

Para crear el DNS primero vamos a crear un fichero Vagrant (.vagrantfile), en el que meteremos los siguientes comandos:

Esto creará cuatro máquinas, con los nombres "dns", "apache1", "apache2" y "nginx".

Donde el nombre de cada equipo son las primeras comillas, y las ip serán las que escojamos.

Luego pondrá a cada una de las máquinas su nombre e ip, así como la cantidad de cpus y memoria a usar. También el nombre completo de host, la máscara de red y más. Al final instalará webmin en las máquinas.

```
BOX_IMAGE = "ubuntu/focal64"
equipos = {
  "dns" => {:ip=> "10.10.17.85", :cpus => 1, :mem => 1024},
  "apache1" => {:ip=> "10.10.17.86", :cpus => 1, :mem => 1024},
  "apache2" => {:ip=> "10.10.17.87", :cpus => 1, :mem => 1024},
  "nginx" => {:ip=> "10.10.17.88", :cpus => 1, :mem => 1024},
}

Vagrant.configure("2") do |config|
  equipos.each_with_index do |(hostname, info), index|
    config.vm.define hostname do |cfg|
      cfg.vm.provider :virtualbox do |vb, override|
        config.vm.box = BOX_IMAGE
        override.vm.network :public_network, ip:"#{info[:ip]}", netmask:
"255.255.255.0"
        override.vm.hostname = "#{hostname}.aula104"
        vb.name = hostname
        vb.customize ["modifyvm", :id, "--memory", info[:mem], "--cpus",
info[:cpus], "--hwvirtex", "on"]
      end
    end
  end

  config.vm.provision "shell", inline: <<-SHELL
echo -e "\n --> PRIMER UPDATE-\n\n"
apt update
#apt-get install -y net-tools
#route add default gw 10.10.17.254 enp0s8
echo -e "\n --> WEBMIN.\n\n"
sh -c 'echo "deb http://download.webmin.com/download/repository sarge
contrib" > /etc/apt/sources.list.d/webmin.https://dns:10000"'
wget -q0 - http://www.webmin.com/jcameron-key.asc \sudo apt-key add -
apt update
apt install -y webmin
SHELL
end
```

Iniciar la máquina con *Vagrant up dns*

```
C:\Users\2daw3\Desktop\DNS>vagrant up
Bringing machine 'dns104' up with 'virtualbox' provider...
Bringing machine 'apache104' up with 'virtualbox' provider...
Bringing machine 'apache2104' up with 'virtualbox' provider...
Bringing machine 'nginx104' up with 'virtualbox' provider...
```

Acceder a dns con *vagrant ssh dns*, y comprobar que la ip se ha asignado correctamente

```
C:\Users\2daw3\Desktop\DNS>vagrant ssh dns104
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.4.0-84-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Tue Nov  2 09:11:26 UTC 2021

System load:  0.16           Processes:            108
Usage of /:   3.7% of 38.71GB Users logged in:        0
Memory usage: 19%           IPv4 address for enp0s3: 10.0.2.15
Swap usage:   0%            IPv4 address for enp0s8: 10.10.17.85

62 updates can be applied immediately.
35 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable
```

```
vagrant@dns104:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 02:6e:81:45:38:65 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic enp0s3
        valid_lft 86258sec preferred_lft 86258sec
    inet6 fe80::6e:81ff:fe45:3865/64 scope link
        valid_lft forever preferred_lft forever
3: enp0s8: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:4c:30:72 brd ff:ff:ff:ff:ff:ff
    inet 10.10.17.85/24 brd 10.10.17.255 scope global enp0s8
        valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe4c:3072/64 scope link
        valid_lft forever preferred_lft forever
```

Para instalar webmin, añadir la siguiente línea al archivo *etc/apt/sources.list*

```
deb http://download.webmin.com/download/repository sarge contrib
```

