Montar un servidor DNS usando Docker

1. Crea una red llamada redDNS: 192.168.0.0
2. Crea un contenedor servidor DNS (ubuntuServidorDNS): 192.168.0.10, usando la imagen base subida a dockerHub
3. Crea un contenedor cliente (ubuntuClienteDNS): 192.168.0.20, usando la imagen base subida a dockerHub
4. Hacer ping por ip de un contenedor a otro.
5. En el contenedor ubuntuServidorDNS, crear una zona que responda al dominio despliegue.com, con un registro A que apunte al cliente (cliente.despliegue.com).
6. OBJETIVO: hacer ping al registro A desde el ubuntuServidorDNS

SOLUCIÓN

1. Crea una red llamada redDNS: 192.168.0.0

```
root@nuria-virtualbox:/home/nuria# docker network create -d bridge --subnet 192.168.0.0/24 redDNS
4bfa7aaabce80a29c384b93705a54c668c0f790362661d6cc132cd5ca8f867a6
root@nuria-virtualbox:/home/nuria# docker network ls
NETWORK ID     NAME      DRIVER    SCOPE
d8d2f505c9f8   bridge    bridge    local
cdf69778a3fd   host      host      local
03928b5d674b   none      null      local
f6c3ac1349c2   red1      bridge    local
7be3b9ac8656   red2      bridge    local
4bfa7aaabce8   redDNS    bridge    local
```

2. Crea un contenedor servidor DNS (ubuntuServidorDNS): 192.168.0.10, usando la imagen base subida a dockerHub

```
root@nuria-virtualbox:/home/nuria# docker run -it --name ubuntuServidorDNS --network redDNS --ip 192.168.0.10 nuriapastrana/i
magenbaseubuntu16:1.0
```

3. Crea un contenedor cliente (ubuntuClienteDNS): 192.168.0.20, usando la imagen base subida a dockerHub

```
root@nuria-virtualbox:/home/nuria# docker run -it --name ubuntuClienteDNS --network redDNS --ip 192.168.0.20 nuriapastrana/im
agenbaseubuntu16:1.0
```

4. Hacer ping por ip de un contenedor a otro.

```
root@nuria-virtualbox:/home/nuria# docker exec -it ubuntuServidorDNS /bin/bash
root@dcce98574d6e:/# ping 192.168.0.20
PING 192.168.0.20 (192.168.0.20): 56 data bytes
64 bytes from 192.168.0.20: icmp_seq=0 ttl=64 time=0.204 ms
64 bytes from 192.168.0.20: icmp_seq=1 ttl=64 time=0.191 ms
64 bytes from 192.168.0.20: icmp_seq=2 ttl=64 time=0.184 ms
64 bytes from 192.168.0.20: icmp_seq=3 ttl=64 time=0.193 ms
^Z
[1]+  Stopped                 ping 192.168.0.20
```

5. En el contenedor ubuntuServidorDNS, crear una zona que responda al dominio despliegue.com, con un registro A que apunte al cliente (cliente.despliegue.com).

```
root@nuria-virtualbox:/home/nuria# docker start ubuntuServidorDNS
ubuntuServidorDNS
root@nuria-virtualbox:/home/nuria# docker exec -it ubuntuServidorDNS /bin/bash
root@5c2d56e44909:/#
```

```
root@dcce98574d6e:/# apt-get install bind9 bind9utils
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libffi6 libirs141 libpython-stdlib libpython2.7-minimal libpython2.7-stdlib net-tools python pytho
  python2.7-minimal
Suggested packages:
  bind9-doc resolvconf ufw python-doc python-tk python2.7-doc binutils binfmt-support
The following NEW packages will be installed:
  bind9 bind9utils libffi6 libirs141 libpython-stdlib libpython2.7-minimal libpython2.7-stdlib net-t
  python-minimal python2.7 python2.7-minimal
0 upgraded, 12 newly installed, 0 to remove and 0 not upgraded.
Need to get 4662 kB of archives.
After this operation, 20.3 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

Creamos la zona

```
root@dcce98574d6e: /etc/bind
  GNU nano 2.5.3                                File: 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 "despliegue.com"{
type master;
file "/var/lib/bind/master/despliegue.com";
};
```

```
root@dcce98574d6e:/etc/bind# named-checkconf named.conf.local
```

```
root@dcce98574d6e:/etc/bind# cd /var/lib/bind
root@dcce98574d6e:/var/lib/bind# ls
bind9-default.md5sum
root@dcce98574d6e:/var/lib/bind# mkdir master
root@dcce98574d6e:/var/lib/bind# cd master
root@dcce98574d6e:/var/lib/bind/master# nano despliegue.com
```

```
root@dcce98574d6e: /var/lib/bind/master
  GNU nano 2.5.3                                File: despliegue.com

$ORIGIN despliegue.com
$TTL 86400;

@       IN      SOA     despliegue.com  nuria.despliegue.com(
        1H;
        6H;
        2W;
        1H;
)
        NS      despliegue.com
despliegue.com  IN      A       192.168.0.10
cliente IN      A       192.168.0.20
```

- Falta un parámetro en el registro SOA (después del “(“ hay que añadir 1;)

FALTA un “.” después de la primera línea $ORIGIN despliegue.com.

