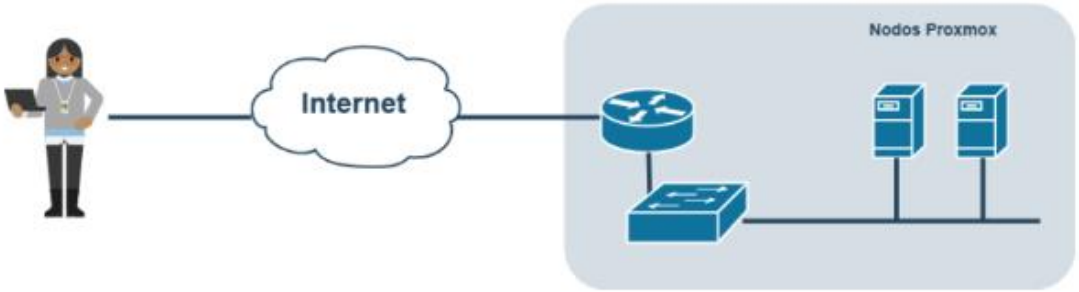
# TRABAJO PRACTICO FINAL

## BLOG PERSONAL




DIAZ CARLOS ALBERTO

Comisión: 5K3

Legajo: 33463

Año: 2023

*Cátedra de Virtualizacion*
*Ingeniería en Sistemas de Información*

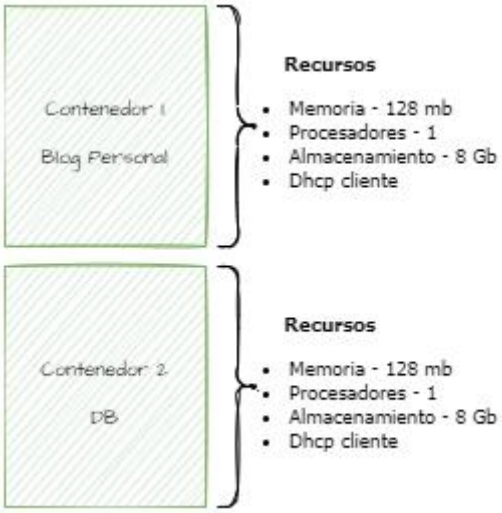
## Caso de Estudio: Blog Personal

El alumno deberá implementar un servicio de Blog Personal, el cual deberá incluir las siguientes especificaciones:

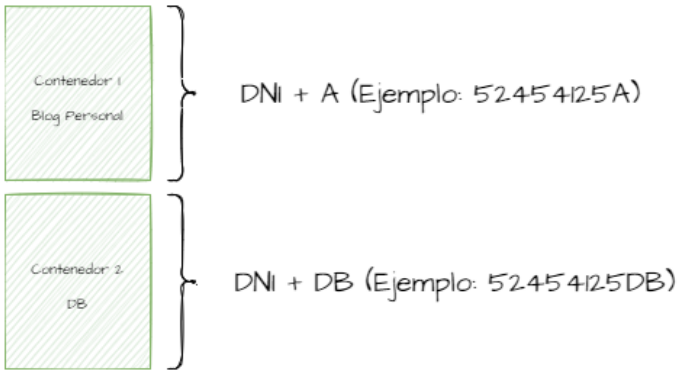
1. Datos Personales
2. Imagen personal del alumno
3. Informe del desarrollo e implementación del TPF disponible en formato PDF

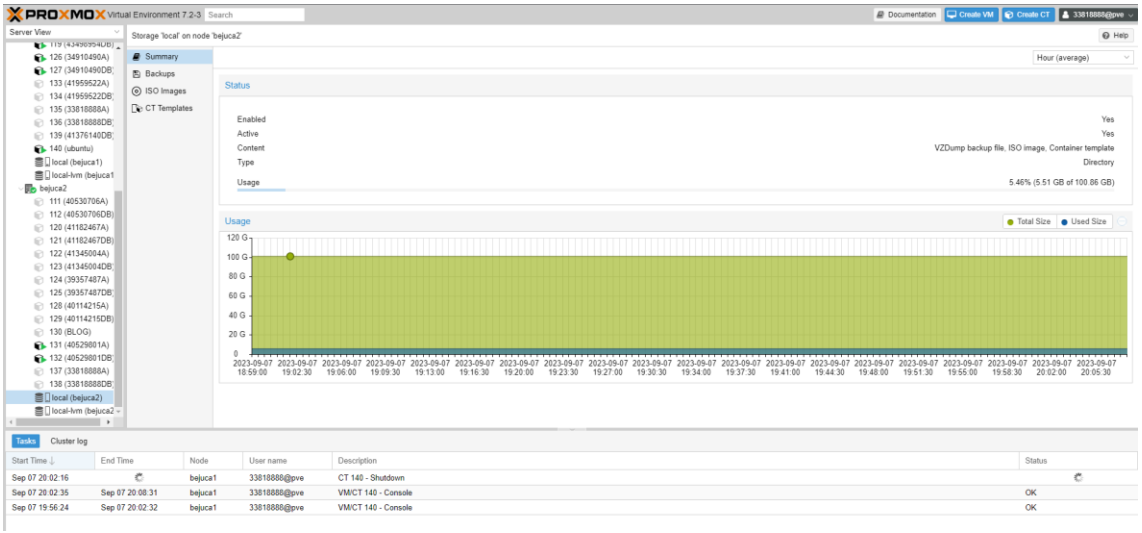
Deberá implementar lo solicitado sobre la siguiente infraestructura:

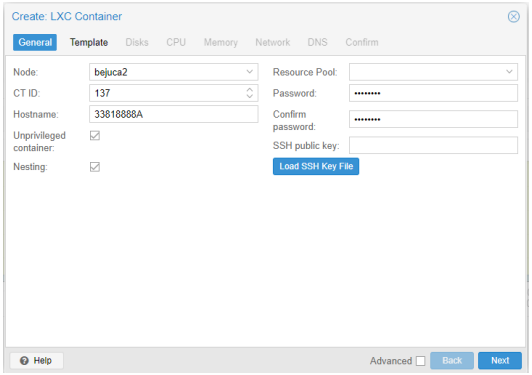
La topología que se utiliza está representada en el gráfico adjunto. La misma consta de un acceso vía internet a través de la dirección https://319e02b588a6.sn.mynetname.net:9991/
El alumno deberá cumplimentar las siguientes especificaciones.

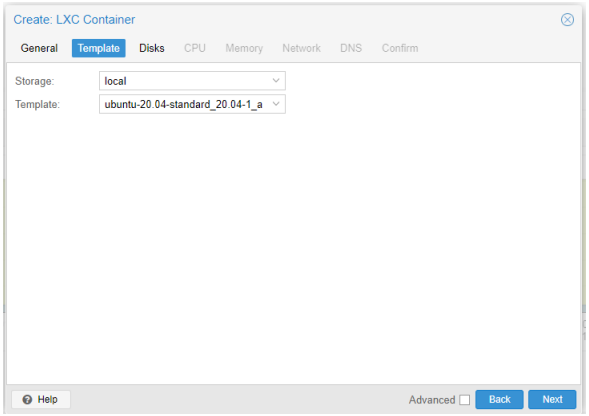


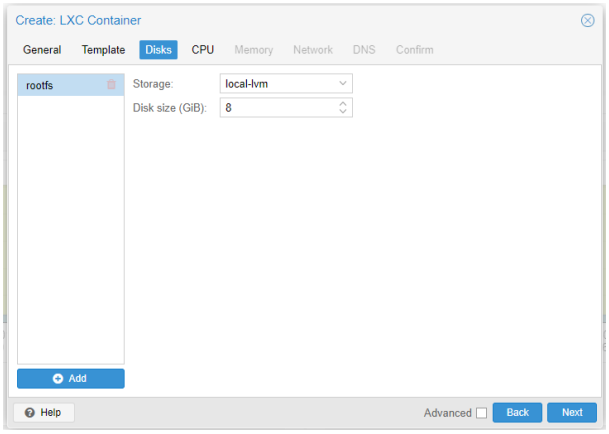
Para colocar el nombre a los contenedores, el alumno deberá utilizar las siguientes especificaciones:

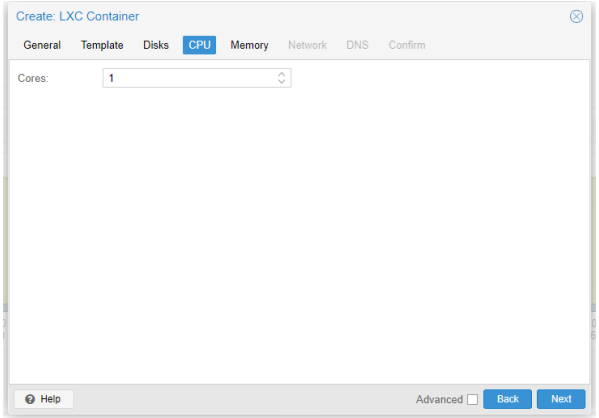


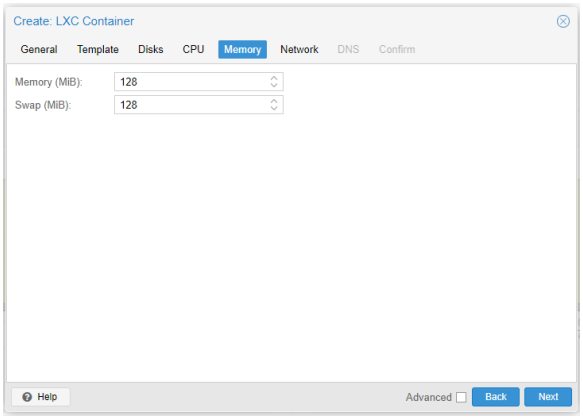



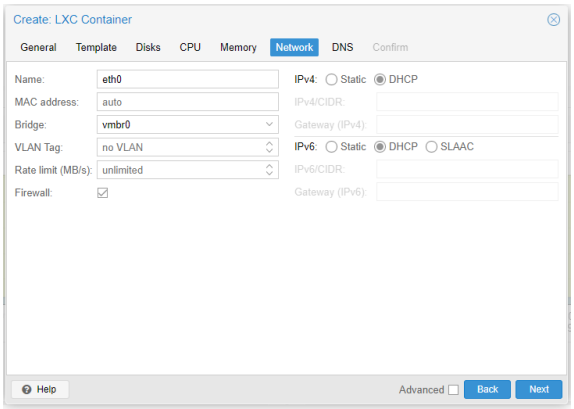


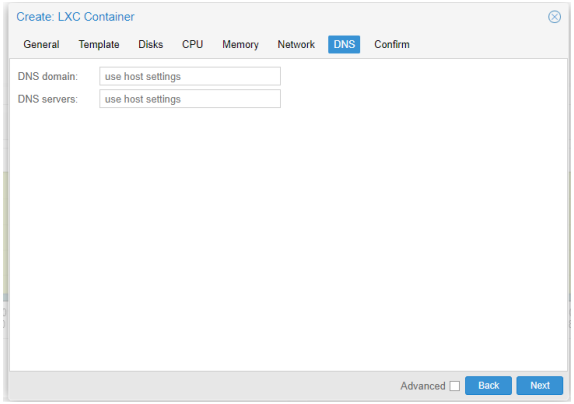

Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
Storage:
local
Template:
ubuntu-20.04-standard_20.04-1_a
Help
Advanced
Back
Next

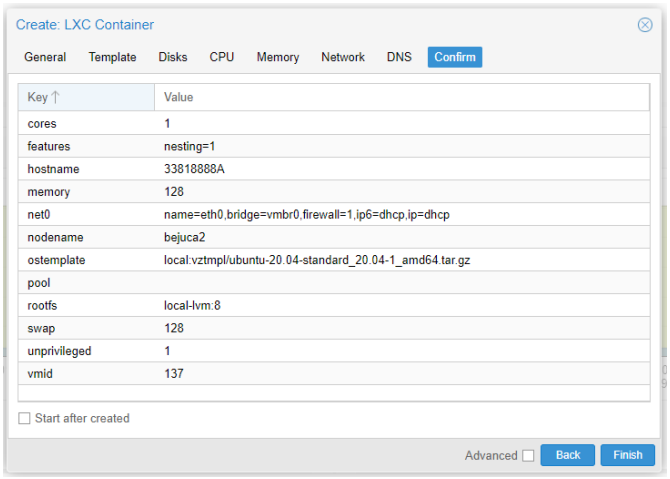

Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
rootfs
Storage:
local-lvm
Disk size (GiB):
8
Add
Help
Advanced
Back
Next

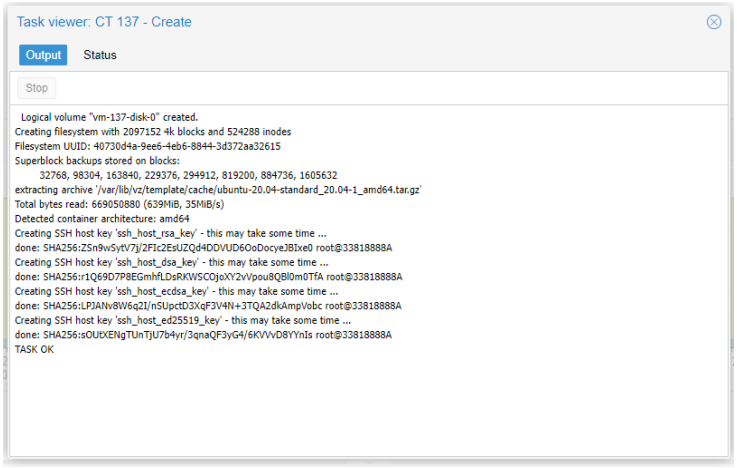

Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
Cores:
1
Help
Advanced
Back
Next


Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
Memory (MiB):
128
Swap (MiB):
128
Help
Advanced
Back
Next

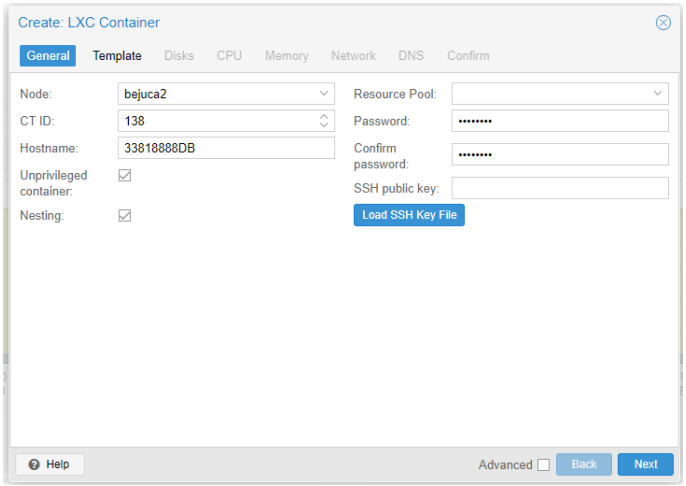

Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
Name:
eth0
MAC address:
auto
Bridge:
vmbr0
VLAN Tag:
no VLAN
Rate limit (MB/s):
unlimited
Firewall:
IPv4:
Static
DHCP
IPv4/CIDR:
Gateway (IPv4):
IPv6:
Static
DHCP
SLAAC
IPv6/CIDR:
Gateway (IPv6):
Help
Advanced
Back
Next

