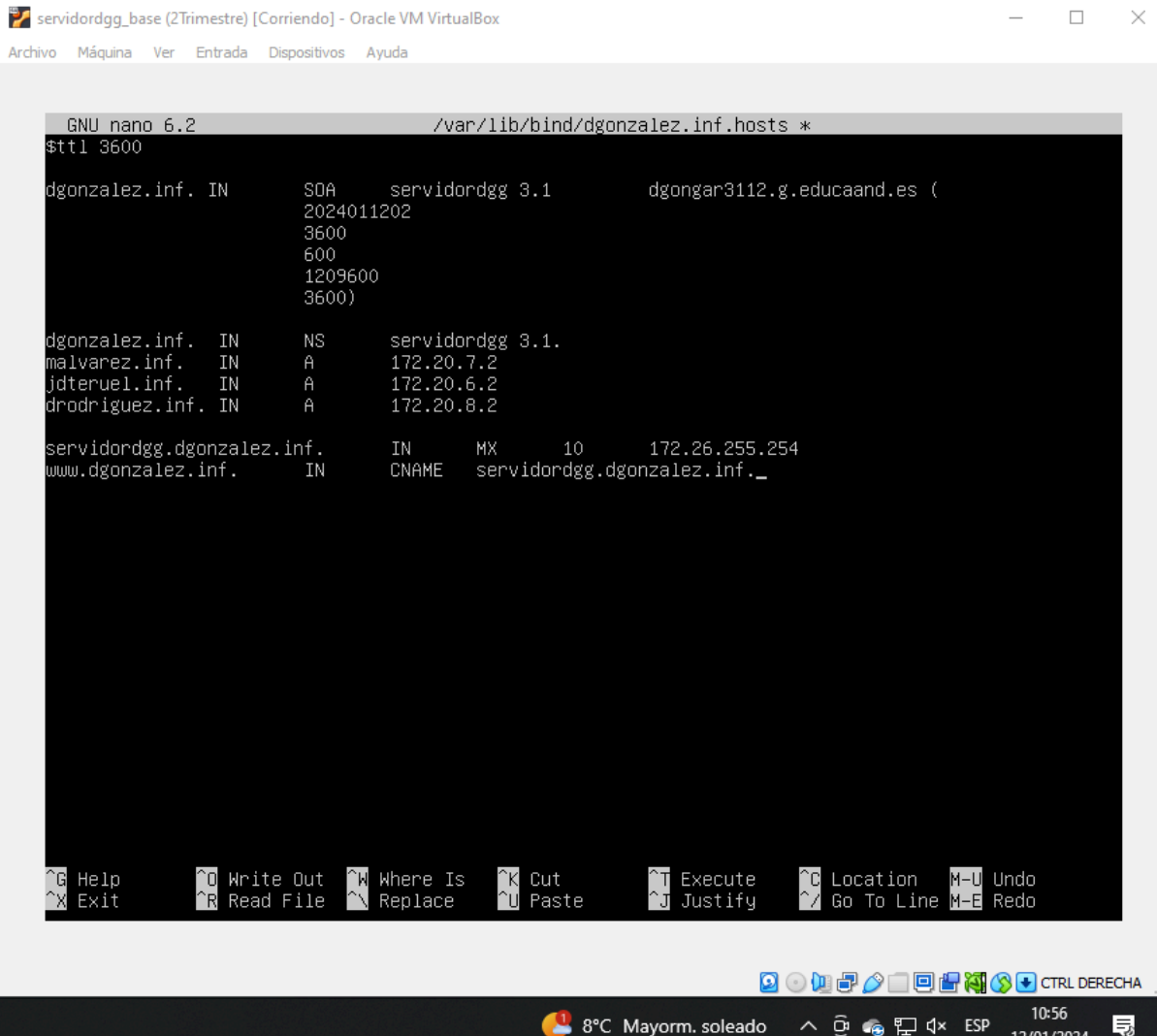
8°C Parc. soleado 10:36 12/01/2024



The screenshot shows a terminal window titled "servidordgg_base (2Trimestre) [Corriendo] - Oracle VM VirtualBox". The terminal is running the GNU nano 6.2 editor, editing the file "/etc/bind/named.conf.local". The configuration file contains the following content:

```
//  
// Do any local configuration here  
//  
  
zone "dgonzalez.inf" {  
    type master;  
    file "/var/lib/bind/dgonzalez.inf.hosts";  
};  
  
zone "5.20.172.in-addr.arpa" {  
    type master;  
    file "/var/lib/bind/172.26.5.0.rev";  
};  
// Consider adding the 1918 zones here, if they are not used in your  
// organization  
include "/etc/bind/zones.rfc1918";
```

At the bottom of the terminal window, there is a status bar with various icons and text. The text includes "8°C", "Mayorm. soleado", "11:19", and "12/01/2024".