*sudo apt update*

```
vagrant@dns104:/etc/apt$ vagrant@dns104:/etc/apt$ sudo apt update
Hit:1 http://archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Ign:4 http://download.webmin.com/download/repository sarge InRelease
Get:5 http://archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]
Get:6 http://download.webmin.com/download/repository sarge Release [16.9 kB]
Get:7 http://download.webmin.com/download/repository sarge Release.gpg [173 B]
Ign:7 http://download.webmin.com/download/repository sarge Release.gpg
Reading package lists... Done
W: GPG error: http://download.webmin.com/download/repository sarge Release: The following signatures couldn't be verified because the public key is not available: NO_PUBKEY D97A3AE911F63C51
E: The repository 'http://download.webmin.com/download/repository sarge Release' is not signed.
N: Updating from such a repository can't be done securely, and is therefore disabled by default.
N: See apt-secure(8) manpage for repository creation and user configuration details.
```

*wget -q -O- http://www.webmin.com/jcameron-key.asc | sudo apt-key add*

```
vagrant@dns104:/etc/apt$ wget -q -O- http://www.webmin.com/jcameron-key.asc | sudo apt-key add
OK
```

Nuevamente *sudo apt update*

```
vagrant@dns104:/etc/apt$ sudo apt update
Hit:1 http://archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu focal-security InRelease
Ign:5 http://download.webmin.com/download/repository sarge InRelease
Get:6 http://download.webmin.com/download/repository sarge Release [16.9 kB]
Get:7 http://download.webmin.com/download/repository sarge Release.gpg [173 B]
Get:8 http://download.webmin.com/download/repository sarge/contrib amd64 Packages [1387 B]
Fetched 18.4 kB in 1s (15.9 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
58 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

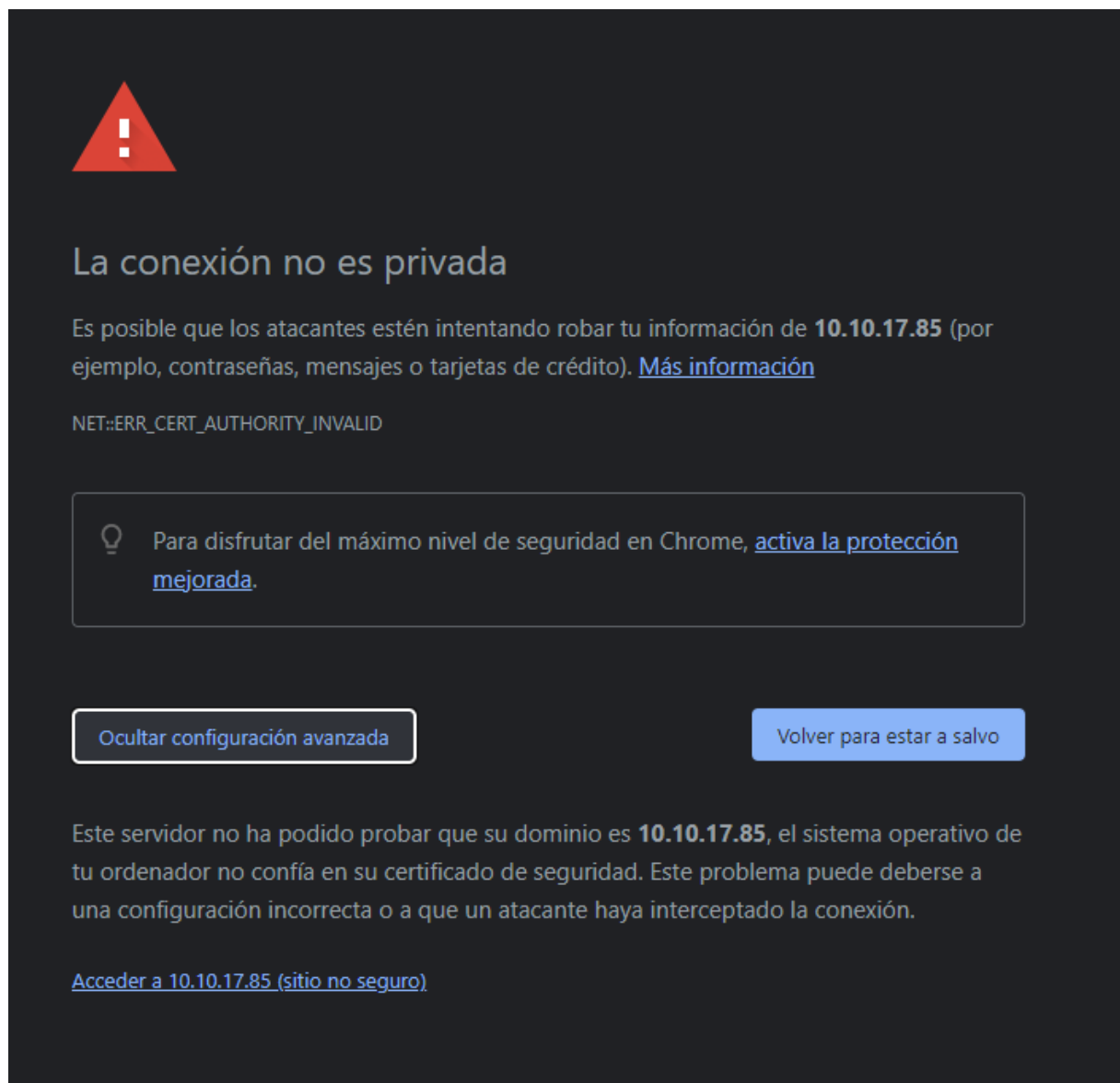
*sudo apt install webmin*