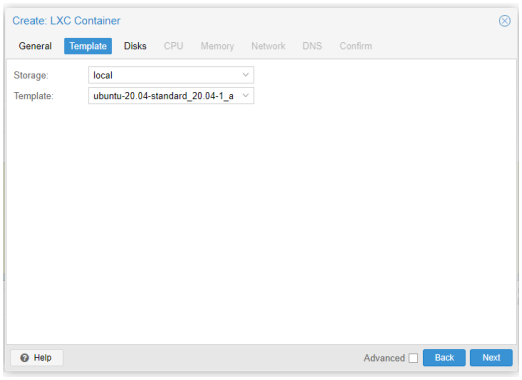

Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
DNS domain:
use host settings
DNS servers:
use host settings
Advanced
Back
Next

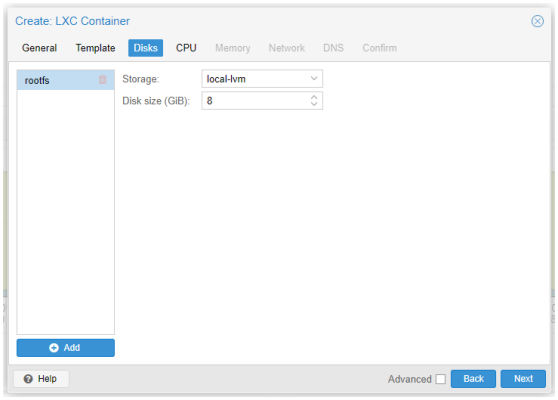


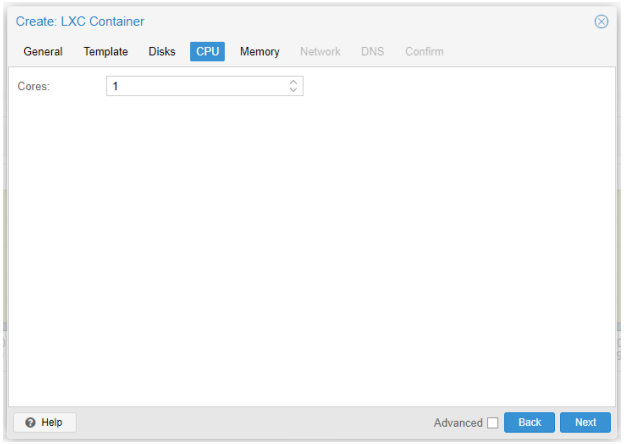



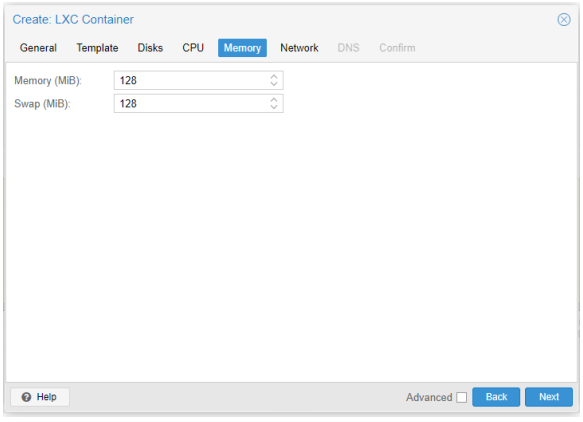

## Contenedor B

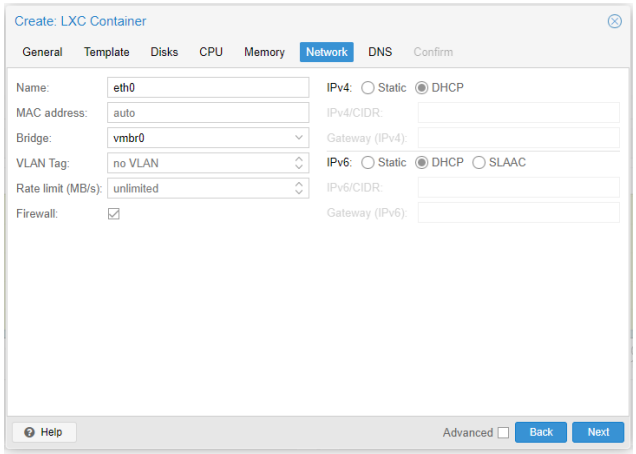


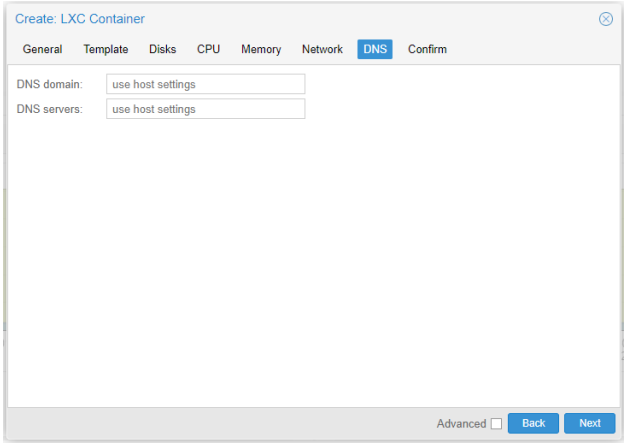

Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
Storage:
local
Template:
ubuntu-20.04-standard_20.04-1_a
Help
Advanced
Back
Next

