

1. Antes de utilizar las herramientas de consulta DNS, comprueba la configuración de red de las máquinas virtuales. ¿Qué servidor DNS están utilizando?

```
xxx@usIMD:~$ nano /etc/resolv.conf_
# 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 must 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 JCOLONIA.LOCAL

[ File '/etc/resolv.conf' is unwritable ]
G Get Help      O Write Out  W Where Is    K Cut Text   J Justify    C Cur Pos    M-U Undo
X Exit         R Read File  ^ Replace    ^U Paste Text ^T To Spell  _ Go To Line M-E Redo
```

2. Instala el servidor DNS bind9 en tu máquina virtual con Ubuntu Server y configura una zona con búsqueda directa del dominio dawXX.com (siendo XX el número de tu equipo) con las siguientes características:

- a. Debe resolver las direcciones IP de tus dos otras máquinas virtuales, con su nombre de equipo, y también con los alias clientewindows y servidorwindows.
- b. Debe resolver las direcciones IP de dos equipos cliente inventados de la empresa, que correspondan a los nombres PCdirectora y Pcsecretario (asígnales las IPs libres que consideres que pertenezcan a la red interna creada entre las máquinas virtuales).
- c. Debe resolver las direcciones IP que no pertenezcan a la zona dawXX.com reenviando la petición al servidor DNS de Google (8.8.8.8).

```
xxx@usIMD:~$ $sudo apt-get update && sudo apt get-upgrade
```

```
xxx@usIMD:~$ sudo apt-get install bind9 bind9-doc dnsutils
```

```
@usIMD:~$ sudo nano /etc/bind/named.conf.local
```

```
@usIMD:~$ sudo cp /etc/bind/db.empty /etc/bind/db.daw10.com
```

```
@usIMD:~$ sudo nano /etc/bind/db.daw10.com.zone
```

```
GNU nano 4.8 /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";

zone "daw10.com."{
    type master;
    file "/etc/bind/db.daw10.com";
};
zone "25.168.192.in-addr.arpa"{
    type master;
    file "/etc/bind/db.192.168.25";
};
```

```
GNU nano 4.8 /etc/bind/db.daw10.com
; BIND reverse data file for empty rfc1918 zone
;
; DO NOT EDIT THIS FILE - it is used for multiple zones.
; Instead, copy it, edit named.conf, and use that copy.
;
$TTL      86400
@         IN      SOA      dns.daw10.com. root.daw10.com. (
                                1           ; Serial
                                604800      ; Refresh
                                86400       ; Retry
                                2419200    ; Expire
                                86400      ) ; Negative Cache TTL
;
                IN      NS      dns.daw10.com.
                IN      A       192.168.25.111
dns            IN      A       192.168.25.111
WCIMD          IN      A       192.168.25.112
clientewindows IN      CNAME    WCIMD
WSIMD          IN      A       192.168.25.113
sevidorwindows IN      CNAME    WSIMD
PCdirectora    IN      A       192.168.25.114
PCsecretario   IN      A       192.168.25.115
```

La búsqueda inversa

```

GNU nano 4.8 /etc/bind/db.192.168.25
; BIND reverse data file for empty rfc1918 zone
;
; DO NOT EDIT THIS FILE - it is used for multiple zones.
; Instead, copy it, edit named.conf, and use that copy.
;
$TTL      86400
@         IN      SOA      dns.daw10.com. root.daw10.com. (
                        1          ; Serial
                        604800     ; Refresh
                        86400      ; Retry
                        2419200    ; Expire
                        86400 )    ; Negative Cache TTL
;
                IN      NS      dns.daw10.com.
112        IN      PTR      WCIMD.daw10.com
113        IN      PTR      WSIMD.daw10.com
114        IN      PTR      PCdirectora.daw10.com
115        IN      PTR      PCsecretario.daw10.com

```

```

GNU nano 4.8 /etc/network
auto enp0s3
iface enp0s3 inet static
    address 192.168.25.111
    netmask 255.255.255.0
    gateway 192.168.25.112
    dns-nameserver 192.168.25.113
    dns-search daw10.com