```
vagrant@dns104:/etc/apt$ sudo apt install webmin
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libauthen-pam-perl libio-pty-perl libnet-ssleay-perl perl-openssl-defaults unzip
Suggested packages:
  zip
The following NEW packages will be installed:
  libauthen-pam-perl libio-pty-perl libnet-ssleay-perl perl-openssl-defaults unzip webmin
0 upgraded, 6 newly installed, 0 to remove and 58 not upgraded.
Need to get 29.2 MB of archives.
After this operation, 308 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 perl-openssl-defaults amd64 4 [7192 B]
Get:2 http://archive.ubuntu.com/ubuntu focal/main amd64 libnet-ssleay-perl amd64 1.88-2ubuntu1 [291 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal/universe amd64 libauthen-pam-perl amd64 0.16-3build7 [24.3 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal/main amd64 libio-pty-perl amd64 1:1.12-1 [32.4 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal/main amd64 unzip amd64 6.0-25ubuntu1 [169 kB]
Get:6 http://download.webmin.com/download/repository sarge/contrib amd64 webmin all 1.981 [28.7 MB]
Fetched 29.2 MB in 3min 44s (130 kB/s)
Selecting previously unselected package perl-openssl-defaults:amd64.
(Reading database ... 63194 files and directories currently installed.)
Preparing to unpack .../0-perl-openssl-defaults_4_amd64.deb ...
Unpacking perl-openssl-defaults:amd64 (4) ...
Selecting previously unselected package libnet-ssleay-perl.
Preparing to unpack .../1-libnet-ssleay-perl_1.88-2ubuntu1_amd64.deb ...
Unpacking libnet-ssleay-perl (1.88-2ubuntu1) ...
Selecting previously unselected package libauthen-pam-perl.
Preparing to unpack .../2-libauthen-pam-perl_0.16-3build7_amd64.deb ...
Unpacking libauthen-pam-perl (0.16-3build7) ...
Selecting previously unselected package libio-pty-perl.
Preparing to unpack .../3-libio-pty-perl_1%3a1.12-1_amd64.deb ...
Unpacking libio-pty-perl (1:1.12-1) ...
Selecting previously unselected package unzip.
Preparing to unpack .../4-unzip_6.0-25ubuntu1_amd64.deb ...
Unpacking unzip (6.0-25ubuntu1) ...
Selecting previously unselected package webmin.
Preparing to unpack .../5-webmin_1.981_all.deb ...
Unpacking webmin (1.981) ...
Setting up libio-pty-perl (1:1.12-1) ...
Setting up unzip (6.0-25ubuntu1) ...
Setting up perl-openssl-defaults:amd64 (4) ...
Setting up libauthen-pam-perl (0.16-3build7) ...
Setting up libnet-ssleay-perl (1.88-2ubuntu1) ...
Setting up webmin (1.981) ...
Webmin install complete. You can now login to https://dns104:10000/
as root with your root password, or as any user who can use sudo
to run commands as root.
Processing triggers for systemd (245.4-4ubuntu3.11) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for mime-support (3.64ubuntu1) ...
```

Como vemos al final, está funcionando correctamente según la siguiente línea