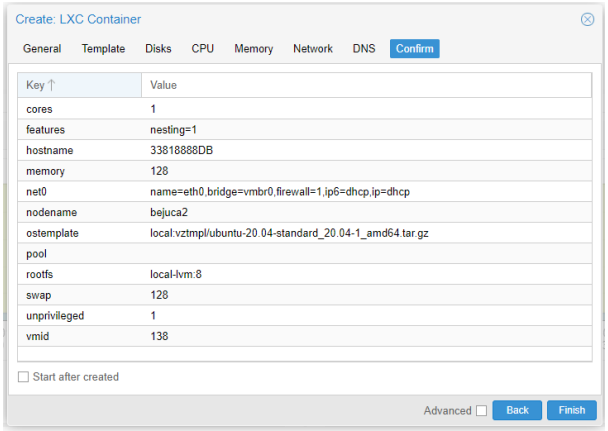

Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
rootfs
Storage:
local-lvm
Disk size (GiB):
8
Add
Help
Advanced
Back
Next

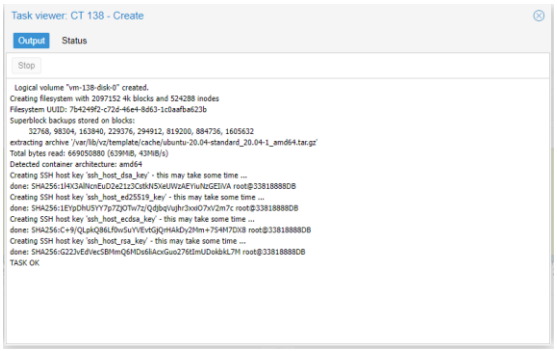

Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
Cores:
1
Help
Advanced
Back
Next


Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
Memory (MiB):
128
Swap (MiB):
128
Help
Advanced
Back
Next


Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
Name:
eth0
MAC address:
auto
Bridge:
vmbr0
VLAN Tag:
no VLAN
Rate limit (MB/s):
unlimited
Firewall:
IPv4:
Static
DHCP
IPv4/CIDR:
Gateway (IPv4):
IPv6:
Static
DHCP
SLAAC
IPv6/CIDR:
Gateway (IPv6):
Help
Advanced
Back
Next

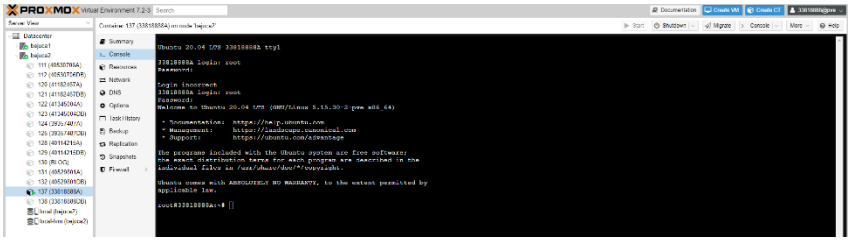

Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
DNS domain:
use host settings
DNS servers:
use host settings
Advanced
Back
Next


Create: LXC Container
General
Template
Disks
CPU
Memory
Network
DNS
Confirm
Key
Value
cores 1
features nesting=1
hostname 33818888DB
memory 128
net0 name=eth0,bridge=vmbr0,firewall=1,ip6=dhcp,ip=dhcp
nodename bejuca2
ostemplate local:vztmpl/ubuntu-20.04-standard_20.04-1_amd64.tar.gz
pool
rootfs local-lvm:8
swap 128
unprivileged 1
vmid 138
Start after created
Advanced
Back
Finish

