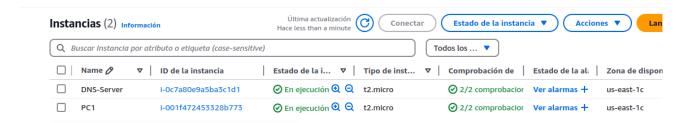
Oscar Pereira – DAW 7K

DNS con Bind

Creamos un par de maquinas que serviran como servidor DNS y usuario respectivamente.



Despues accedemos a la maquina servidor e instalaremos bind9.

```
ubuntu@ip-172-31-95-47:~$ sudo apt install bind9
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
 bind9-utils dns-root-data
Suggested packages:
 bind-doc
The following NEW packages will be installed:
 bind9 bind9-utils dns-root-data
0 upgraded, 3 newly installed, 0 to remove and 0 not upgraded.
Need to get 418 kB of archives.
After this operation, 1617 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 bind9-utils amd
64 1:9.18.28-0ubuntu0.24.04.1 [159 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/main amd64 dns-root-data all 20231
```

Creamos copias de seguridad de los archivos named por si algo va mal.

```
(ubuntu) ec2-54-234-243-248.compute-1.amazonaws.com — Konsole
Archivo
         Editar Ver
                      Marcadores Complementos
                                                 Preferencias
                                                              Ayuda
ubuntu@ip-172-31-95-47:/$ cd /etc/bind/
ubuntu@ip-172-31-95-47:/etc/bind$ ls
bind.keys db.127 db.empty named.conf
                                                          named.conf.local
                                                                               rndc.key
db.0
           db.255 db.local named.conf.default-zones named.conf.options zones.rfc1918
ubuntu@ip-172-31-95-47:/etc/bind$ mkdir copia
mkdir: cannot create directory 'copia': Permission denied
ubuntu@ip-172-31-95-47:/etc/bind$ sudo cp named.conf named.conf.old
ubuntu@ip-172-31-95-47:/etc/bind$ sudo cp named.conf.options named.conf.options.old
ubuntu@ip-172-31-95-47:/etc/bind$ sudo cp named.conf.local named.conf.local.old
ubuntu@ip-172-31-95-47:/etc/bind$ ls
bind.keys db.255
                     named.conf
           db.empty named.conf.default-zones named.conf.old db.local named.conf.local named.conf.opti
db.0
                                                                         rndc.key
                                                                         zones.rfc1918
db.127
                                                 named.conf.options
ubuntu@ip-172-31-95-47:/etc/bind$
```

Ahora modificamos el archivo local con nuestros datos.

```
Editar
                Ver
                      Marcadores
                                  Complementos
                                                              Ayuda
                                                 Preferencias
 GNU nano 7.2
                                          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 "oscar.abastos.edu"{
        type master;
        file "/etc/bind/db.oscar.abastos";
};
```

```
(ubuntu) ec2-54-234-243-248.compute-1.amazonaws.com — Konsole
Archivo Editar
                Ver
                      Marcadores Complementos
                                                 Preferencias
                                                             Ayuda
 GNU nano 7.2
                                          db.oscar.abastos
 BIND data file for local loopback interface
$TTL
        604800
        IN
                SOA
                         oscar.abastos.edu. admin@oscar.abastos.edu. (
@
                                        ; Serial
                               2
                                         ; Refresh
                         604800
                                         ; Retry
                          86400
                                         ; Expire
                         2419200
                         604800 )
                                         ; Negative Cache TTL
        IN
                NS
                        ns1.oscar.abastos.edu.
        IN
                         172.31.95.47
ns1
                Α
pc1
        IN
                         172.31.94.218
pc2
        IN
                Α
                         172.31.43.41
                                       [ Read 15 lines ]
  Help
                  Write Out
                               ^W Where Is
                                                 Cut
                                                                 Execute
                                                                                 Location
                                                                                 Go To Line
                  Read File
                                                 Paste
                                                                 Justify
  Exit
                                  Replace
```

```
Archivo Editar Ver Marcadores Complementos Preferencias Ayuda

ubuntu@ip-172-31-95-47:/etc/bind$ named-checkzone oscar.abastos.edu. db.oscar.abastos

zone oscar.abastos.edu/IN: loaded serial 2

OK

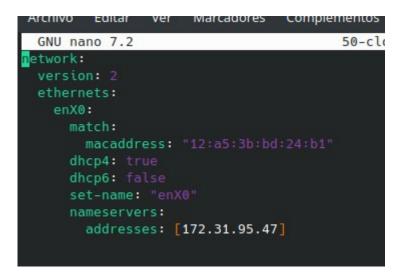
ubuntu@ip-172-31-95-47:/etc/bind$
```