The screenshot shows a terminal window titled "servidordgg_base (2Trimestre) [Corriendo] - Oracle VM VirtualBox". The terminal is running the GNU nano 6.2 editor, editing the file `/var/lib/bind/dgonzalez.inf.hosts *`. The content of the file is a DNS zone configuration for `dgonzalez.inf`. The configuration includes an SOA record, NS, A, and MX records. The terminal output is as follows:

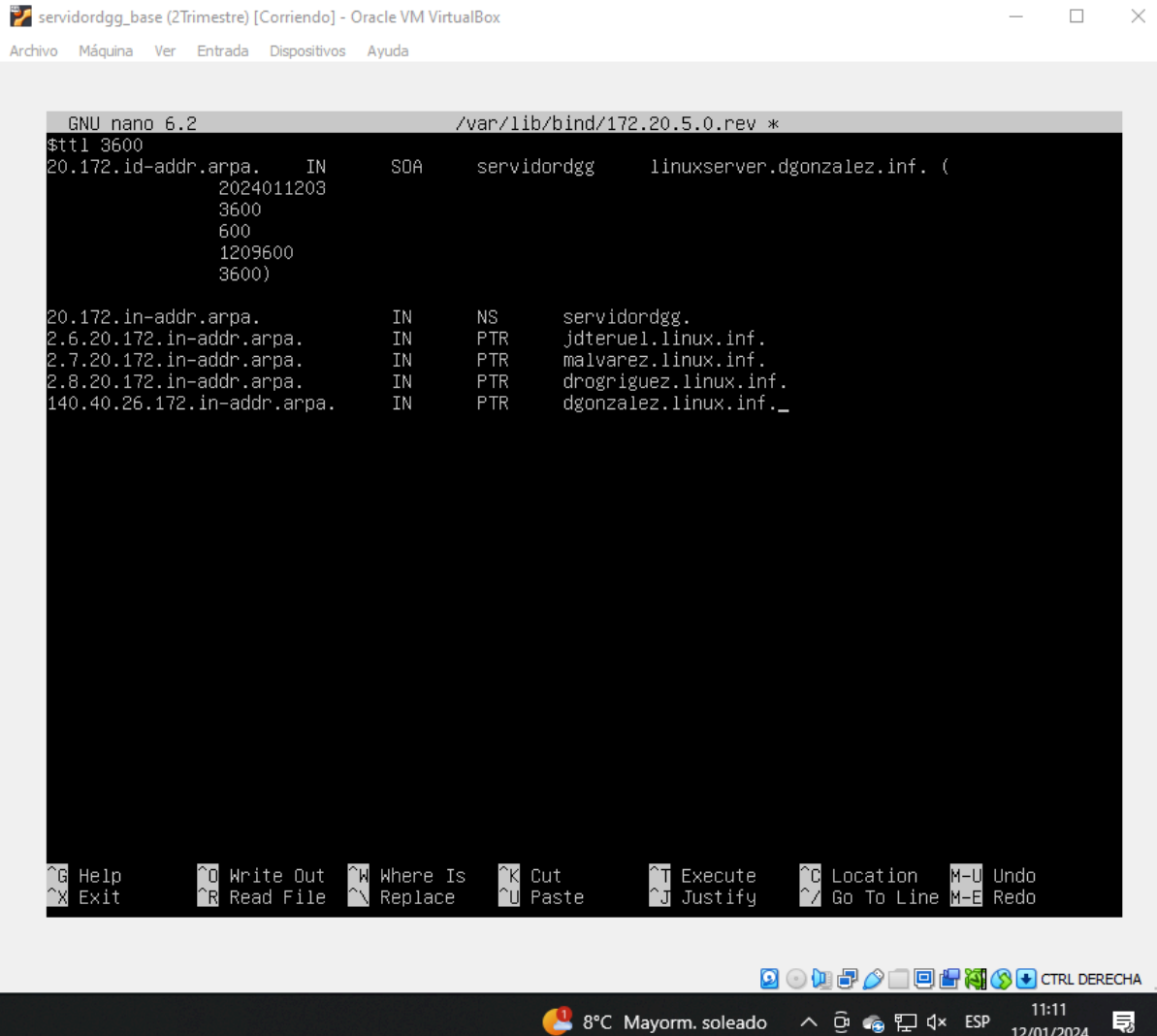
```
GNU nano 6.2 /var/lib/bind/dgonzalez.inf.hosts *
$ttl 3600

dgonzalez.inf. IN      SOA      servidordgg 3.1      dgongar3112.g.educaand.es (
                        2024011202
                        3600
                        600
                        1209600
                        3600)

dgonzalez.inf. IN      NS       servidordgg 3.1.
malvarez.inf.  IN      A       172.20.7.2
jdteruel.inf.  IN      A       172.20.6.2
drodriguez.inf. IN     A       172.20.8.2

servidordgg.dgonzalez.inf. IN  MX      10      172.26.255.254
www.dgonzalez.inf. IN      CNAME   servidordgg.dgonzalez.inf._
```