```

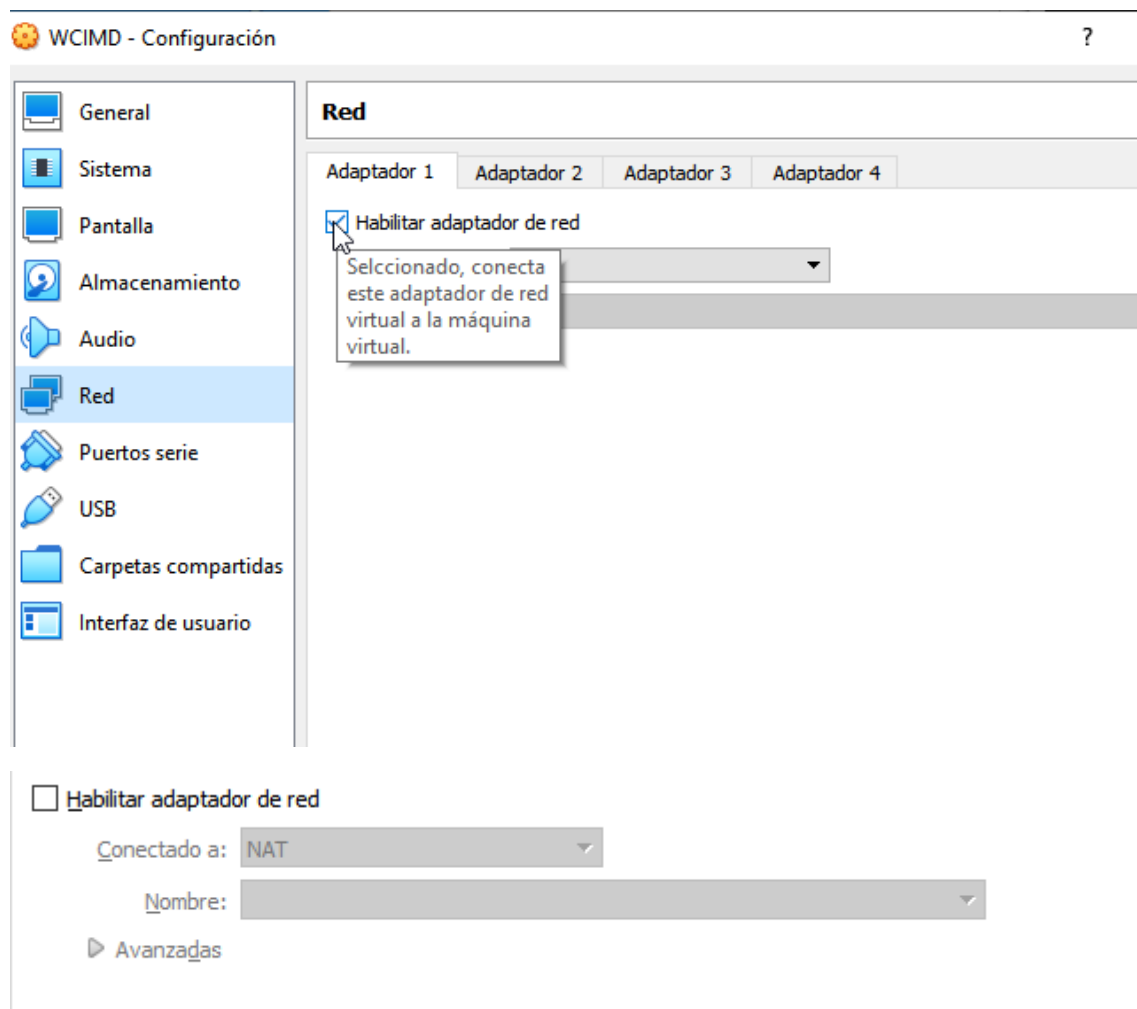
```

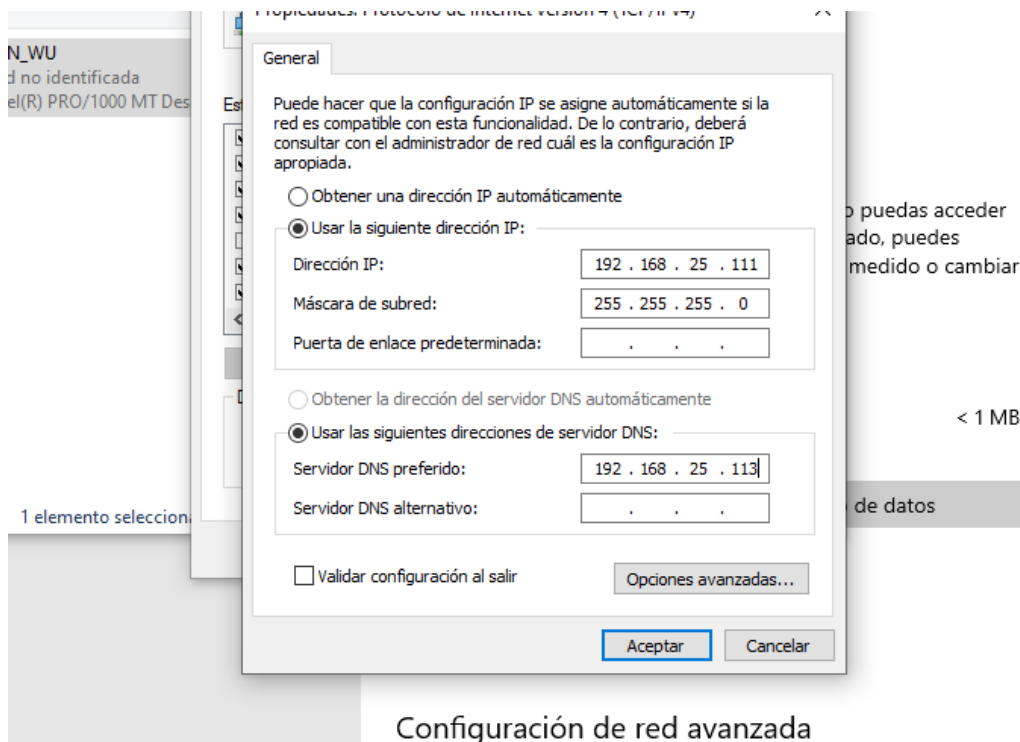
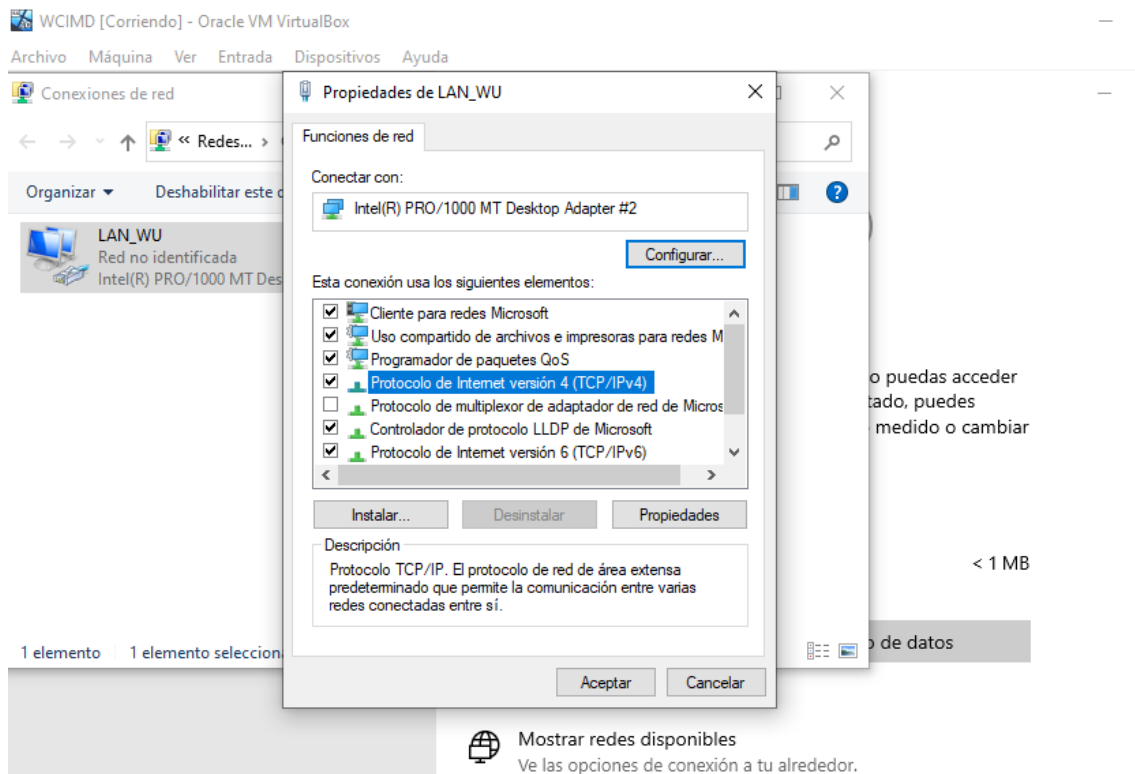
dfd@usIMD:~$ sudo systemctl status bind9
• named.service - BIND Domain Name Server
   Loaded: loaded (/lib/systemd/system/named.service; enabled; vendor preset: enabled)
   Active: failed (Result: exit-code) since Wed 2021-11-17 12:14:43 UTC; 1h 1min ago
     Docs: man:named(8)
   Process: 678 ExecStart=/usr/sbin/named -f $OPTIONS (code=exited, status=1/FAILURE)
   Main PID: 678 (code=exited, status=1/FAILURE)

nov 17 12:14:43 usIMD named[678]: adjusted limit on open files from 524288 to 1048576
nov 17 12:14:43 usIMD named[678]: found 1 CPU, using 1 worker thread
nov 17 12:14:43 usIMD named[678]: using 1 UDP listener per interface
nov 17 12:14:43 usIMD named[678]: using up to 21000 sockets
nov 17 12:14:43 usIMD named[678]: loading configuration from '/etc/bind/named.conf'
nov 17 12:14:43 usIMD named[678]: /etc/bind/named.conf.local:12: missing ';' before '}'
nov 17 12:14:43 usIMD named[678]: loading configuration: failure
nov 17 12:14:43 usIMD named[678]: exiting (due to fatal error)
nov 17 12:14:43 usIMD systemd[1]: named.service: Main process exited, code=exited, status=1/FAILURE
nov 17 12:14:43 usIMD systemd[1]: named.service: Failed with result 'exit-code'.
dfd@usIMD:~$

```

3 Configura la máquina virtual con el cliente de Windows para que únicamente tenga una interfaz de red activa (la que corresponde a la red interna) y para que utilice como DNS la máquina virtual de Ubuntu Server donde tienes activo bind9





Configuración de red avanzada

4. Realiza pruebas con nslookup preguntando por los distintos equipos de la red y por páginas de internet para comprobar que el servidor DNS configurado funciona correctamente

No me funciona