Hacemos restart al servicio named y comprobamos su funcionamiento.

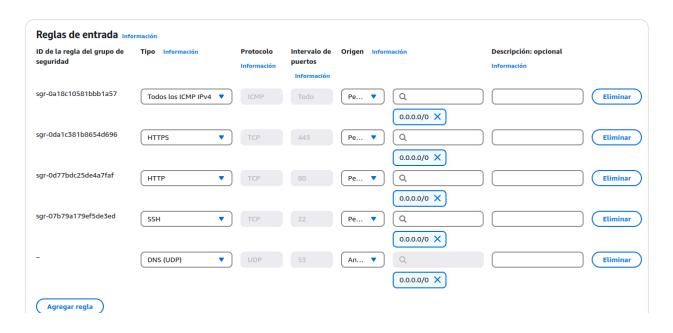
Ahora entramos a PC1 y comprobamos nuestro resolver.

```
(ubuntu) ec2-54-175-236-161.compute-1.amazonaws.com — Konsole
Archivo
         Editar Ver
                     Marcadores
                                 Complementos Preferencias
                                                             Ayuda
ubuntu@ip-172-31-94-218:~$ resolvectl
Global
         Protocols: -LLMNR -mDNS -DNSOverTLS DNSSEC=no/unsupported
 resolv.conf mode: stub
Link 2 (enX0)
   Current Scopes: DNS
        Protocols: +DefaultRoute -LLMNR -mDNS -DNSOverTLS DNSSEC=no/unsupported
Current DNS Server: 172.31.0.2
      DNS Servers: 172.31.0.2
       DNS Domain: ec2.internal
ubuntu@ip-172-31-94-218:~$
```

```
(ubuntu) ec2-54-175-236-161.compute-1.amazonaws.com — Konsole
Archivo
         Editar
                Ver
                     Marcadores
                                 Complementos
                                                 Preferencias
                                                             Ayuda
ubuntu@ip-172-31-94-218:/$ cd /etc/netplan/
ubuntu@ip-172-31-94-218:/etc/netplan$ ls
50-cloud-init.yaml
ubuntu@ip-172-31-94-218:/etc/netplan$ sudo nano 50-cloud-init.yaml
ubuntu@ip-172-31-94-218:/etc/netplan$ sudo netplan apply
ubuntu@ip-172-31-94-218:/etc/netplan$ resolvectl
Global
         Protocols: -LLMNR -mDNS -DNSOverTLS DNSSEC=no/unsupported
 resolv.conf mode: stub
Link 2 (enX0)
   Current Scopes: DNS
         Protocols: +DefaultRoute -LLMNR -mDNS -DNSOverTLS DNSSEC=no/unsupported
       DNS Servers: 172.31.95.47 172.31.0.2
       DNS Domain: ec2.internal
ubuntu@ip-172-31-94-218:/etc/netplan$
```



