

punto 1

1.1)

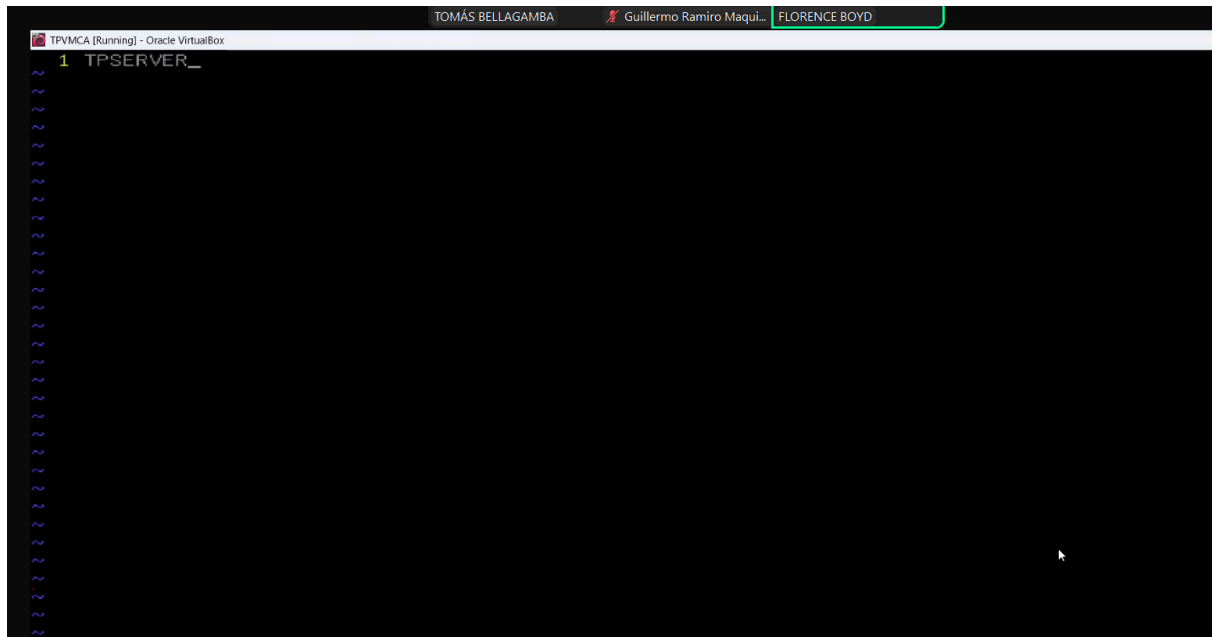


1.2)

- cambiar password accediendo con e al grub
- luego editar init=/bin/bash para entrar en modo de usuario único.

```
TPVMCA [Running] - Oracle VirtualBox
done.
[ 4.024797] usb 1-1: new full-speed USB device number 2 using ohci-pci
[ 4.108929] EXT4-fs (sda1): mounted filesystem with ordered data mode. Opts:
(null)
done.
Begin: Running /scripts/local-bottom ... done.
Begin: Running /scripts/init-bottom ... done.
bash: cannot set terminal process group (-1): Inappropriate ioctl for device
bash: no job control in this shell
root@(none):/# [ 4.376918] usb 1-1: New USB device found, idVendor=80ee, idPr
oduct=0021, bcdDevice= 1.00
[ 4.384971] usb 1-1: New USB device strings: Mfr=1, Product=3, SerialNumber=0
[ 4.390514] usb 1-1: Product: USB Tablet
[ 4.393796] usb 1-1: Manufacturer: VirtualBox
passwd palermo
passwd: user 'palermo' does not exist
root@(none):/# mount -o remount,rw /
[ 269.369111] EXT4-fs (sda1): re-mounted. Opts: errors=remount-ro
root@(none):/# mount -o remount, rw /
[ 352.114675] EXT4-fs (sda1): re-mounted. Opts: (null)
root@(none):/# passwd
New password:
Retype new password:
passwd: password updated successfully
root@(none):/#
```

1.3) cambiar hostname



punto 2

pasos previos)

creamos carpeta compartida desde el VM y asignamos los archivos

luego ejecutamos:

```
mkdir /mnt/carpetacomp
```

```
mount -t vboxsf carpetacomp /mnt/carpetacomp
```

```
apt update para actualizar paquetes
```

2.1)

