

Índice:

Ejercicio 1	2
a) DNS BIND Ipv4 en GNU/Linux: DNS Primario y DNS secundario.....	2

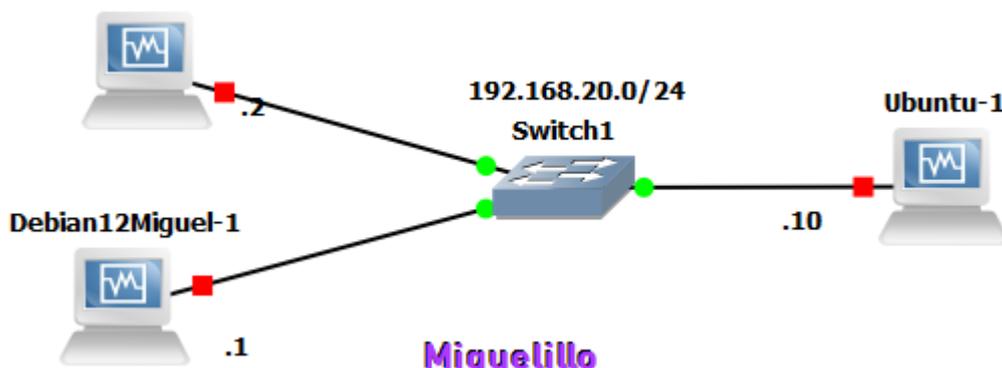
Ejercicio 1

a) DNS BIND Ipv4 en GNU/Linux: DNS Primario y DNS secundario.

Solución:

Escenario:

Debian12Secundario-1



Cambiamos la configuración de la zona directa del servidor secundario

Configuración del DNS primario **192.168.20.1**

Zona inversa

```

Debian12Miguel (Limpia sin servicios) [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
Actividades  Terminal  16 de nov 12:24  83 %
miguel@debian-SRI: ~
GNU nano 7.2  /etc/bind/db.inversa
;
; BIND reverse data file for local loopback interface
;
$TTL 60400
@   IN  SOA  debian.miguelliro. root.miguelliro. (
        20231108      ; Serial
        60            ; Refresh
        60            ; Retry
        600           ; Expire
        604800 )      ; Minimum TTL

@   in  NS   debian.miguelliro.
1   IN  PTR  debian.miguelliro.
10  IN  PTR  cliente1.miguelliro.

^G Ayuda      ^O Guardar   ^W Buscar    ^K Cortar    ^T Ejecutar
^X Salir      ^R Leer fich.^_ Reemplazar ^U Pegar     ^J Justificar
Miguelillo
BLOQ MAYUS

```

Zona directa

```

Debian12Miguel (Limpia sin servicios) [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Actividades Terminal 16 de nov 12:26 82 %
miguel@debian-SRI: ~
GNU nano 7.2 /etc/bind/db.directa
$TTL 604800
@ IN SOA debian.miguelliro. root.miguelliro. (
    20231108 ; Serial
    60 ; Refresh
    60 ; Retry
    600 ; Expire
    604800 ) ; Negative Cache TTL
@ IN NS debian.miguelliro.
@ IN A 192.168.20.1
@ IN AAAA 2001:db8:20::1

debian IN A 192.168.20.1
cliente1 IN A 192.168.20.10
debian1 IN AAAA 2001:db8:20::1
cliente IN AAAA 2001:db8:20::10

^G Ayuda ^O Guardar ^W Buscar ^K Cortar ^T Ejecutar
^X Salir ^R Leer fich. ^\ Reemplazar ^U Pegar ^J Justificar
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```

Configuración del DNS secundario 192.168.20.1

Zona inversa

```

Debian12Secundario [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Actividades Terminal 16 de nov 12:31 80 %
miguel@debian-SRI: ~
GNU nano 7.2 /etc/bind/db.inversa
;
; BIND reverse data file for local loopback interface
;
$TTL 60400
@ IN SOA debian.miguelliro. root.miguelliro. (
    20231108 ; Serial
    60 ; Refresh
    60 ; Retry
    600 ; Expire
    604800 ) ; Minimum TTL

@ in NS debian.miguelliro.
2 IN PTR debian.miguelliro.
10 IN PTR cliente1.miguelliro.