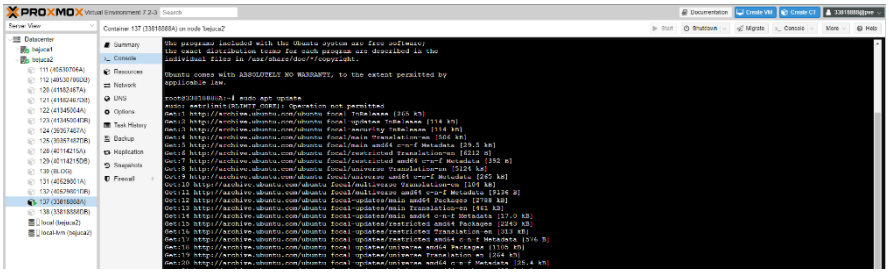



usuario: root

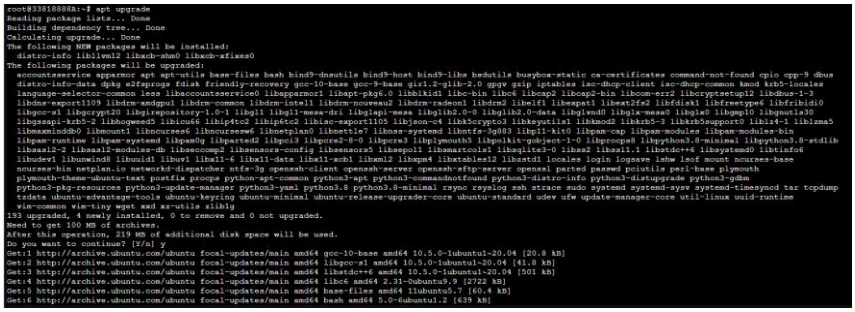
contraseña: 33818888



sudo apt update

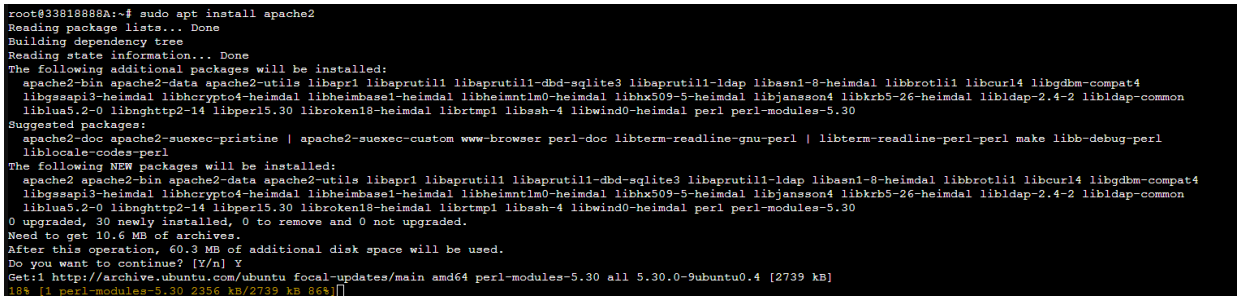


apt upgrade

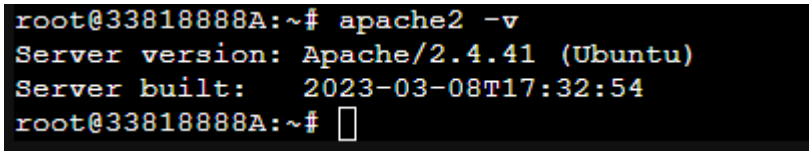


Instalamos apache2

sudo apt install apache2



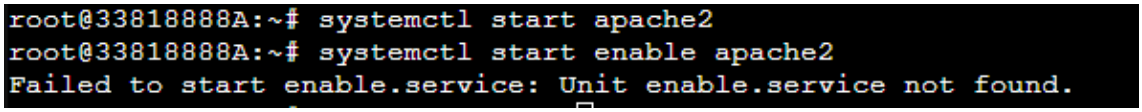

apache2 -v



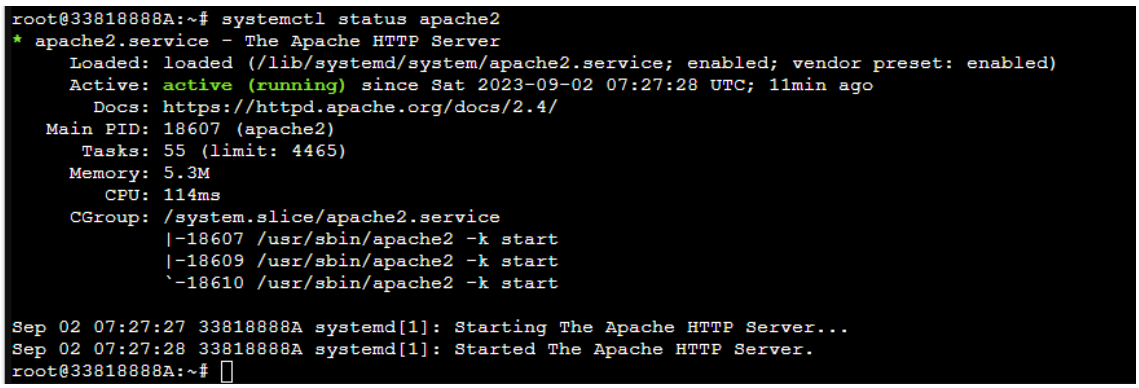

Luego ejecutamos los siguientes comandos para iniciar apache y configurar que inicie con el arranque “systemctl start apache2” y “systemctl enable apache2”

systemctl start apache2

systemctl enable apache2




systemctl status apache2



systemctl enable apache2

```
root@33818888A:~# systemctl enable apache2
Synchronizing state of apache2.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable apache2
root@33818888A:~#
```

apt install net-tools

```
root@33818888A:~# apt install net-tools
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  net-tools
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 196 kB of archives.
After this operation, 864 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 net-tools amd64 1.60+git20180626.aebd88e-1ubuntu1 [196 kB]
Fetched 196 kB in 3s (77.3 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 20357 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20180626.aebd88e-1ubuntu1_amd64.deb ...
Unpacking net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Setting up net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Processing triggers for man-db (2.9.1-1) ...
```

ifconfig

```
root@33818888A:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.77.198  netmask 255.255.255.0  broadcast 192.168.77.255
        inet6 fe80::c464:2ff:fedf:2cc  prefixlen 64  scopeid 0x20<link>
        ether c6:64:02:df:02:cc  txqueuelen 1000  (Ethernet)
        RX packets 173382  bytes 254027285 (254.0 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 81475  bytes 6649503 (6.6 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

root@33818888A:~#
```

Por lo general apache escucha por el puerto 80 las peticiones, para asegurarnos ejecutamos el siguiente comando

ss -tlnp | grep apache

```
root@33818888A:~# ss -tlnp | grep apache
LISTEN    0         511                *:80
```