Instalamos servidor SSH: `apt install openssh-server -y`

iniciamos y habilitamos para ejecucion al comenzar el servicio:

```
systemctl start ssh
```

```
systemctl enable ssh
```

verificamos con `systemctl status ssh`:

```
root@TPServer:~# systemctl enable ssh
Synchronizing state of ssh.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable ssh
root@TPServer:~# systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2025-06-03 20:24:32 -03; 10min ago
     Docs: man:sshd(8)
           man:sshd_config(5)
  Main PID: 483 (sshd)
    Tasks: 1 (limit: 2322)
   Memory: 2.3M
      CPU: 68ms
   CGroup: /system.slice/ssh.service
           └─483 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups

jun 03 20:24:32 TPServer systemd[1]: Starting OpenBSD Secure Shell server...
```

creamos ssh y damos permisos:

```
mkdir -p /root/.ssh
```

```
chmod 700 /root/.ssh
```

pasamos la clave de BB a authorizedkeys y ajustamos permisos:

```
cp /mnt/carpetacomp/clave_publica.pub /root/.ssh/authorized_keys
```

```
chmod 600 /root/.ssh/authorized_keys
```

```
chown -R root:root /root/.ssh
```

configurar ssh para permitir root:

nano /etc/ssh/sshd_config

```
#LoginGraceTime 2m
PermitRootLogin yes
#StrictModes yes
#MaxAuthTries 6
#MaxSessions 10

PubkeyAuthentication yes

# Expect .ssh/authorized_keys2 to be disregarded by default in future.
AuthorizedKeysFile .ssh/authorized_keys .ssh/authorized_keys2
```

reiniciamos systemctl restart ssh

probamos desde cmd windows maquina fisica:

```
C:\Users\totag\Downloads\tp integrador>ssh -i "C:\Users\totag\Downloads\tp integrador\id_rsa" root@192.168.1.37
Linux TPServer 5.10.0-35-amd64 #1 SMP Debian 5.10.237-1 (2025-05-19) x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Tue Jun 3 20:49:26 2025 from 192.168.1.63
root@TPServer:~#
```


2.2) instalar apache y modulo necesario:

apt install apache2 -y

apt install php libapache2-mod-php -y

```
0 actualizados, 0 nuevos se instalarán, 0 para eliminar y 1 no actualizados.
root@TPServer:~# systemctl status apache2
• apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2025-06-16 22:30:18 -03; 10min ago
     Docs: https://httpd.apache.org/docs/2.4/
  Process: 487 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
 Main PID: 557 (apache2)
    Tasks: 6 (limit: 2322)
   Memory: 25.6M
      CPU: 591ms
   CGroup: /system.slice/apache2.service
           └─557 /usr/sbin/apache2 -k start
             └─558 /usr/sbin/apache2 -k start
               └─559 /usr/sbin/apache2 -k start
                 └─560 /usr/sbin/apache2 -k start
                   └─561 /usr/sbin/apache2 -k start
                     └─562 /usr/sbin/apache2 -k start
```

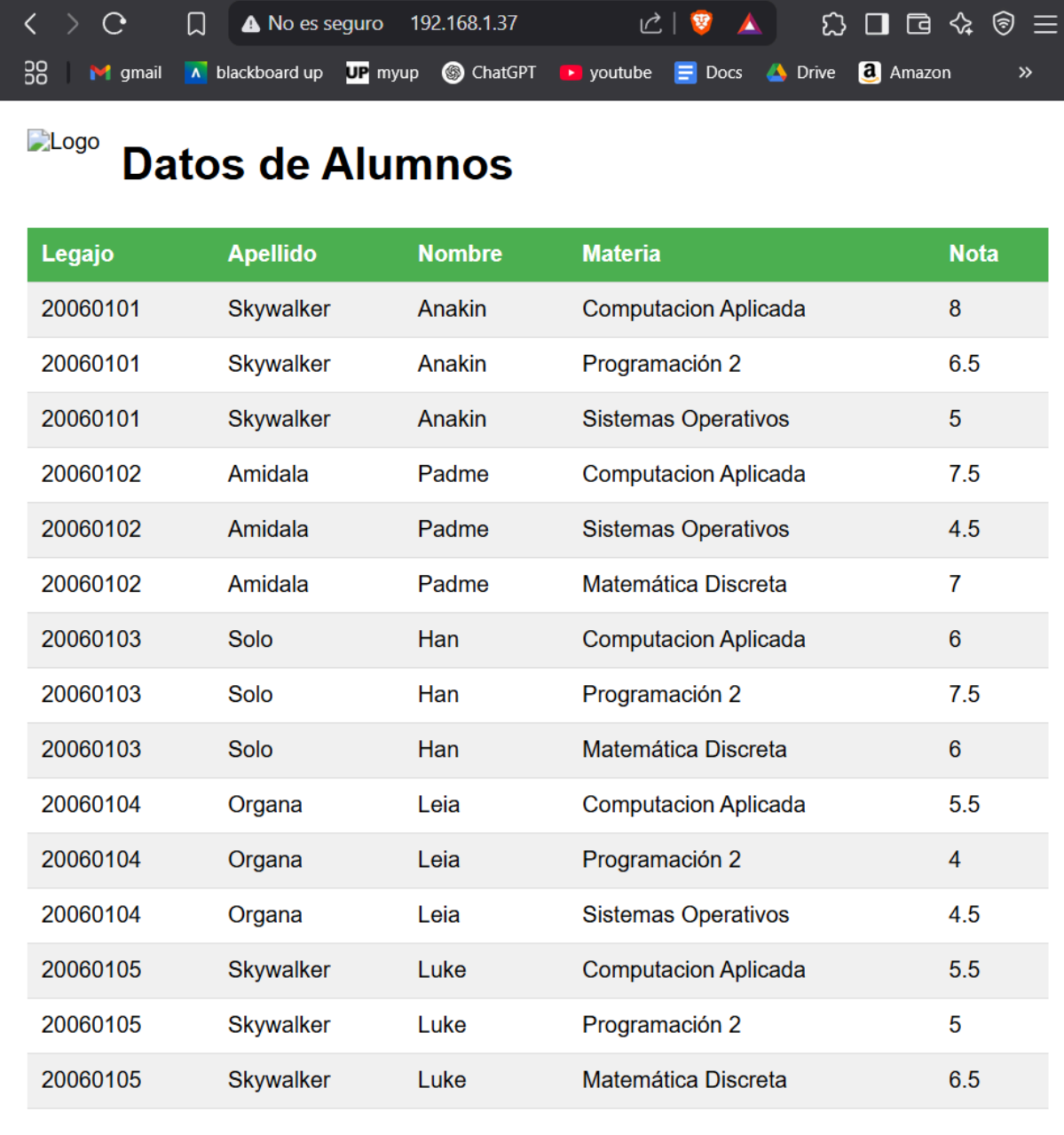
se copio el index a la carpeta y se ajustaron permisos con:

/mnt/carpetacomp/index.php /var/www/html/

chmod 644 /var/www/html/index.php

reiniciamos:systemctl restart apache2

accedemos a <http://192.168.1.37> q se encuentra index:



The image is a screenshot of a web browser displaying a student data table. The browser's address bar shows the URL <http://192.168.1.37> and a security warning "No es seguro". The browser's toolbar includes icons for back, forward, refresh, and search, as well as a search bar with the text "No es seguro". Below the address bar, there is a row of icons for various services: gmail, blackboard up, myup, ChatGPT, youtube, Docs, Drive, and Amazon. The main content area of the browser shows a page with a logo and the title "Datos de Alumnos". Below the title is a table with five columns: Legajo, Apellido, Nombre, Materia, and Nota. The table contains 15 rows of student data, including Skywalker, Amidala, Solo, Organa, and Luke, with their respective grades in various subjects.

Legajo	Apellido	Nombre	Materia	Nota
20060101	Skywalker	Anakin	Computacion Aplicada	8
20060101	Skywalker	Anakin	Programación 2	6.5
20060101	Skywalker	Anakin	Sistemas Operativos	5
20060102	Amidala	Padme	Computacion Aplicada	7.5
20060102	Amidala	Padme	Sistemas Operativos	4.5
20060102	Amidala	Padme	Matemática Discreta	7
20060103	Solo	Han	Computacion Aplicada	6
20060103	Solo	Han	Programación 2	7.5
20060103	Solo	Han	Matemática Discreta	6
20060104	Organa	Leia	Computacion Aplicada	5.5
20060104	Organa	Leia	Programación 2	4
20060104	Organa	Leia	Sistemas Operativos	4.5
20060105	Skywalker	Luke	Computacion Aplicada	5.5
20060105	Skywalker	Luke	Programación 2	5
20060105	Skywalker	Luke	Matemática Discreta	6.5