```
Webmin install complete. You can now login to https://dns104:10000/
as root with your root password, or as any user who can use sudo
to run commands as root.
```

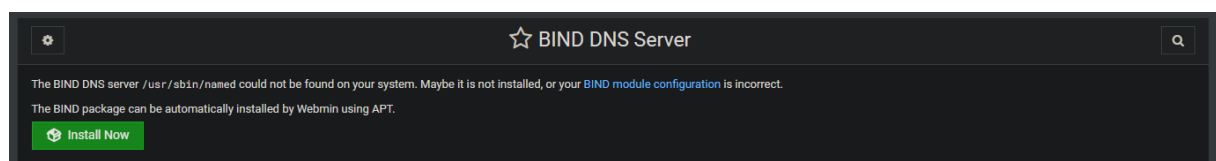
Aunque el ir a <https://dns104:10000/> nos da error, sí que funciona yendo a <https://10.10.17.85:10000/>



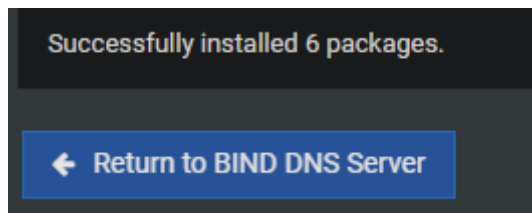
Pincharemos en configuración avanzada y a [Acceder a 10.10.17.85](https://10.10.17.85), con usuario y contraseña `vagrant`.

En el menú lateral izquierdo, accedemos a un-used Modules y a *Bind DNS Server*.

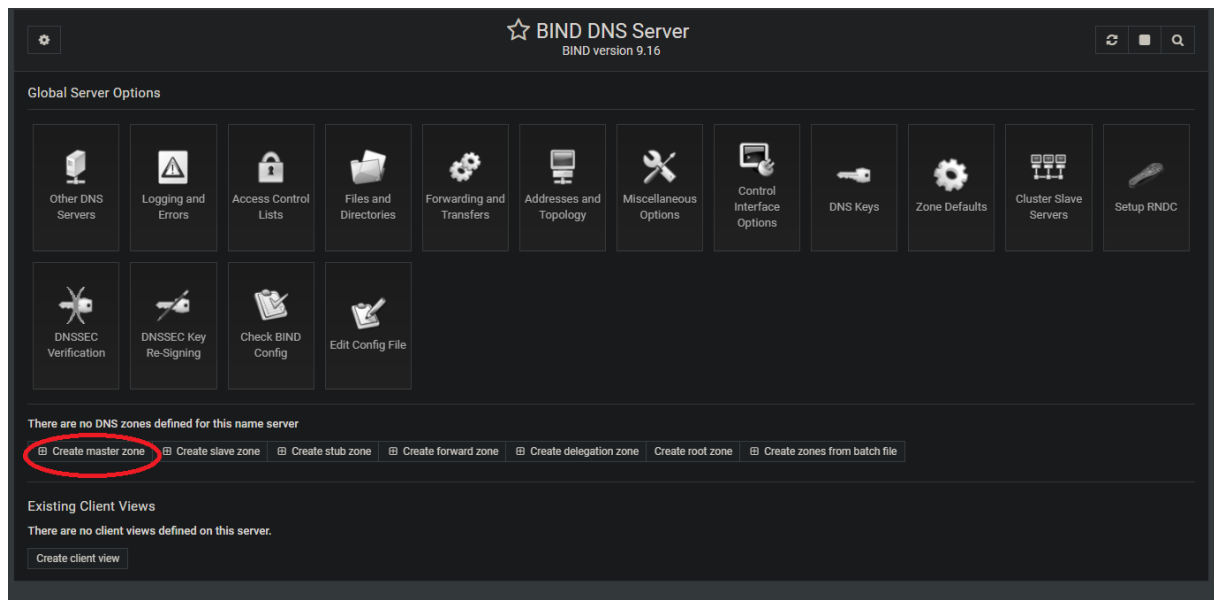
Si nos aparece el siguiente cuadro, pinchamos en *Install Now*



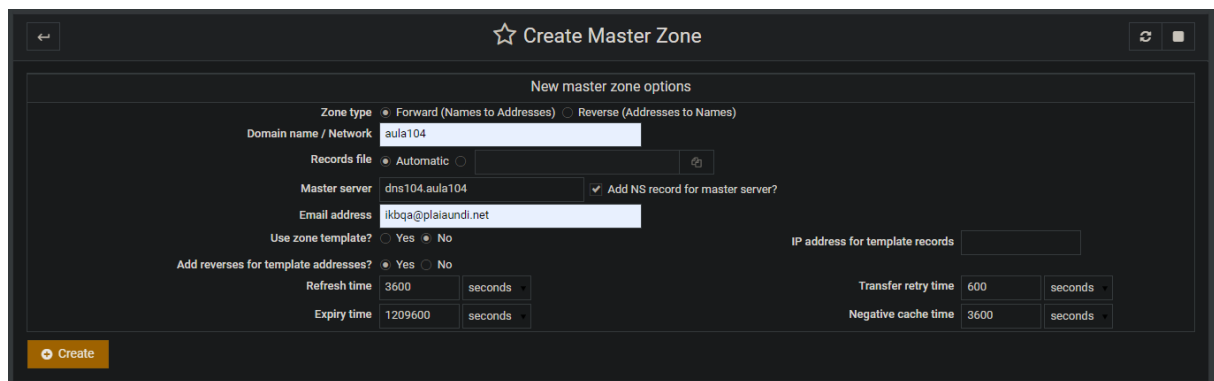
Todo ha ido bien



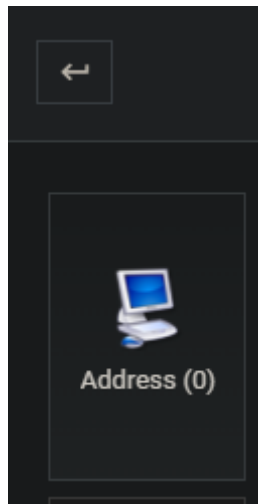
Creamos una zona maestra



Con los siguientes parámetros



Ahora añadiremos una dirección de una máquina cliente



←

☆ Address Records  
In aula104

🔍 🔄 🗑

Add Address Record

Name

apache1

Time-To-Live

• Default

seconds ▾

Address

10.10.17.86

🔍

Update reverse?

• Yes

• Yes (and replace existing)

• No

➕ Create

Show records matching:

🔍 Search

Ahora, en la lista de direcciones tendremos la nueva

←

☆ Address Records  
In aula104

🔍 🔄 🗑

Add Address Record

Name

Time-To-Live

• Default

seconds ▾

Address

🔍

Update reverse?

• Yes