Ahora debemos asegurarnos de que las reglas de cortafuego están habilitadas para acceder/salir del puerto 80. Primero debemos instalar “UFW” (Uncomplicated Firewall) que es un cortafuegos diseñado para ser de fácil uso desarrollado por Ubuntu.

apt install ufw

```
root@33818888A:~# apt install ufw
Reading package lists... Done
Building dependency tree
Reading state information... Done
ufw is already the newest version (0.36-6ubuntu1.1).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@33818888A:~#
```

Ahora habilitamos el tráfico entrante en el puerto 80 con el comando

ufw allow 80/tcp

```
root@33818888A:~# ufw allow 80/tcp
Rules updated
Rules updated (v6)
root@33818888A:~#
```

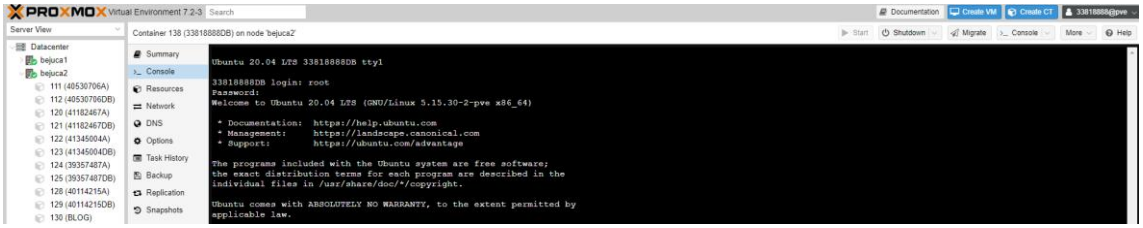
activamos ufw con el comando

ufw enable

```
root@33818888A:~# ufw enable
Firewall is active and enabled on system startup
root@33818888A:~#
```

**Ahora pasamos a configurar el contenedor B**

Primero iniciamos sesión con usuario root y contraseña 33818888




sudo apt update

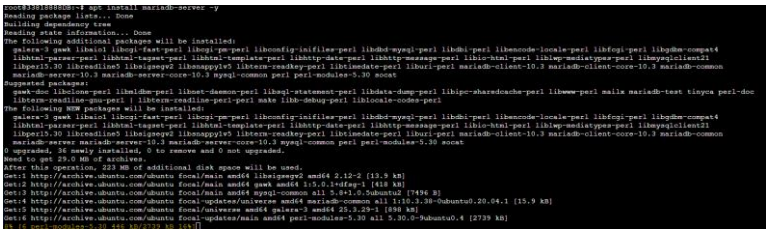
```
root@33818888DB:~# sudo apt update
sudo: setrlimit(RLIMIT_CORE): Operation not permitted
Get:1 http://archive.ubuntu.com/ubuntu focal InRelease [265 kB]
Get:2 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal/main Translation-en [506 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal/main amd64 c-n-f Metadata [29.5 kB]
Get:6 http://archive.ubuntu.com/ubuntu focal/restricted Translation-en [6212 B]
Get:7 http://archive.ubuntu.com/ubuntu focal/restricted amd64 c-n-f Metadata [392 B]
Get:8 http://archive.ubuntu.com/ubuntu focal/universe Translation-en [5124 kB]
Get:9 http://archive.ubuntu.com/ubuntu focal/universe amd64 c-n-f Metadata [265 kB]
Get:10 http://archive.ubuntu.com/ubuntu focal/multiverse Translation-en [104 kB]
Get:11 http://archive.ubuntu.com/ubuntu focal/multiverse amd64 c-n-f Metadata [9136 B]
Get:12 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [2788 kB]
Get:13 http://archive.ubuntu.com/ubuntu focal-updates/main Translation-en [461 kB]
Get:14 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [17.0 kB]
Get:15 http://archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [2243 kB]
Get:16 http://archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [313 kB]
Get:17 http://archive.ubuntu.com/ubuntu focal-updates/restricted amd64 c-n-f Metadata [576 B]
Get:18 http://archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [1105 kB]
```

apt upgrade

```
root@33818888DB:~# sudo apt update
sudo: setrlimit(RLIMIT_CORE): Operation not permitted
Get:1 http://archive.ubuntu.com/ubuntu focal InRelease [265 kB]
Get:2 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal/main Translation-en [506 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal/main amd64 c-n-f Metadata [29.5 kB]
Get:6 http://archive.ubuntu.com/ubuntu focal/restricted Translation-en [6212 B]
Get:7 http://archive.ubuntu.com/ubuntu focal/restricted amd64 c-n-f Metadata [392 B]
Get:8 http://archive.ubuntu.com/ubuntu focal/universe Translation-en [5124 kB]
Get:9 http://archive.ubuntu.com/ubuntu focal/universe amd64 c-n-f Metadata [265 kB]
Get:10 http://archive.ubuntu.com/ubuntu focal/multiverse Translation-en [104 kB]
Get:11 http://archive.ubuntu.com/ubuntu focal/multiverse amd64 c-n-f Metadata [9136 B]
Get:12 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [2788 kB]
Get:13 http://archive.ubuntu.com/ubuntu focal-updates/main Translation-en [461 kB]
Get:14 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [17.0 kB]
Get:15 http://archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [2243 kB]
Get:16 http://archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [313 kB]
Get:17 http://archive.ubuntu.com/ubuntu focal-updates/restricted amd64 c-n-f Metadata [576 B]
Get:18 http://archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [1105 kB]
Get:19 http://archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [264 kB]
Get:20 http://archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.4 kB]
Get:21 http://archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [25.8 kB]
Get:22 http://archive.ubuntu.com/ubuntu focal-updates/multiverse Translation-en [7484 B]
```