The terminal window also shows a menu bar at the bottom with various keyboard shortcuts and a status bar at the bottom right displaying the system temperature (8°C), weather (Mayorm. soleado), time (10:56), and date (12/01/2024).



The screenshot shows a terminal window titled "servidordgg_base (2Trimestre) [Corriendo] - Oracle VM VirtualBox". The terminal is running the GNU nano 6.2 editor, editing the file `/var/lib/bind/172.20.5.0.rev *`. The content of the file is as follows:

```
$ttl 3600
20.172.id-addr.arpa.      IN      SOA      servidordgg      linuxserver.dgonzalez.inf. (
                           2024011203
                           3600
                           600
                           1209600
                           3600)

20.172.in-addr.arpa.      IN      NS       servidordgg.
2.6.20.172.in-addr.arpa. IN      PTR      jdteruel1.linux.inf.
2.7.20.172.in-addr.arpa. IN      PTR      malvarez.linux.inf.
2.8.20.172.in-addr.arpa. IN      PTR      drogriguez.linux.inf.
140.40.26.172.in-addr.arpa. IN     PTR      dgonzalez.linux.inf._
```

Below the editor window, there is a toolbar with various icons and keyboard shortcuts. At the bottom of the terminal window, the system status bar shows the temperature as 8°C, the date and time as 11:11 on 12/01/2024, and the language as ESP.

Paso 3: Comprobar funcionamiento

Comprueba que la configuración llevada a cabo en el paso anterior funciona.

Comprobar el buen funcionamiento del servidor DNS

Puede ser que os pida instalar

apt install dnsutils

Utiliza el comando host

```
$host profesor.serverdaw.inf --> debe devolver la IP de ese equipo
```

Utiliza el comando dig

```
$dig serverdaw.inf --> propiedades del servidor DNS
```

Utiliza el comando nslookup: se usa para consultar, obtener información, probar y solucionar problemas de los servidores DNS que usa una conexión

```
$nslookup  
  
> profesor.serverdaw.inf  
  
>172.26.2.100  
  
>exit
```

Para comprobar la sintaxis de los archivos de configuración ejecutamos el siguiente comando:

named-checkconf

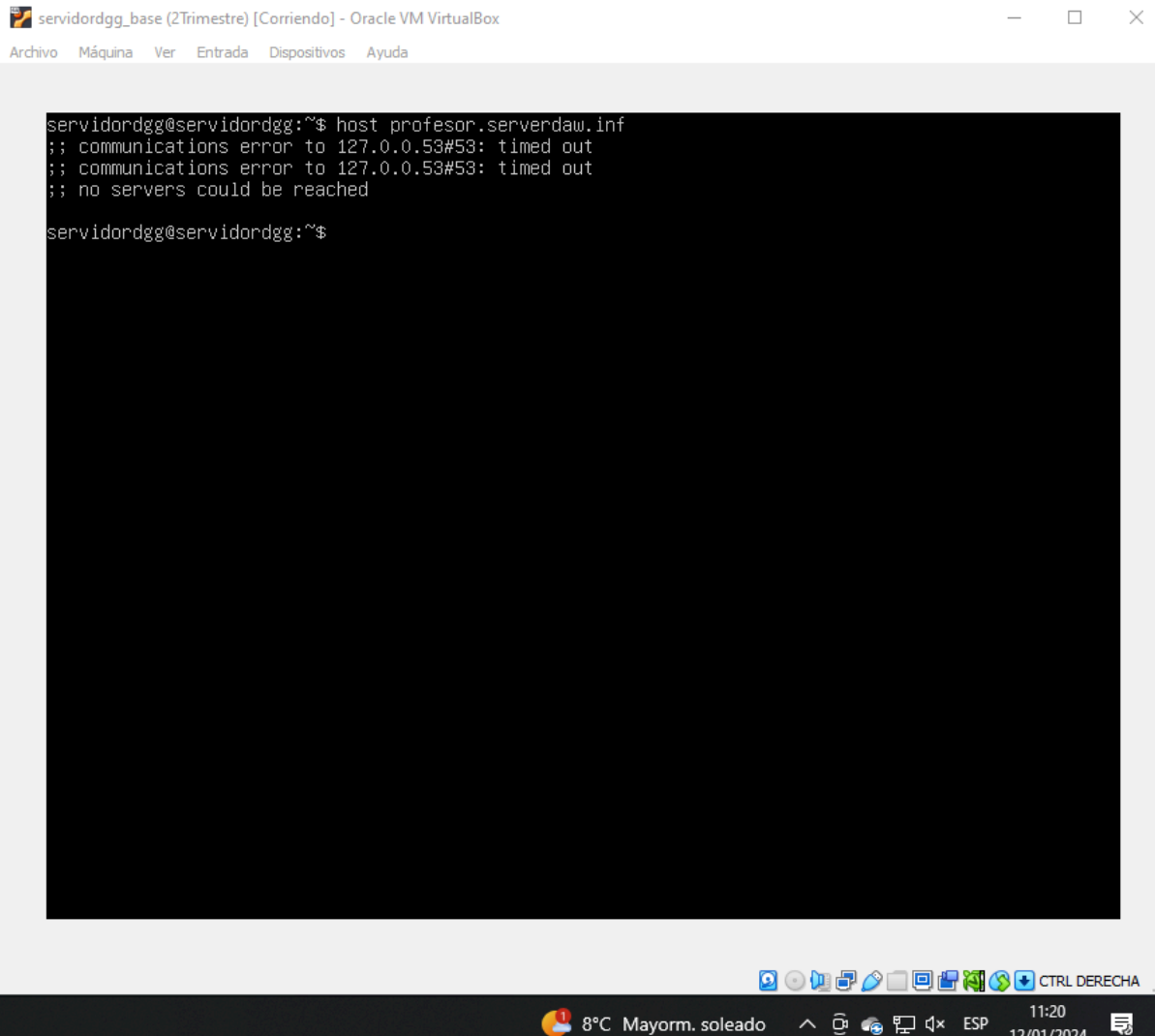
```
$named-checkconf /etc/bind/named.conf.local
```

Comprobar cada fichero de zona con:

named-checkzone

```
$named-checkzone NOMBRE_ZONA ARCHIVO_ZONA
```

```
$named-checkzone serverdaw.inf /var/lib/bind/serverdaw.inf.hosts
```