se instala mariadb y verifica:
apt install mariadb-server -y

```
TPVMCA [Running] - Oracle VM VirtualBox
mariadb-server ya está en su versión más reciente (1:10.5.29-0+deb11u1).
El paquete indicado a continuación se instaló de forma automática y ya no es necesario.
linux-image-4.19.0-9-amd64
Utilice «apt autoremove» para eliminarlo.
0 actualizados, 0 nuevos se instalarán, 0 para eliminar y 3 no actualizados.
root@TPServer:~# systemctl status mariadb
Unit mariadb.service could not be found.
root@TPServer:~# systemctl status mariadb
● mariadb.service - MariaDB 10.5.29 database server
   Loaded: loaded (/lib/systemd/system/mariadb.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2025-06-03 23:36:12 -03; 1 weeks 2 days ago
     Docs: man:mariadb(8)
           https://mariadb.com/kb/en/library/systemd/
   Process: 3502 ExecStartPre=/usr/bin/install -m 755 -o mysql -g root -d /var/run/mysql (code=ex>
   Process: 3503 ExecStartPre=/bin/sh -c systemctl unset-environment _WSREP_START_POSITION (code=e>
   Process: 3505 ExecStartPre=/bin/sh -c [ ! -e /usr/bin/galera_recovery ] && VAR= || VAR=/usr/>
   Process: 3569 ExecStartPost=/bin/sh -c systemctl unset-environment _WSREP_START_POSITION (code=>
   Process: 3571 ExecStartPost=/etc/mysql/debian-start (code=exited, status=0/SUCCESS)
 Main PID: 3553 (mariabdd)
   Status: "Taking your SQL requests now..."
    Tasks: 8 (limit: 15331)
  Memory: 76.0M
    CPU: 2.508s
   CGroup: /system.slice/mariadb.service
           └─3553 /usr/sbin/mariabdd

jun 03 23:36:12 TPServer mariabdd[3553]: 2025-06-03 23:36:12 0 [Note] /usr/sbin/mariabdd: ready for>
jun 03 23:36:12 TPServer mariabdd[3553]: Version: '10.5.29-MariaDB-0+deb11u1' socket: '/run/mysql>
jun 03 23:36:12 TPServer systemd[1]: Started MariaDB 10.5.29 database server.
jun 03 23:36:12 TPServer /etc/mysql/debian-start[3576]: Looking for 'mariadb' as: /usr/bin/mariadb>
jun 03 23:36:12 TPServer /etc/mysql/debian-start[3576]: Looking for 'mariadb-check' as: /usr/bin/ma>
jun 03 23:36:12 TPServer /etc/mysql/debian-start[3576]: This installation of MariaDB is already upg>
jun 03 23:36:12 TPServer /etc/mysql/debian-start[3576]: There is no need to run mysql_upgrade again.
jun 03 23:36:12 TPServer /etc/mysql/debian-start[3576]: You can use --force if you still want to ru>
jun 03 23:36:12 TPServer /etc/mysql/debian-start[3584]: Checking for insecure root accounts.
jun 03 23:38:56 TPServer mariabdd[3553]: 2025-06-03 23:38:56 31 [Warning] Access denied for user 'l>
lines 1-28/28 (END)
```

se accede a mariadb y se crea la database:

```
root@TPServer:~# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 32
Server version: 10.5.29-MariaDB-0+deb11u1 Debian 11

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> create database tp_db;
Query OK, 1 row affected (0,030 sec)
```

se importa el sql: `mysql tp_db < /mnt/carpetacomp/db.sql`

luego se selecciona con USE para llamar a la tabla dentro del sql y lo mostramos con SHOW:

```
MariaDB [tp_db]> use ingenieria;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [ingenieria]> show tables;
+-----+
| Tables_in_ingenieria |
+-----+
| alumnos               |
| modulos               |
| notas                 |
+-----+
3 rows in set (0,001 sec)

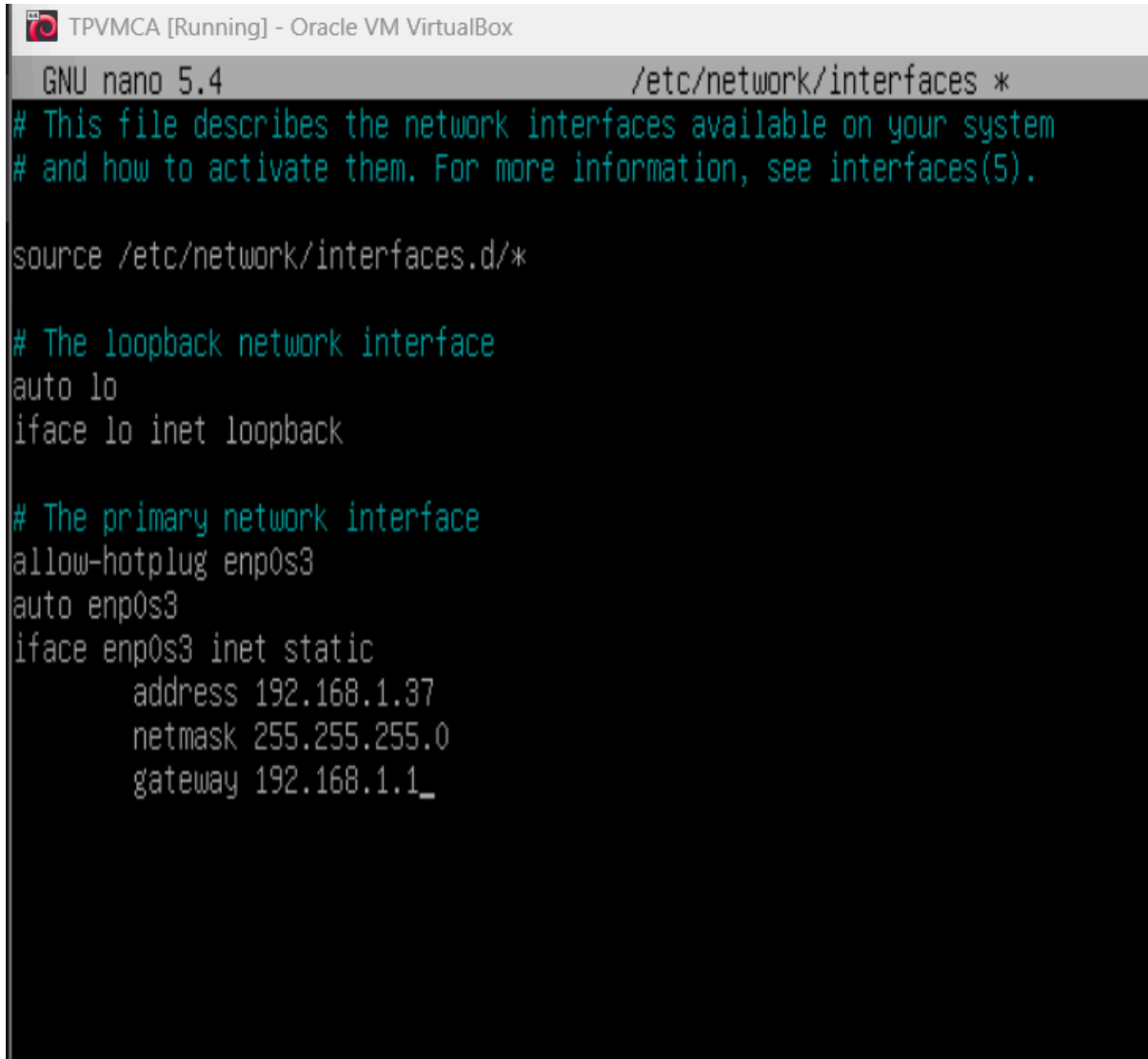
MariaDB [ingenieria]> exit
Bye
root@TPServer:~# _
```

