



**UNIVERSIDAD
GERARDO BARRIOS**

Líderes en Gestión del Conocimiento

DOCENTE:

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FACULTAD:

CIENCIAS Y TECNOLOGÍA

MATERIA:

CONFIGURACIÓN DE SERVIDORES Y CLÚSTERES PARA BASES DE
DATOS

TEMA:

GESTION DE SERVIDOR DNS RHEL

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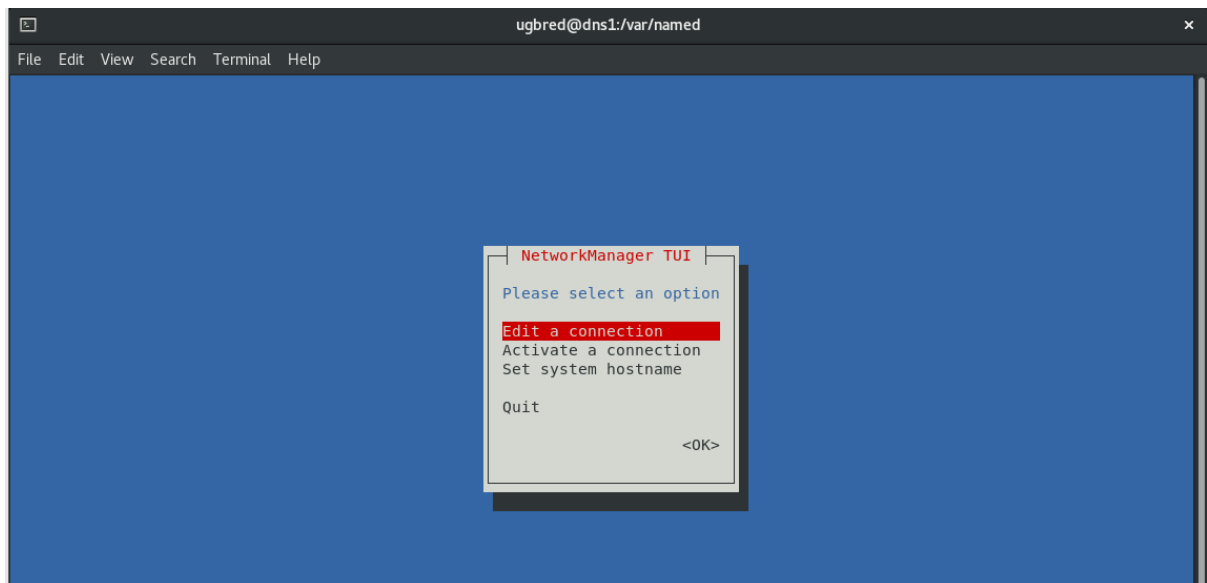
LELIS ADONIS SARAVIA GOMEZ

FECHA:

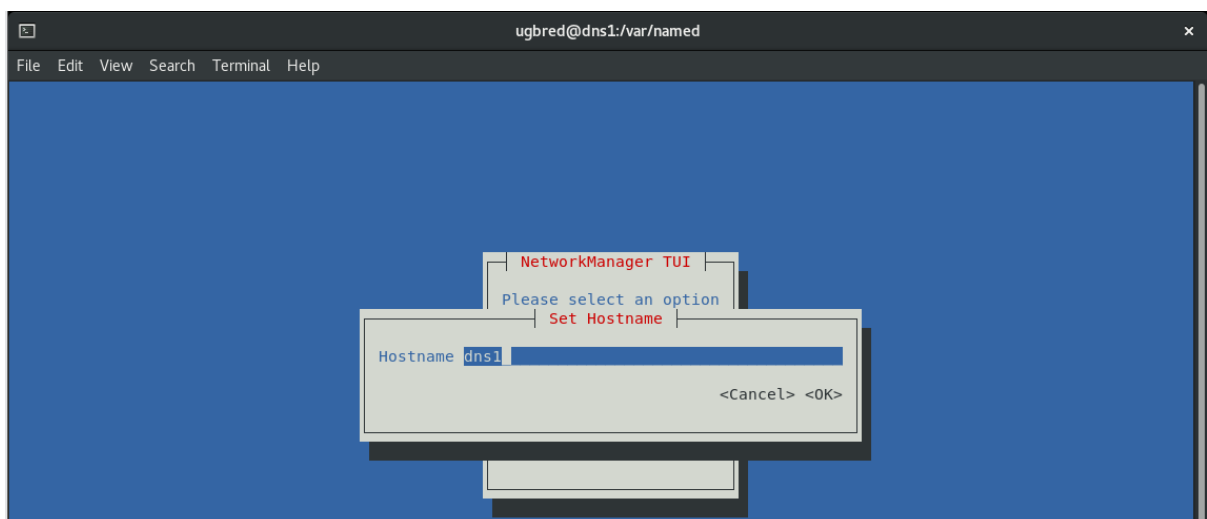
MIERCOLES, 21 DE SEPTIEMBRE DEL 2022

SAN MIGUEL

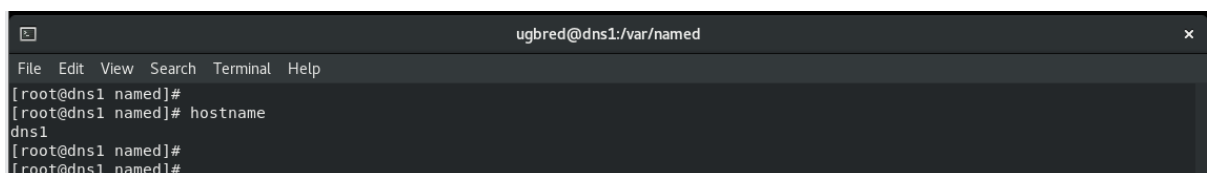
Cambiar el nombre de Host predeterminado a dns1 de la siguiente manera con nmtui.



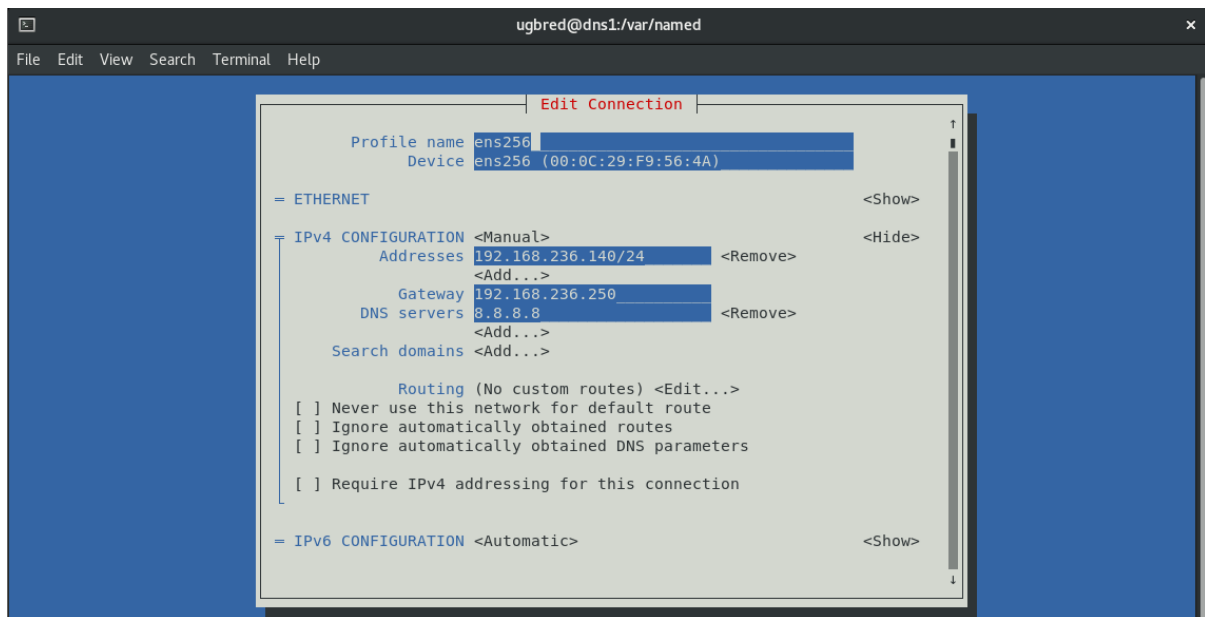
Seleccionaremos la opción de Set System Hostname y cambiamos el nombre de Hostname a dns1.