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```

Zona directa

Debian12Secundario [Corriendo] - Oracle VM VirtualBox

Archivo Máquina Ver Entrada Dispositivos Ayuda

```

Actividades Terminal 16 de nov 12:30
miguel@debian-SRI: ~
GNU nano 7.2 /etc/bind/db.directa
;
; BIND data file for local loopback interface
;
$TTL      604800
@         IN      SOA      debian.miguelliro. root.miguelliro. (
                20231108      ; Serial
                60           ; Refresh
                60           ; Retry
                600          ; Expire
                604800 )     ; Negative Cache TTL
;
@         IN      NS       debian.miguelliro.
@         IN      A        192.168.20.2
@         IN      AAAA     2001:db8:20::2

debian   IN      A        192.168.20.2
cliente1 IN      A        192.168.20.10
debian1  IN      AAAA     2001:db8:20::2
cliente  IN      AAAA     2001:db8:20::10

```

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Configuración del cliente configuramos la tarjeta de red con los 2 DNS

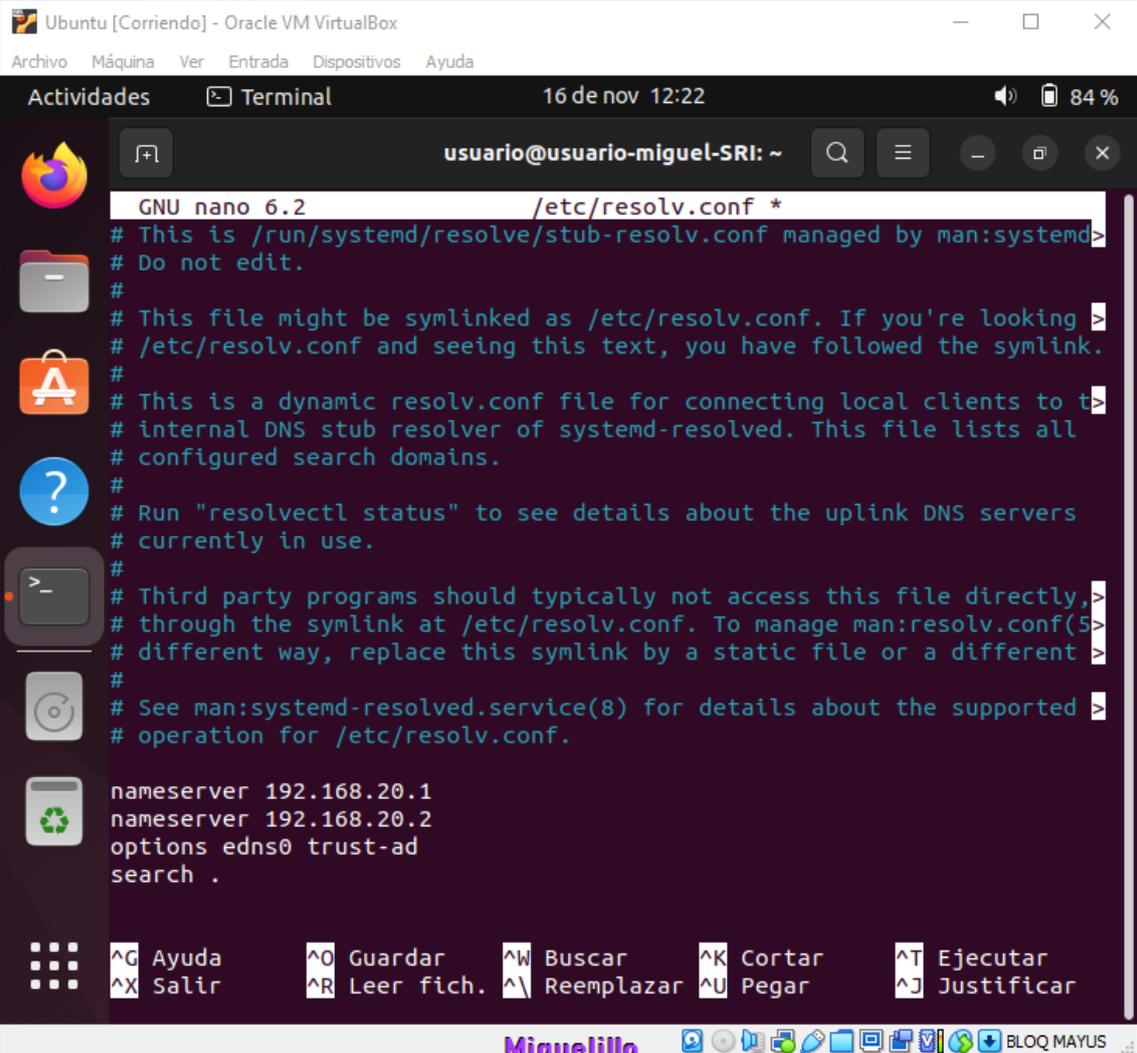
```

Ubuntu [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
Actividades Terminal 16 de nov 12:20 85%
usuario@usuario-miguel-SRI: ~
/etc/netplan/01-network-manager-all.yaml
# Let NetworkManager manage all devices on this system
network:
  version: 2
  renderer: networkd
  ethernets:
    enp0s3:
      addresses:
        - 192.168.20.11/24
        - 2001:db8:20::10/64
      gateway4: 192.168.20.1
      gateway6: 2001:db8:20::1
      nameservers:
        addresses:
          - 192.168.20.1
          - 192.168.20.2
          - 2001:db8:20::1
#network:

```

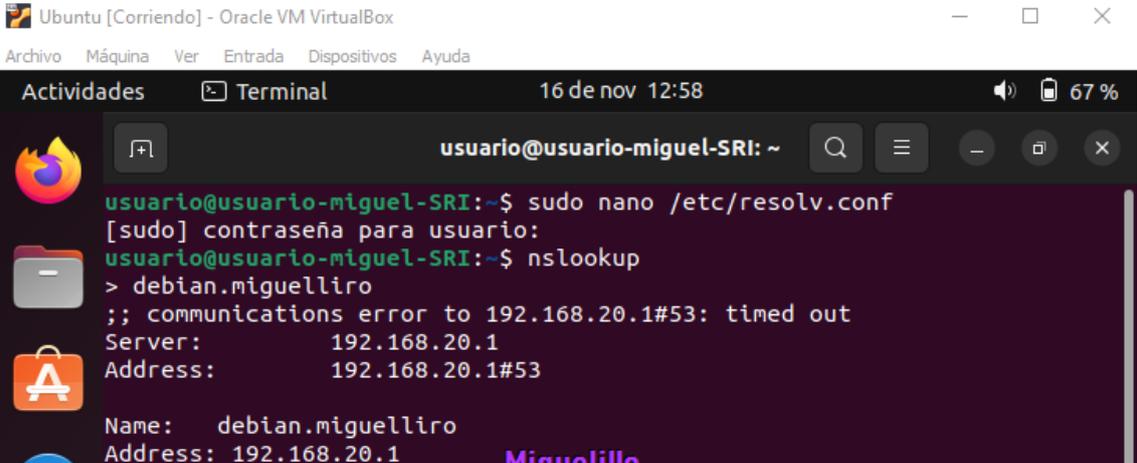
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Cambiamos le resolv.conf indicamos las 2 direcciones IP



```
GNU nano 6.2 /etc/resolv.conf *
# This is /run/systemd/resolve/stub-resolv.conf managed by man:systemd>
# Do not edit.
#
# This file might be symlinked as /etc/resolv.conf. If you're looking >
# /etc/resolv.conf and seeing this text, you have followed the symlink.
#
# This is a dynamic resolv.conf file for connecting local clients to t>
# 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, >
# through the symlink at /etc/resolv.conf. To manage man:resolv.conf(5 >
# different way, replace this symlink by a static file or a different >
#
# See man:systemd-resolved.service(8) for details about the supported >
# operation for /etc/resolv.conf.
nameserver 192.168.20.1
nameserver 192.168.20.2
options edns0 trust-ad
search .
```