punto 3

3)

abro nano /etc/network/interfaces para editar la interfaz de configuracion

configuro la interfaz modificando para que quede asi:



The screenshot shows a terminal window titled "TPVMCA [Running] - Oracle VM VirtualBox". Inside the terminal, the GNU nano 5.4 editor is open, editing the file /etc/network/interfaces. The content of the file is as follows:

```
GNU nano 5.4 /etc/network/interfaces *
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

source /etc/network/interfaces.d/*

# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
allow-hotplug enp0s3
auto enp0s3
iface enp0s3 inet static
    address 192.168.1.37
    netmask 255.255.255.0
    gateway 192.168.1.1_
```

reiniciamos: systemctl restart networking

probamos:

```
Failed to disable unit: Unit file NetworkManager.service does not exist.  
root@TPServer:~# systemctl restart networking  
root@TPServer:~# 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 pfifo_fast state UP group default qlen 1000  
    link/ether 08:00:27:99:b6:18 brd ff:ff:ff:ff:ff:ff  
    inet 192.168.1.37/24 brd 192.168.1.255 scope global enp0s3  
        valid_lft forever preferred_lft forever  
    inet6 2802:8010:9508:4a00:a00:27ff:fe99:b618/64 scope global dynamic mngtmpaddr  
        valid_lft 86396sec preferred_lft 86396sec  
    inet6 fe80::a00:27ff:fe99:b618/64 scope link  
        valid_lft forever preferred_lft forever  
root@TPServer:~# _
```

```
root@TPServer:~# ip route  
default via 192.168.1.1 dev enp0s3 onlink  
192.168.1.0/24 dev enp0s3 scope link metric 100
```