Para verificar que se haya cambiado usamos el comando.

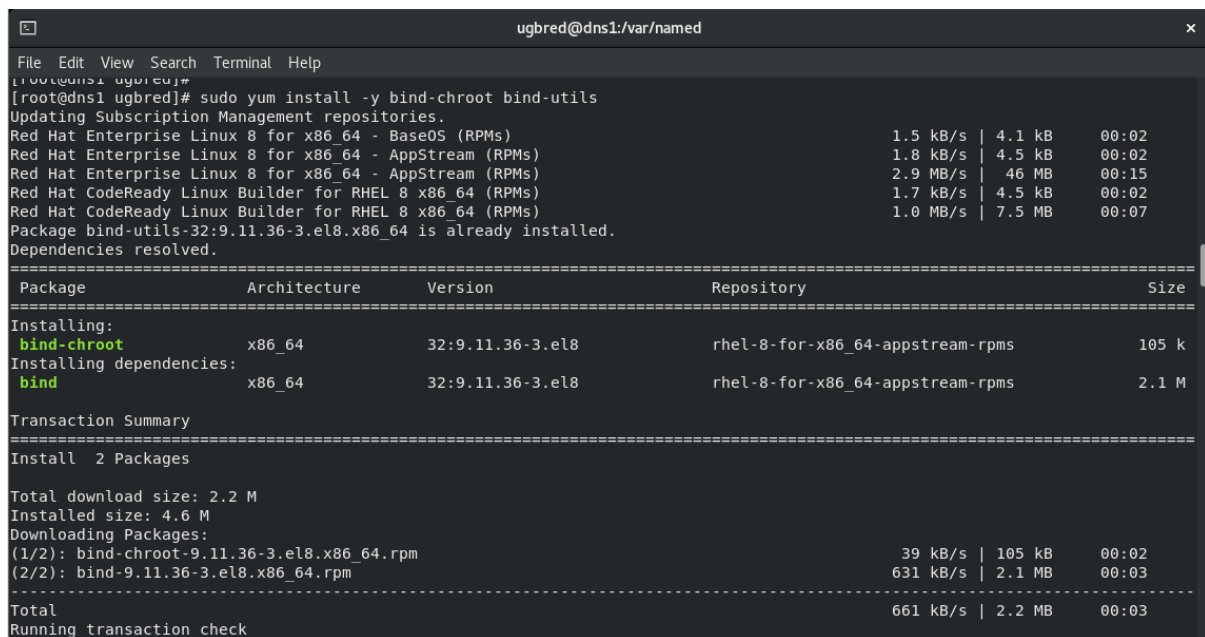


Verificamos que la configurar su adaptador de solo anfitrión de manera Estática.



PARTE I: Instalación de bind.

1. Instalación: Como siempre emitiremos el comando yum.



Al emitir el siguiente comando.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 ugbred]# sudo systemctl status named.service
● named.service - Berkeley Internet Name Domain (DNS)
   Loaded: loaded (/usr/lib/systemd/system/named.service; disabled; vendor preset: disabled)
   Active: inactive (dead)
[root@dns1 ugbred]#
```

Nos deberá aparecer el servicio como que no está ejecutando.

2. Habilitamos el servicio para que arranque al iniciar e iniciamos el servicio.

Emitimos el siguiente comando.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 ugbred]#
[root@dns1 ugbred]# sudo systemctl enable named.service
Created symlink /etc/systemd/system/multi-user.target.wants/named.service -> /usr/lib/systemd/system/named.service.
[root@dns1 ugbred]#
```

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 ugbred]#
[root@dns1 ugbred]# sudo systemctl status named.service
● named.service - Berkeley Internet Name Domain (DNS)
   Loaded: loaded (/usr/lib/systemd/system/named.service; enabled; vendor preset: disabled)
   Active: inactive (dead)
[root@dns1 ugbred]#
```

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 ugbred]#
[root@dns1 ugbred]# sudo systemctl start named.service
[root@dns1 ugbred]#
```