• Yes (and replace existing)

• No

➕ Create

Show records matching:

🔍 Search

☑ Select all

🔄 Invert selection

↕ Name	↕ TTL	↕ Address
<div><input type="checkbox"/></div> apache1.aula104.	Default	10.10.17.86

☑ Select all

🔄 Invert selection

🗑 Delete Selected

☒ Delete reverses too?

Vamos a ir a una máquina cliente, que tenga esa dirección ip 10.10.17.86 y como dns 10.10.17.85, y vamos a hacer un ping a DNS para ver si lo resuelve.

```

apache1@apache1:/etc/netplan$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:17:7e:31 brd ff:ff:ff:ff:ff:ff
    inet 10.10.17.86/24 brd 10.10.17.255 scope global enp0s3
        valid_lft forever preferred_lft forever
    inet 10.10.17.89/24 brd 10.10.17.255 scope global secondary enp0s3
        valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fe17:7e31/64 scope link
        valid_lft forever preferred_lft forever
apache1@apache1:/etc/netplan$ ping 10.10.17.85
PING 10.10.17.85 (10.10.17.85) 56(84) bytes of data.
64 bytes from 10.10.17.85: icmp_seq=1 ttl=64 time=0.329 ms
64 bytes from 10.10.17.85: icmp_seq=2 ttl=64 time=0.369 ms
64 bytes from 10.10.17.85: icmp_seq=3 ttl=64 time=0.400 ms
^C
--- 10.10.17.85 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2041ms
rtt min/avg/max/mdev = 0.329/0.366/0.400/0.029 ms

```

Como vemos, ha salido correctamente, ya tenemos un servidor con webmin