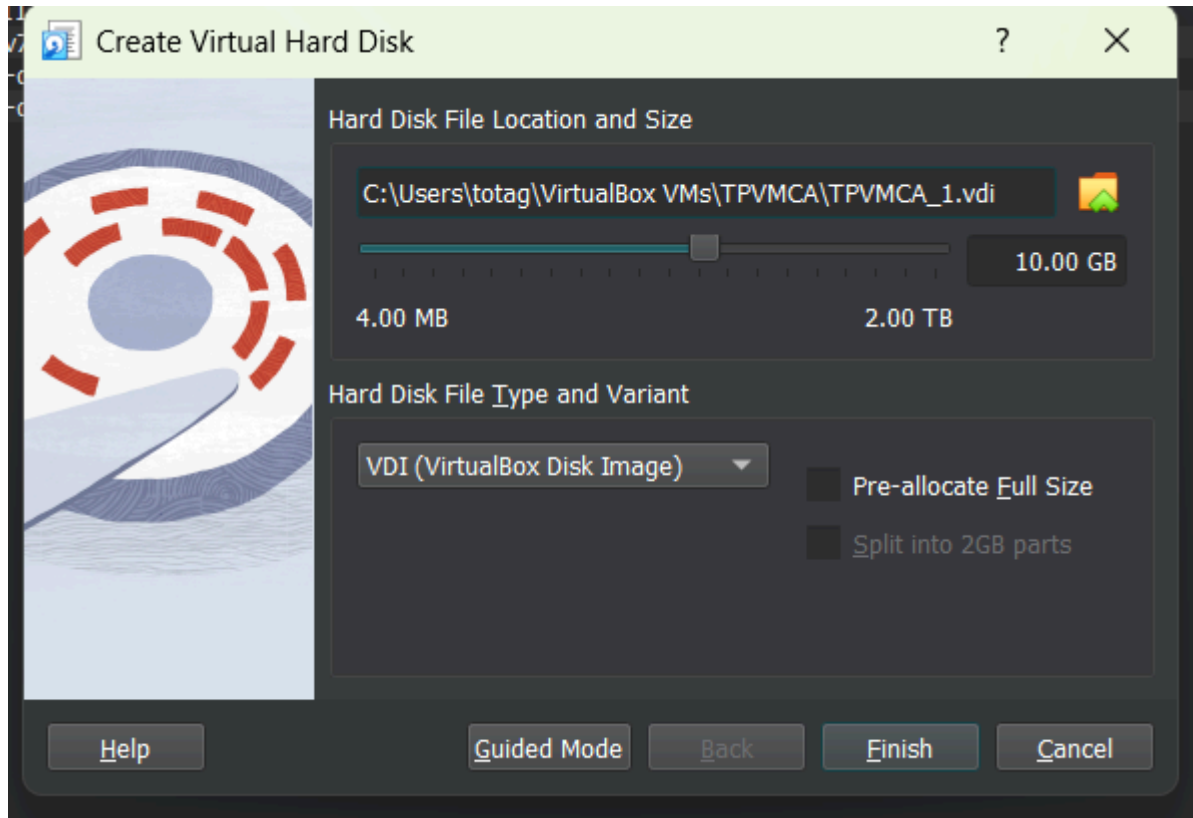
en mi maquina fisica:

```
C:\Users\totag>ping 192.168.1.37
```

```
Haciendo ping a 192.168.1.37 con 32 bytes de datos:  
Respuesta desde 192.168.1.37: bytes=32 tiempo<1m TTL=64  
Respuesta desde 192.168.1.37: bytes=32 tiempo=1ms TTL=64  
Respuesta desde 192.168.1.37: bytes=32 tiempo=1ms TTL=64
```