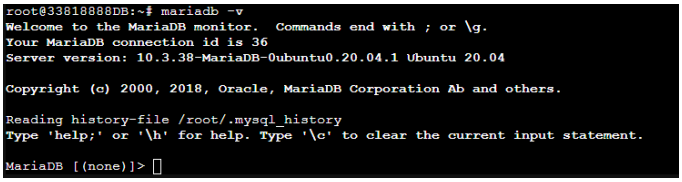
Instalamos mariadb

apt install mariadb-server -y



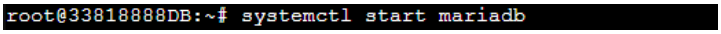
Para saber la versión de mariadb usamos

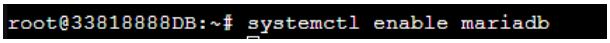
Mariadb -v




Iniciamos el servicio mariadb

systemctl start mariadb

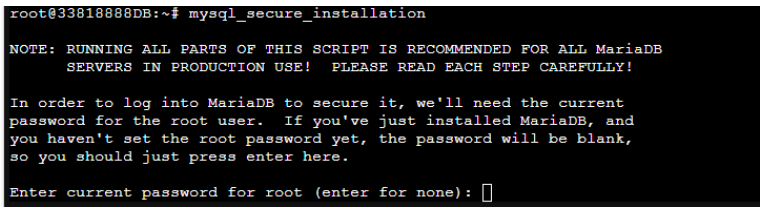


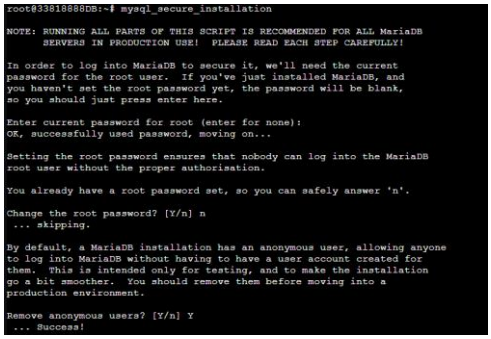




Y para terminar de configurar ejecutamos el comando

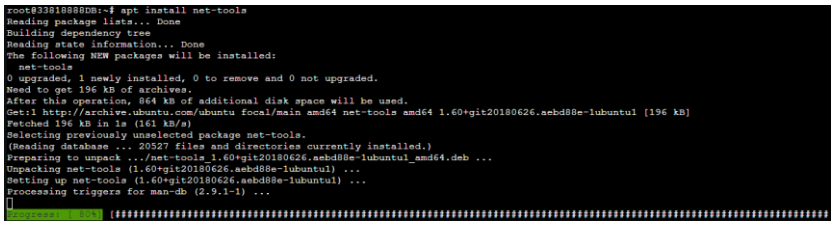
mysql_secure_installation

Nos pedirá que ingresemos la contraseña del usuario, y que asignemos una nueva para ingresar a MariaDB.

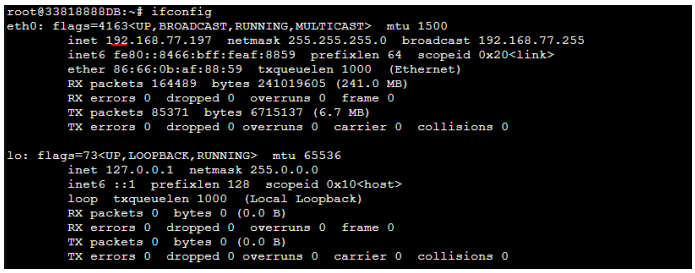


apt install net-tools



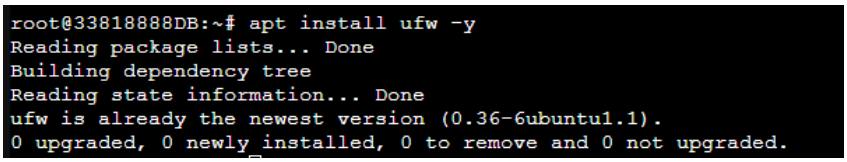

Para saber el ip del contenedor B usamos ifconfig



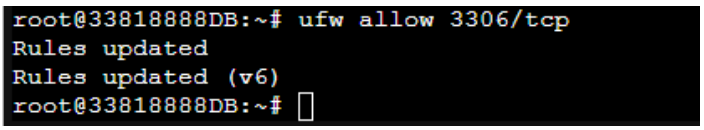

Ejecutamos

apt install ufw -y

Con ufw podremos habilitar de manera sencilla el tráfico entrante al puerto 3306, que es el puerto por el que mariaDB ejecuta el servicio de base de datos.




ufw allow 3306/tcp




ufw enable