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 ugbred]# sudo systemctl status named.service
● named.service - Berkeley Internet Name Domain (DNS)
   Loaded: loaded (/usr/lib/systemd/system/named.service; enabled; vendor preset: disabled)
   Active: active (running) since Sat 2022-09-17 12:47:11 PDT; 6s ago
     Process: 6127 ExecStart=/usr/sbin/named -u named -c ${NAMEDCONF} $OPTIONS (code=exited, status=0/SUCCESS)
     Process: 6124 ExecStartPre=/bin/bash -c if [ ! "$DISABLE_ZONE_CHECKING" = "yes" ]; then /usr/sbin/named-checkconf -z "$NAMEDCONF"; fi (code=exited, status=0/SUCCESS)
    Main PID: 6128 (named)
      Tasks: 5 (limit: 100911)
     Memory: 18.9M
    CGroup: /system.slice/named.service
            └─6128 /usr/sbin/named -u named -c /etc/named.conf

Sep 17 12:47:11 dns1 named[6128]: network unreachable resolving './DNSKEY/IN': 2001:503:c27::2:30#53
Sep 17 12:47:11 dns1 named[6128]: network unreachable resolving './NS/IN': 2001:503:c27::2:30#53
Sep 17 12:47:11 dns1 named[6128]: network unreachable resolving './DNSKEY/IN': 2001:500:9f::42#53
Sep 17 12:47:11 dns1 named[6128]: network unreachable resolving './NS/IN': 2001:500:9f::42#53
Sep 17 12:47:11 dns1 named[6128]: network unreachable resolving './DNSKEY/IN': 2001:7fd:1#53
Sep 17 12:47:11 dns1 named[6128]: network unreachable resolving './NS/IN': 2001:7fd:1#53
Sep 17 12:47:11 dns1 named[6128]: network unreachable resolving './DNSKEY/IN': 2001:500:2f::f#53
Sep 17 12:47:11 dns1 named[6128]: network unreachable resolving './NS/IN': 2001:500:2f::f#53
Sep 17 12:47:12 dns1 named[6128]: managed-keys-zone: Key 20326 for zone . acceptance timer complete: key now trusted
Sep 17 12:47:12 dns1 named[6128]: resolver priming query complete
```

Esto básicamente nos asegura que el servicio named.service arrancarán por defecto y que a este momento ya el named.service esta ejecutandose.

3. Creación de nuestra zona.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 ugbred]# nano /etc/named.conf
[root@dns1 ugbred]#
```

Agregar al principio del archivo.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
GNU nano 2.9.8 /etc/named.conf

//
// named.conf
//
// Provided by Red Hat bind package to configure the ISC BIND named(8) DNS
// server as a caching only nameserver (as a localhost DNS resolver only).
//
// See /usr/share/doc/bind*/sample/ for example named configuration files.
//
options {
    listen-on port 53 { 192.168.236.140; };
    listen-on-v6 port 53 { ::1; };
    directory "/var/named";
    dump-file "/var/named/data/cache_dump.db";
    statistics-file "/var/named/data/named_stats.txt";
    memstatistics-file "/var/named/data/named_mem_stats.txt";
    secroots-file "/var/named/data/named.secroots";
    recursing-file "/var/named/data/named.recursing";
    forward first;
    forwarders {8.8.8.8;};
    allow-query { any; };
}
```

Agregar al final del archivo.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
GNU nano 2.9.8 /etc/named.conf

        file "data/named.run";
        severity dynamic;
    };
};

zone "." IN {
    type hint;
    file "named.ca";
};

include "/etc/named.rfc1912.zones";
include "/etc/named.root.key";

zone "victor.com.sv" IN {
    type master;
    file "directa";
};

zone "236.168.192.in-addr.arpa" IN {
    type master;
    file "inversa";
};
;
```

Guardamos, salimos y verificamos que no tengamos errores en el archivo de configuración con el siguiente comando.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 ugbred]#
[root@dns1 ugbred]# named-checkconf /etc/named.conf
[root@dns1 ugbred]#
```

4. Creación de nuestros archivos de zona. Ingresamos a la ruta donde se guardan los archivos del servicio en /var/named/ y buscamos el archivo named.empty.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 ugbred]#
[root@dns1 ugbred]# cd /var/named/
[root@dns1 named]#
```