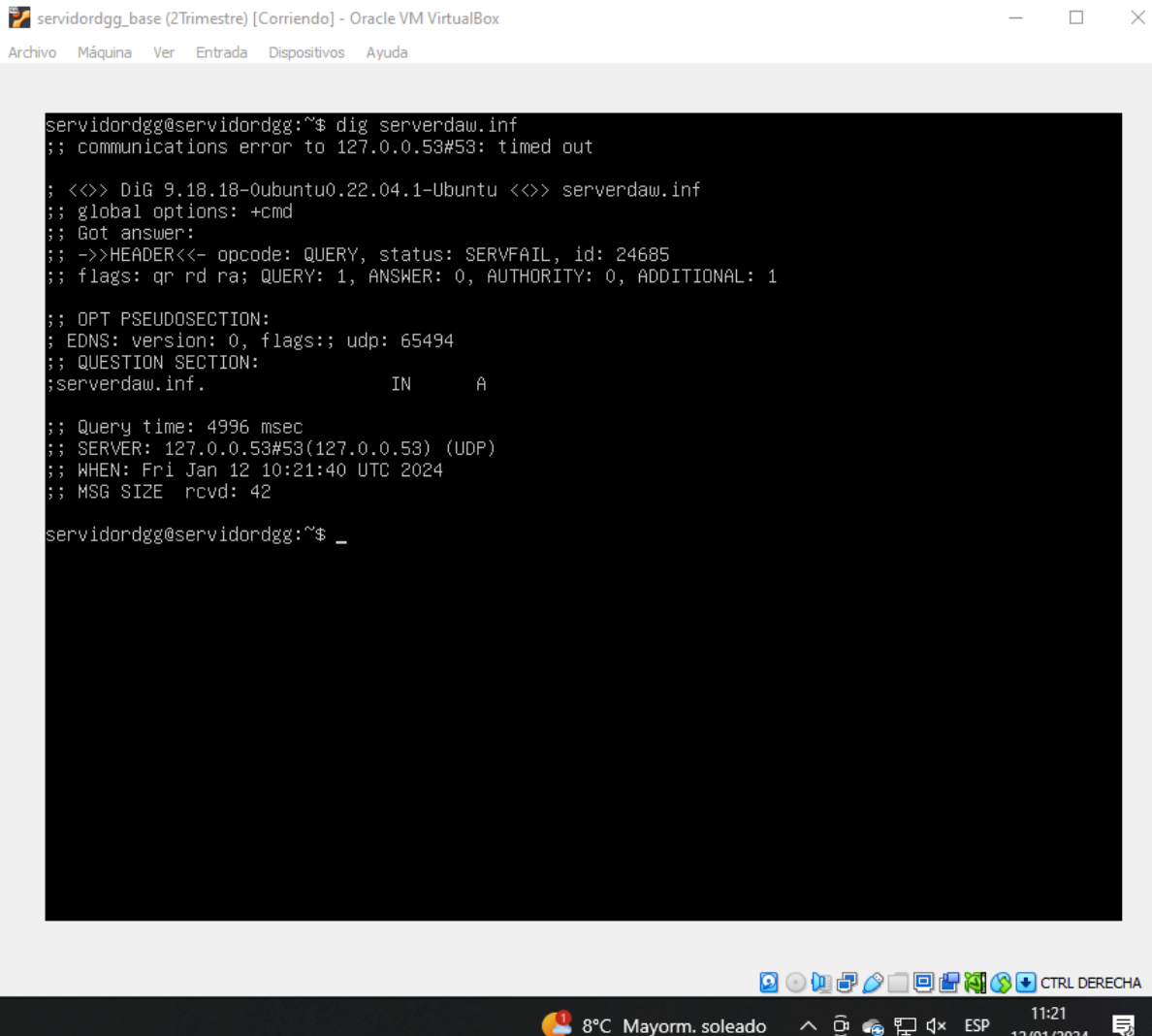


The screenshot shows a terminal window titled "servidordgg_base (2Trimestre) [Corriendo] - Oracle VM VirtualBox". The terminal output is as follows:

```
servidordgg@servidordgg:~$ host profesor.servendaw.inf
;; communications error to 127.0.0.53#53: timed out
;; communications error to 127.0.0.53#53: timed out
;; no servers could be reached

servidordgg@servidordgg:~$
```

The terminal window has a menu bar with "Archivo", "Máquina", "Ver", "Entrada", "Dispositivos", and "Ayuda". The bottom status bar shows system information: "8°C Mayorm. soleado", "11:20", "12/01/2024", and "ESP".



```
servidordgg_base (2Trimestre) [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda

servidordgg@servidordgg:~$ dig serverdaw.inf
;; communications error to 127.0.0.53#53: timed out

;; <<>> DiG 9.18.18-0ubuntu0.22.04.1-Ubuntu <<>> serverdaw.inf
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: SERVFAIL, id: 24685
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;serverdaw.inf.                IN      A

;; Query time: 4996 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Fri Jan 12 10:21:40 UTC 2024
;; MSG SIZE rcvd: 42

servidordgg@servidordgg:~$ _
```

8°C Mayorm. soleado 11:21 12/01/2024

Paso 4: Restaurar a valores iniciales