Probamos que funcione el DNS antes de apagar el primario vemos que nos resuelve el primario.



```
usuario@usuario-miguel-SRI:~$ sudo nano /etc/resolv.conf
[sudo] contraseña para usuario:
usuario@usuario-miguel-SRI:~$ nslookup
> debian.miguelliro
;; communications error to 192.168.20.1#53: timed out
Server:          192.168.20.1
Address:         192.168.20.1#53

Name:   debian.miguelliro
Address: 192.168.20.1
```

Apagamos el servidor

```

Debian12Miguel (Limpia sin servicios) [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
Actividades  Terminal  16 de nov 12:57  66 %
miguel@debian-SRI: ~
nov 16 12:52:00 debian-SRI named[2400]: network unreachable resolving>
miguel@debian-SRI:~$ sudo systemctl stop bind9
miguel@debian-SRI:~$ sudo systemctl status bind9
○ named.service - BIND Domain Name Server
   Loaded: loaded (/lib/systemd/system/named.service; enabled; pres>
   Active: inactive (dead) since Thu 2023-11-16 12:57:40 CET; 7s ago
   Duration: 5min 39.689s
   Docs: man:named(8)
   Process: 2400 ExecStart=/usr/sbin/named -f $OPTIONS (code=exited,>
   Process: 2421 ExecStop=/usr/sbin/rndc stop (code=exited, status=0>
   Main PID: 2400 (code=exited, status=0/SUCCESS)
   Status: "running"
   CPU: 570ms

nov 16 12:57:40 debian-SRI named[2400]: no longer listening on 192.16>
nov 16 12:57:40 debian-SRI named[2400]: no longer listening on ::1#53
nov 16 12:57:40 debian-SRI named[2400]: no longer listening on 2001:0>
nov 16 12:57:40 debian-SRI named[2400]: no longer listening on fe80::>
nov 16 12:57:40 debian-SRI named[2400]: shutting down: flushing chan>
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```

Probamos ahora resolución directa e inversa y nos resuelve el secundario

```

Ubuntu [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
Actividades  Terminal  16 de nov 12:59  66 %
usuario@usuario-miguel-SRI: ~
usuario@usuario-miguel-SRI:~$ sudo nano /etc/resolv.conf
[sudo] contraseña para usuario:
usuario@usuario-miguel-SRI:~$ nslookup
> debian.miguelliro
;; communications error to 192.168.20.1#53: timed out
Server:         192.168.20.1
Address:        192.168.20.1#53

Name:   debian.miguelliro
Address: 192.168.20.1
> debian.miguelliro
;; communications error to 192.168.20.1#53: timed out
;; communications error to 192.168.20.1#53: connection refused
;; communications error to 192.168.20.1#53: connection refused
Server:         192.168.20.2
Address:        192.168.20.2#53

Name:   debian.miguelliro
Address: 192.168.20.2
;; communications error to 192.168.20.1#53: connection refused
;; communications error to 192.168.20.1#53: connection refused
;; communications error to 192.168.20.1#53: connection refused
> 192.168.20.10
;; communications error to 192.168.20.1#53: timed out
;; communications error to 192.168.20.1#53: connection refused
;; communications error to 192.168.20.1#53: connection refused
10.20.168.192.in-addr.arpa      name = cliente1.miguelliro.
>
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```