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# ls
chroot data dynamic named.ca named.empty named.localhost named.loopback slaves
[root@dns1 named]#
```

Copiamos el archivo named.empty con el nombre del archivo de la zona directa definido en el archivo de configuración named.conf.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]#
[root@dns1 named]# cp named.empty directa
[root@dns1 named]#
[root@dns1 named]# ls
chroot data directa dynamic named.ca named.empty named.localhost named.loopback slaves
[root@dns1 named]#
[root@dns1 named]#
```

Luego configuremos nuestra primera zona llamada “directa”, como copiamos por defecto al named.empty, únicamente modificaremos unas cosas, comparemos lo siguiente con el archivo que tenemos.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]#
[root@dns1 named]# nano directa
[root@dns1 named]#
```

5. Agregar registros a nuestra zona directa.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
GNU nano 2.9.8 directa
$TTL 3H
@      IN SOA  @ dns1.victor.com.sv. (
                                0      ; serial
                                1D      ; refresh
                                1H      ; retry
                                1W      ; expire
                                3H )    ; minimum

@      NS   dns1.victor.com.sv.
@      A    192.168.236.140
dns1   A    192.168.236.140
www    CNAME dns1
web    CNAME dns1
ftp    CNAME dns1
```

Guardamos, salimos y verificamos que no tengamos errores en la zona directa con el siguiente comando.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# named-checkzone 192.168.236.140 directa
zone 192.168.236.140/IN: loaded serial 0
OK
[root@dns1 named]#
```

Copiamos el archivo de zona directa con el nombre del archivo de zona inversa dado en el archivo de configuración del servidor y después editarlo.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
OK
[root@dns1 named]#
[root@dns1 named]# cp directa inversa
[root@dns1 named]# ls
chroot  data  directa  dynamic  inversa  named.ca  named.empty  named.localhost  named.loopback  slaves
[root@dns1 named]#
[root@dns1 named]#
```

6. Agregar registros a nuestra zona inversa.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# nano inversa
```

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
GNU nano 2.9.8 inversa

$TTL 3H
@      IN SOA  @ dns1.victor.com.sv. (
                                0      ; serial
                                1D      ; refresh
                                1H      ; retry
                                1W      ; expire
                                3H)     ; minimum

NS     dns1.victor.com.sv.
2 PTR  dns1.victor.com.sv.
2 PTR  www.cano.com.sv.
2 PTR  web.cano.com.sv.
2 PTR  ftp.cano.com.sv.
```

Guardamos, salimos y verificamos que no tengamos errores en la zona directa con el siguiente comando.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# named-checkzone 192.168.236.140 inversa
zone 192.168.236.140/IN: loaded serial 0
OK
```

6. Cambiamos de grupo de permiso nuestros archivos. Listamos el contenido del directorio /var/named. Mirar el grupo propietario que debe ser named.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# ll
total 24
drwxr-x---. 8 root named 73 Sep 17 12:46 chroot
drwxrwx---. 2 named named 23 Sep 17 12:47 data
-rw-r-----. 1 root root 289 Sep 17 12:56 directa
drwxrwx---. 2 named named 60 Sep 17 12:47 dynamic
-rw-r-----. 1 root root 341 Sep 17 12:59 inversa
-rw-r-----. 1 root named 2253 Feb 15 2022 named.ca
-rw-r-----. 1 root named 152 Feb 15 2022 named.empty
-rw-r-----. 1 root named 152 Feb 15 2022 named.localhost
-rw-r-----. 1 root named 168 Feb 15 2022 named.loopback
drwxrwx---. 2 named named 6 Feb 15 2022 slaves
[root@dns1 named]#
```

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]# chgrp named directar inversa
chgrp: cannot access 'directar': No such file or directory
[root@dns1 named]# chgrp named directa inversa
[root@dns1 named]#
[root@dns1 named]#
[root@dns1 named]# ll
total 24
drwxr-x---. 8 root named 73 Sep 17 12:46 chroot
drwxrwx---. 2 named named 23 Sep 17 12:47 data
-rw-r-----. 1 root named 289 Sep 17 12:56 directa
drwxrwx---. 2 named named 60 Sep 17 12:47 dynamic
-rw-r-----. 1 root named 341 Sep 17 12:59 inversa
-rw-r-----. 1 root named 2253 Feb 15 2022 named.ca
-rw-r-----. 1 root named 152 Feb 15 2022 named.empty
-rw-r-----. 1 root named 152 Feb 15 2022 named.localhost
-rw-r-----. 1 root named 168 Feb 15 2022 named.loopback
drwxrwx---. 2 named named 6 Feb 15 2022 slaves
[root@dns1 named]#
```

PARTE II: Settings adicionales. 1. Configuramos nuestro servidor dns como sigue.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# nano /etc/resolv.conf
[root@dns1 named]#
```