Modificamos el grupo de seguridad para que permita entrada por DNS(UDP).



```
ubuntu@ip-172-31-94-218:/etc$ sudo netplan apply
ubuntu@ip-172-31-94-218:/etc$ resolvectl
Global
         Protocols: -LLMNR -mDNS -DNSOverTLS DNSSEC=no/unsupported
  resolv.conf mode: stub
Link 2 (enX0)
   Current Scopes: DNS
         Protocols: +DefaultRoute -LLMNR -mDNS -DNSOverTLS DNSSEC=no/unsupported
      DNS Servers: 172.31.95.47 172.31.0.2
       DNS Domain: ec2.internal
ubuntu@ip-172-31-94-218:/etc$ ping ns1.oscar.abastos.edu
PING ns1.oscar.abastos.edu (172.31.95.47) 56(84) bytes of data.
64 bytes from 172.31.95.47: icmp_seq=1 ttl=64 time=0.308 ms
64 bytes from 172.31.95.47: icmp_seq=2 ttl=64 time=1.69 ms
64 bytes from 172.31.95.47: icmp_seq=3 ttl=64 time=0.506 ms
64 bytes from 172.31.95.47: icmp_seq=4 ttl=64 time=0.641 ms
```

Ahora añadimos un alias a las maquinas modificando el db de nuestro servidor.

```
Archivo
         Editar
                      Marcadores Complementos
                                                              Ayuda
                                                 Preferencias
  GNU nano 7.2
                                           db.oscar.abastos
        604800
$TTL
                S0A
        IN
                         oscar.abastos.edu. admin@oscar.abastos.edu. (
                                          ; Serial
                                          ; Refresh
                          604800
                           86400
                                          ; Retry
                         2419200
                                          ; Expire
                          604800 )
                                          ; Negative Cache TTL
        IN
                NS
                         ns1.oscar.abastos.edu.
        IN
                MX
                         10
                                 correo.oscar.abastos.edu.
                         172.31.95.47
ns1
        IN
                Α
                CNAME
        IN
                         ns1
√ww
                         172.31.94.218
pc1
        IN
                Α
pc2
        IN
                         172.31.43.41
                Α
correo.oscar.abastos.edu.
                                 IN
                                                  172.31.95.47
  Help
                ^0 Write Out
                                ^W Where Is
                                                  Cut
                                                                  Execute
                                                                                  Location
                  Read File
                                  Replace
                                                                  Justify
                                                                                  Go To Line
  Exit
                                                  Paste
```

```
Archivo Editar Ver Marcadores Complementos Preferencias Ayuda

ubuntu@ip-172-31-95-47:/etc/bind$ sudo nano db.oscar.abastos
ubuntu@ip-172-31-95-47:/etc/bind$ sudo nano db.oscar.abastos
ubuntu@ip-172-31-95-47:/etc/bind$ named-checkzone oscar.abastos.edu db.oscar.abastos
zone oscar.abastos.edu/IN: loaded serial 2
OK
ubuntu@ip-172-31-95-47:/etc/bind$ sudo systemctl restart named
ubuntu@ip-172-31-95-47:/etc/bind$
```

Guardamos y reiniciamos el servicio.

Ahora desde PC1 hacemos ping a los nuevos registros.

```
Archivo
         Editar
                     Marcadores
                                 Complementos
                Ver
                                               Preferencias
                                                           Ayuda
ubuntu@ip-172-31-94-218:/etc$ ping www.oscar.abastos.edu
PING ns1.oscar.abastos.edu (172.31.95.47) 56(84) bytes of data.
64 bytes from 172.31.95.47: icmp_seq=1 ttl=64 time=0.394 ms
64 bytes from 172.31.95.47: icmp_seq=2 ttl=64 time=0.508 ms
^C
--- ns1.oscar.abastos.edu ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1053ms
rtt min/avg/max/mdev = 0.394/0.451/0.508/0.057 ms
ubuntu@ip-172-31-94-218:/etc$ ping correo.oscar.abastos.edu
PING correo.oscar.abastos.edu (172.31.95.47) 56(84) bytes of data.
64 bytes from 172.31.95.47: icmp_seq=1 ttl=64 time=0.579 ms
64 bytes from 172.31.95.47: icmp_seq=2 ttl=64 time=0.754 ms
--- correo.oscar.abastos.edu ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1002ms
rtt min/avg/max/mdev = 0.579/0.666/0.754/0.087 ms
ubuntu@ip-172-31-94-218:/etc$
```

Y podemos verificar que funcionan correctamente.