```
root@dcce98574d6e:/var/lib/bind/master# named-checkzone despliegue.com despliegue.com
zone despliegue.com/IN: loaded serial 1
OK
```

```
root@dcce98574d6e:/var/lib/bind/master# cd /etc
root@dcce98574d6e:/etc# ls
X11                     deluser.conf  insserv          magic           passwd-     resolv.conf  sysctl.d
adduser.conf            dhcp          insserv.conf     magic.mime      ppp         rmt          systemd
alternatives            dpkg          insserv.conf.d   mailcap         profile     rpc          terminfo
apparmor                environment   iproute2         mailcap.order   profile.d   securetty    timezone
apparmor.d              fstab         issue            mime.types      protocols   security     tmpfiles.d
apt                     gai.conf      issue.net        mke2fs.conf     python      selinux      udev
bash.bashrc             group         kernel           modules-load.d  python2.7   services     ufw
bash_completion.d       group-        ld.so.cache      mtab            python3.5   sgml         update-motd.d
bind                    gshadow       ld.so.conf       nanorc          rc.local    shadow       vim
bindresvport.blacklist  gshadow-      ld.so.conf.d     network         rc0.d       shadow-      xdg
binfmt.d                gss           legal            networks        rc1.d       shells       xml
cron.daily              host.conf     libaudit.conf    nsswitch.conf   rc2.d       skel
cron.weekly             hostname      localtime        opt             rc3.d       subgid
dbus-1                  hosts         login.defs       os-release      rc4.d       subgid-
debconf.conf            init          logrotate.d      pam.conf        rc5.d       subuid
debian_version          init.d        lsb-release      pam.d           rc6.d       subuid-
default                 inputrc       machine-id       passwd          rcS.d       sysctl.conf
root@dcce98574d6e:/etc# nano resolv.conf
```

```
root@dcce98574d6e: /etc
 GNU nano 2.5.3                                File: resolv.conf

nameserver 127.0.0.1
options edns0 trust-ad ndots:0
```

```
root@dcce98574d6e:/etc# service bind9 status
 * bind9 is not running
root@dcce98574d6e:/etc# service bind9 restart
 * Stopping domain name service... bind9
rndc: connect failed: 127.0.0.1#953: connection refused

 * Starting domain name service... bind9
```

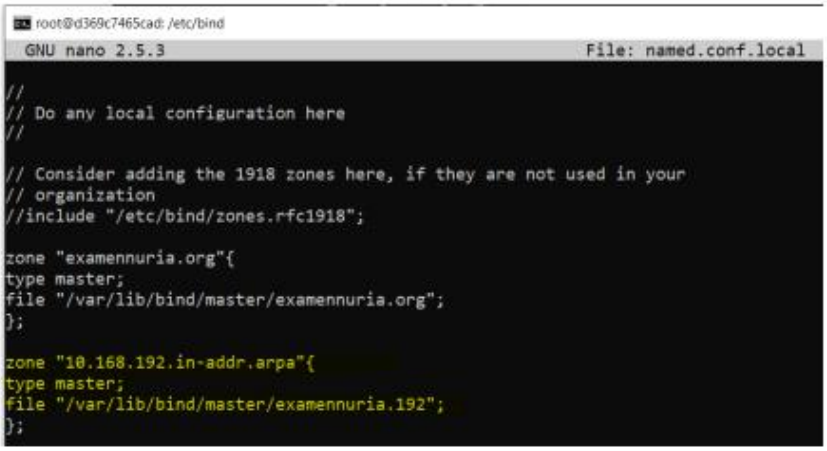
6. OBJETIVO: hacer ping al registro A desde el ubuntuServidorDNS

```
root@dcce98574d6e:/etc# ping cliente.despliegue.com
PING cliente.despliegue.com (192.168.0.20): 56 data bytes
64 bytes from 192.168.0.20: icmp_seq=0 ttl=64 time=0.078 ms
64 bytes from 192.168.0.20: icmp_seq=1 ttl=64 time=0.073 ms
64 bytes from 192.168.0.20: icmp_seq=2 ttl=64 time=0.097 ms
^Z
[3]+  Stopped                 ping cliente.despliegue.com
```

ZONA INVERSA

RESOLUCIÓN INVERSA

- Añadimos la zona inversa al fichero named.conf.local (/etc/bind)



- Creamos el fichero examennuria.192