Borramos todo y agregamos lo siguiente.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
GNU nano 2.9.8 /etc/resolv.conf
Generated by NetworkManager
search localdomain
search victor.com.sv
nameserver 192.168.236.140
```

Debido a que nuestro adaptador NAT está por DHCP debemos colocar el siguiente comando para que el archivo resolv.conf no se modifique.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# chattr +i /etc/resolv.conf
[root@dns1 named]#
```


Guardamos en nano y luego salimos.

2. Abrimos el siguiente archivo. Editamos el archivo hosts y colocamos la IP del servidor, así como el nombre del mismo.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]# nano /etc/hosts
[root@dns1 named]#
```

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
GNU nano 2.9.8 /etc/hosts
127.0.0.1 localhost localhost.localdomain
::1 localhost localhost.localdomain
192.168.236.140 dns1.victor.com.sv victor.com.sv
```

3. Iniciamos Servicios.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]# systemctl start named
[root@dns1 named]#
```

Reiniciamos el named. Service.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# systemctl restart named.service
[root@dns1 named]#
```

Hacemos pruebas con el comando nslookup.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# nslookup victor.com.sv
Server:      192.168.236.140
Address:     192.168.236.140#53

Name:   victor.com.sv
Address: 192.168.236.140
```

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# nslookup www.victor.com.sv
Server:      192.168.236.140
Address:     192.168.236.140#53

www.victor.com.sv      canonical name = dns1.victor.com.sv.
Name:   dns1.victor.com.sv
Address: 192.168.236.140
```

PARTE III: Configuración de nuestro firewall.

1. Verificar servicios permitidos en firewall-cmd.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# firewall-cmd --zone="public" --list-services
cockpit dhcpv6-client samba samba-client ssh
```

Agregamos las siguientes reglas.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# firewall-cmd --zone="public" --add-service="dns" --permanent
success
[root@dns1 named]#
[root@dns1 named]# firewall-cmd --zone="public" --add-port="53/tcp" --permanent
success
[root@dns1 named]#
[root@dns1 named]# firewall-cmd --zone="public" --add-port="53/udp" --permanent
success
[root@dns1 named]#
[root@dns1 named]# firewall-cmd --reload
success
[root@dns1 named]#
```

Verificamos que esta correctamente configurada nuestra zona.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# firewall-cmd --zone="public" --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens256
  sources:
  services: cockpit dhcpv6-client dns samba samba-client ssh
  ports: 53/tcp 53/udp
  protocols:
  forward: no
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
```

En este apartado se pretende que se vaya familiarizando con el firewall y que además vaya deduciendo que puertos va a tener que utilizar para diferentes servicios que se vayan instalando.

Emitir en la terminal el siguiente comando.

```
ugbred@dns1:/var/named
File Edit View Search Terminal Help
[root@dns1 named]#
[root@dns1 named]# ping victor.com.sv
PING dns1.victor.com.sv (192.168.236.140) 56(84) bytes of data.
64 bytes from dns1.victor.com.sv (192.168.236.140): icmp_seq=1 ttl=64 time=0.063 ms
64 bytes from dns1.victor.com.sv (192.168.236.140): icmp_seq=2 ttl=64 time=0.072 ms
64 bytes from dns1.victor.com.sv (192.168.236.140): icmp_seq=3 ttl=64 time=0.072 ms
64 bytes from dns1.victor.com.sv (192.168.236.140): icmp_seq=4 ttl=64 time=0.071 ms
^C
--- dns1.victor.com.sv ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3109ms
rtt min/avg/max/mdev = 0.063/0.069/0.072/0.009 ms
[root@dns1 named]#
```