punto 4

se crea un nuevo disco desde VM



accedo al disco: `fdisk /dev/sdb`

luego creo y verifico las particiones:

```
TPVMCA [Running] - Oracle VM VirtualBox
Seleccionar (valor predeterminado p): p
Número de partición (1-4, valor predeterminado 1): 1
Primer sector (2048-20971519, valor predeterminado 2048):
Último sector, +/-sectores o +/-tamaño{K,M,G,T,P} (2048-20971519, valor predeterminado 20971519): +3
g

Crea una nueva partición 1 de tipo 'Linux' y de tamaño 3 GiB.

Orden (m para obtener ayuda): n
Tipo de partición
  p  primaria (1 primaria(s), 0 extendida(s), 3 libre(s))
  e  extendida (contenedor para particiones lógicas)
Seleccionar (valor predeterminado p): p
Número de partición (2-4, valor predeterminado 2): 2
Primer sector (6293504-20971519, valor predeterminado 6293504):
Último sector, +/-sectores o +/-tamaño{K,M,G,T,P} (6293504-20971519, valor predeterminado 20971519):
+6g

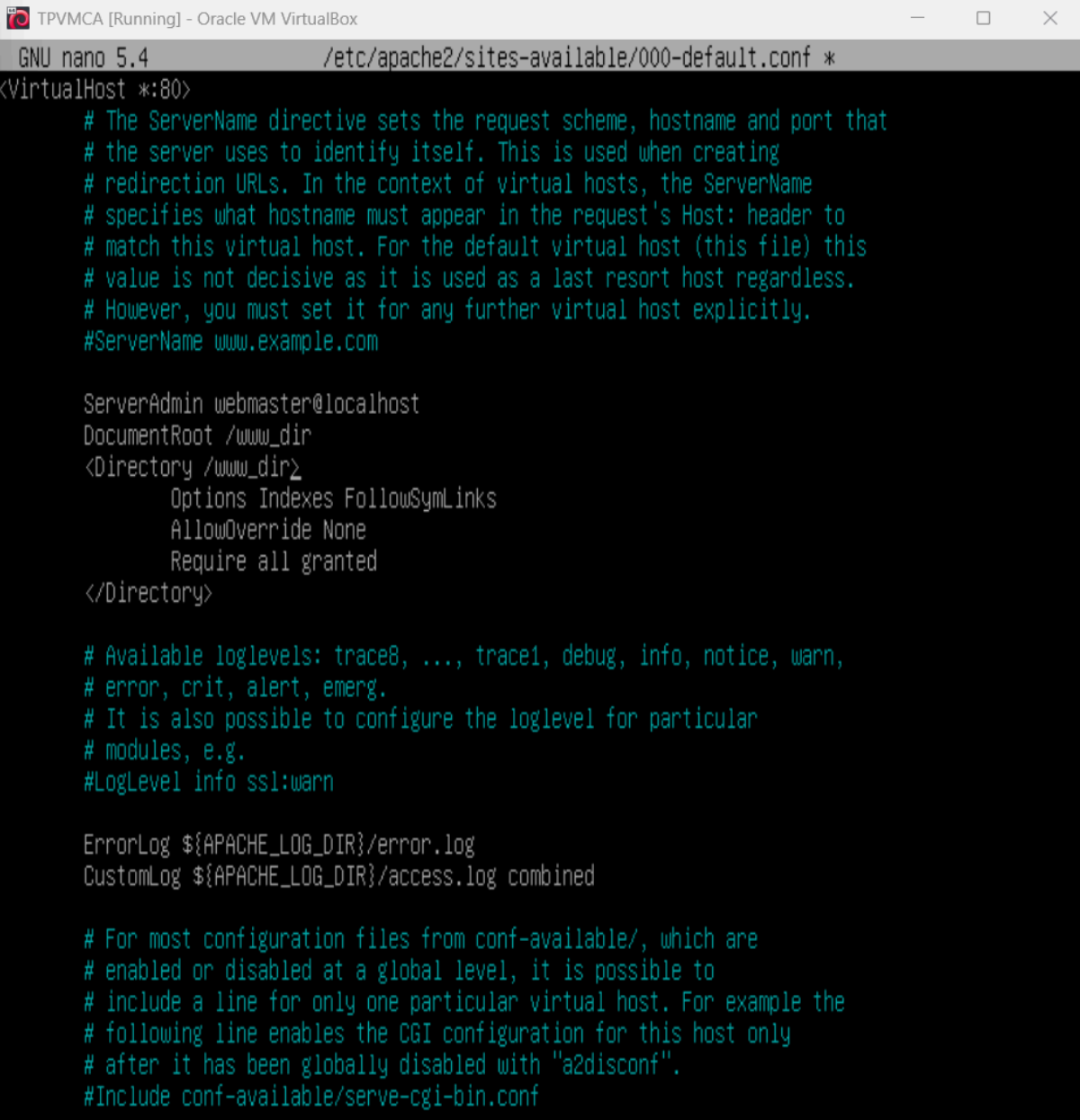
Crea una nueva partición 2 de tipo 'Linux' y de tamaño 6 GiB.

Orden (m para obtener ayuda): w
Se ha modificado la tabla de particiones.
Llamando a ioctl() para volver a leer la tabla de particiones.
Se están sincronizando los discos.

root@TPServer:~# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda          8:0    0  10G  0 disk
├─sda1       8:1    0   8G  0 part /
├─sda2       8:2    0    1K  0 part
├─sda5       8:5    0   2G  0 part [SWAP]
sdb          8:16   0   8G  0 disk
├─sdb1       8:17   0   8G  0 part /home
sdc          8:32   0  10G  0 disk
├─sdc1       8:33   0   3G  0 part
└─sdc2       8:34   0   6G  0 part
```

movemos los archivos: `cp /var/www/html/index.php /www_dir/`

configuramos apache nano /etc/apache2/sites-available/000-default.conf:



```
TPVMCA [Running] - Oracle VM VirtualBox
GNU nano 5.4 /etc/apache2/sites-available/000-default.conf *
<VirtualHost *:80>
    # The ServerName directive sets the request scheme, hostname and port that
    # the server uses to identify itself. This is used when creating
    # redirection URLs. In the context of virtual hosts, the ServerName
    # specifies what hostname must appear in the request's Host: header to
    # match this virtual host. For the default virtual host (this file) this
    # value is not decisive as it is used as a last resort host regardless.
    # However, you must set it for any further virtual host explicitly.
    #ServerName www.example.com

    ServerAdmin webmaster@localhost
    DocumentRoot /www_dir
    <Directory /www_dir>
        Options Indexes FollowSymLinks
        AllowOverride None
        Require all granted
    </Directory>

    # Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
    # error, crit, alert, emerg.
    # It is also possible to configure the loglevel for particular
    # modules, e.g.
    #LogLevel info ssl:warn

    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined

    # For most configuration files from conf-available/, which are
    # enabled or disabled at a global level, it is possible to
    # include a line for only one particular virtual host. For example the
    # following line enables the CGI configuration for this host only
    # after it has been globally disabled with "a2disconf".
    #Include conf-available/serve-cgi-bin.conf
```

verificamos q sirve:



Datos de Alumnos

Legajo	Apellido	Nombre	Materia
20060101	Skywalker	Anakin	Computacion Aplicada
20060101	Skywalker	Anakin	Programación 2
20060101	Skywalker	Anakin	Sistemas Operativos
20060102	Amidala	Padme	Computacion Aplicada
20060102	Amidala	Padme	Sistemas Operativos
20060102	Amidala	Padme	Matemática Discreta
20060103	Solo	Han	Computacion Aplicada
20060103	Solo	Han	Programación 2
20060103	Solo	Han	Matemática Discreta
20060104	Organa	Leia	Computacion Aplicada
20060104	Organa	Leia	Programación 2
20060104	Organa	Leia	Sistemas Operativos
20060105	Skywalker	Luke	Computacion Aplicada
20060105	Skywalker	Luke	Programación 2

montaje automatico:

sudo nano /etc/fstab:

```
TPVMCA [Running] - Oracle VM VirtualBox
GNU nano 5.4 /etc/fstab
# /etc/fstab: static file system information.
#
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to name devices
# that works even if disks are added and removed. See fstab(5).
#
# <file system> <mount point> <type> <options> <dump> <pass>
# / was on /dev/sda1 during installation
UUID=cd2cb4ca-39bd-4522-919c-e4ceb81b5ae8 / ext4 errors=remount-ro 0 1
# swap was on /dev/sda5 during installation
UUID=e550cf9e-dc94-442c-b9c4-9c12f05024b3 none swap sw 0 0
/dev/sr0 /media/cdrom0 udf,iso9660 user,noauto 0 0
/dev/sdb1 /home ext4 rw,auto 0 0
/dev/sdc1 /www_dir ext4 defaults 0 2
/dev/sdc2 /backup_dir ext4 defaults 0 2
```

punto 5

creo carp
sudo mkdir -p /opt/scripts

creo script
sudo nano /opt/scripts/backup_full.sh

script:

```
GNU nano 5.4 /opt/scripts/backup_full.sh
if [[ "$1" == "-h" || "$1" == "--help" ]]; then
    echo "Uso: $0 ORIGEN DESTINO"
    echo "Crea un backup .tar.gz del ORIGEN en DESTINO con fecha YYYYMMDD."
    exit 0
fi

if [ $# -ne 2 ]; then
    echo "Error: se requieren ORIGEN y DESTINO."
    exit 1
fi

ORIGEN="$1"
DESTINO="$2"

mountpoint -q "$ORIGEN" || { echo "Error: $ORIGEN no esta montado."; exit 2; }
mountpoint -q "$DESTINO" || { echo "Error: $DESTINO no esta montado."; exit 3; }

FECHA=$(date +%Y%m%d)
ARCHIVO="${DESTINO%}/$(basename "$ORIGEN")_bkp_${FECHA}.tar.gz"

tar -czf "$ARCHIVO" -C "$(dirname "$ORIGEN")" "$(basename "$ORIGEN")"

echo "Backup creado en $ARCHIVO"
```

doy permisos
sudo chmod +x /opt/scripts/backup_full.sh

test:

```
root@TPServer:~# /opt/scripts/backup_full.sh /var/logs /backup_dir
Backup creado en /backup_dir/logs_bkp_20250615.tar.gz
root@TPServer:~# _
```

test:

```
Uso: /opt/scripts/backup_full.sh ORIGEN DESTINO
Crea un backup .tar.gz del ORIGEN en DESTINO con fecha YYYYMMDD.
root@TPServer:~#
```

automatizar:

```
#
# m h dom mon dow  command
@reboot /usr/sbin/iptables-restore /root/myfw.txt
0 0 * * * /opt/scripts/backup_full.sh /var/logs /backup_dir
0 23 * * 1,3,4 /opt/scripts/backup_full.sh /www_dir /backup_dir
root@TPServer:~#
```

montar perma:

```
#
# <file system> <mount point> <type> <options> <dump> <pass>
# / was on /dev/sda1 during installation
UUID=cd2cb4ca-39bd-4522-919c-e4ceb81b5ae8 / ext4 errors=remount-ro 0
# swap was on /dev/sda5 during installation
UUID=e550cf9e-dc94-442c-b9c4-9c12f05024b3 none swap sw 0
/dev/sr0 /media/cdrom0 udf,iso9660 user,noauto 0 0
/dev/sdb1 /home ext4 rw,auto 0 0
/dev/sdc1 /www_dir ext4 defaults 0 2
/dev/sdc2 /backup_dir ext4 defaults 0 2
/mnt/logs_real /var/logs none bind 0 0
/mnt/www_real /www_dir none bind 0 0
/mnt/backup_real /backup_dir none bind 0 0
```

topologia

