

A) La arquitectura Web es un modelo compuesto de tres capas, ¿cuáles son y cuál es la función de cada una de ellas?

- Capa de presentación, recoge la información del usuario y la manda al servidor, manda info a la capa de proceso y recoge los resultados, genera la presentación de los datos y se la muestra al usuario.
- Capa de proceso, recibe los datos de la capa de presentación, los procesa con la capa de datos, y devuelve los resultados a la capa de presentación.
- Capa de datos, almacena, recupera y mantiene los datos, y asegura la integridad de los mismos.

B) Una plataforma web es el entorno de desarrollo de software empleado para diseñar y ejecutar un sitio web; destacan dos plataformas web, LAMP y WISA. Explica en qué consiste cada una de ellas.

LAMP →

Es un sistema que utiliza Linux, Apache, MySQL y PHP para definir la infraestructura de un servidor web

WISA →

Es básicamente lo mismo que lamp pero usando Windows, Internet Information Services, SQLServer y ASP.

C) Tenemos este escenario inicial:

- a. Trabajaremos con un Ubuntu y un cliente Ubuntu (reutiliza los que ya tenías y adjunta captura)

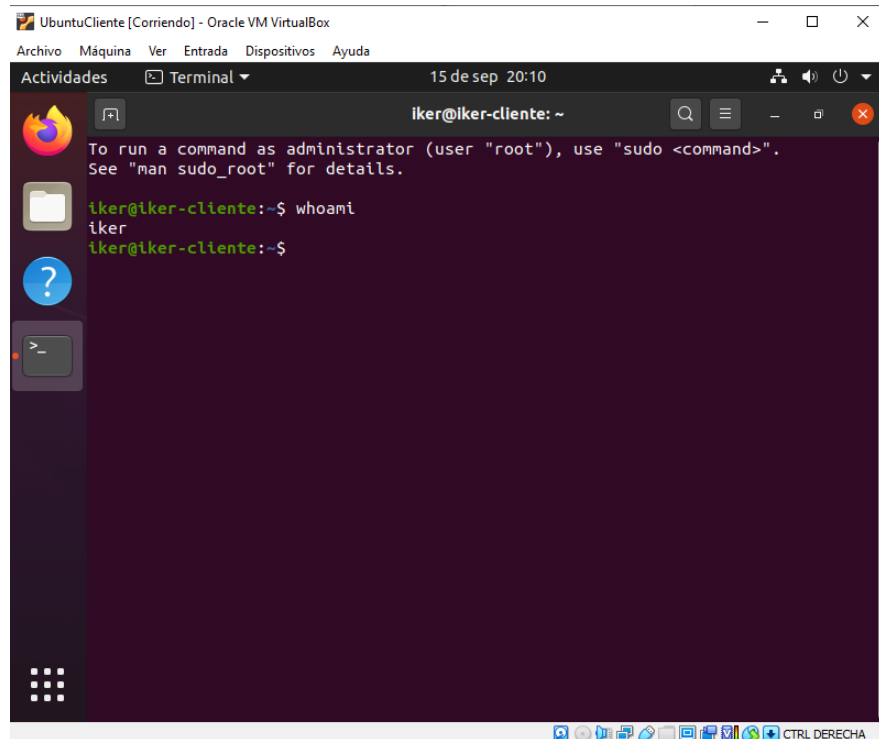


Ilustración 1. Máquina Ubuntu Cliente

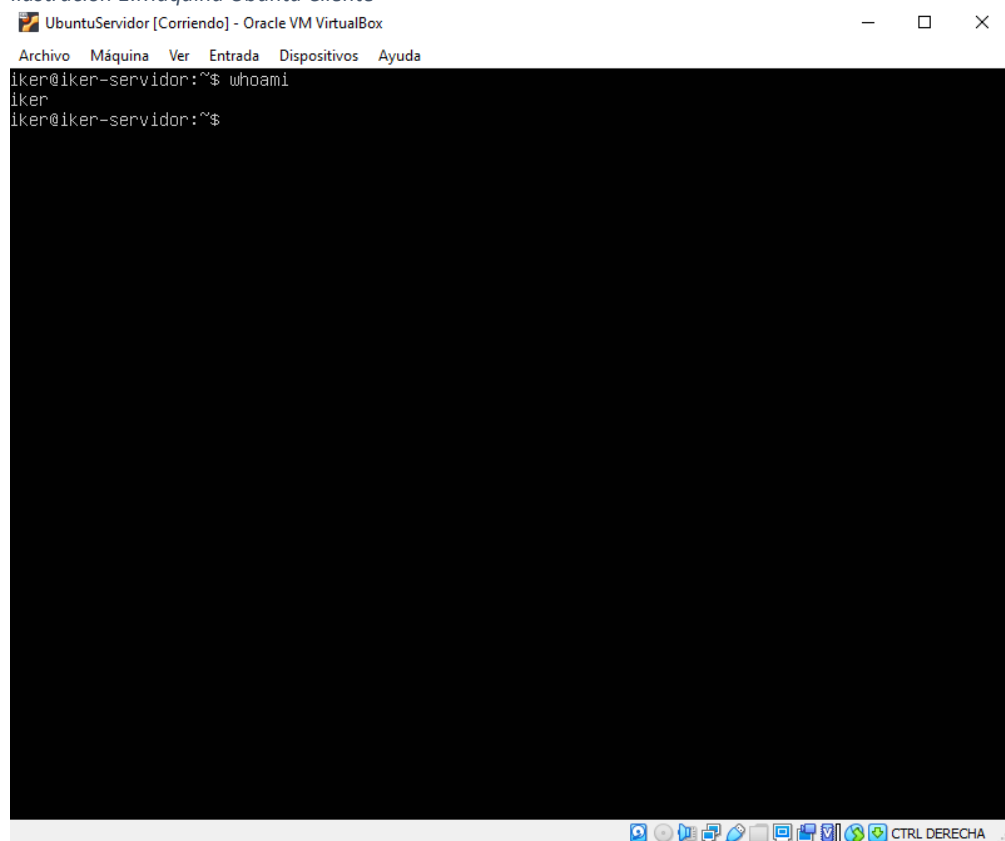
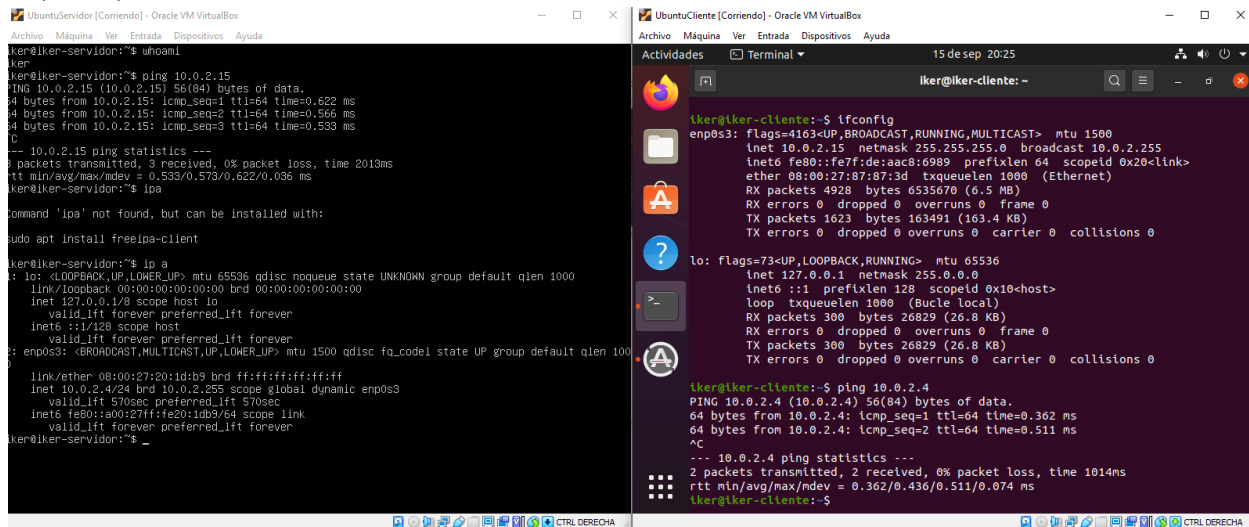


Ilustración 2. Máquina Ubuntu Servidor

- b. Las dos VM están conectadas entre sí mediante una red común (adjunta captura).



The image shows two terminal windows from Oracle VM VirtualBox. The left window is titled 'UbuntuServidor [Corriendo]' and the right window is titled 'UbuntuCliente [Corriendo]'. Both windows show the user 'iker' at the prompt.

In the 'UbuntuServidor' terminal, the user runs `ifconfig` and `ip a`. The output of `ifconfig` shows the `enp0s3` interface with IP `10.0.2.15` and netmask `255.255.255.0`. The output of `ip a` shows the `lo` interface with IP `127.0.0.1` and the `enp0s3` interface with IP `10.0.2.15`.

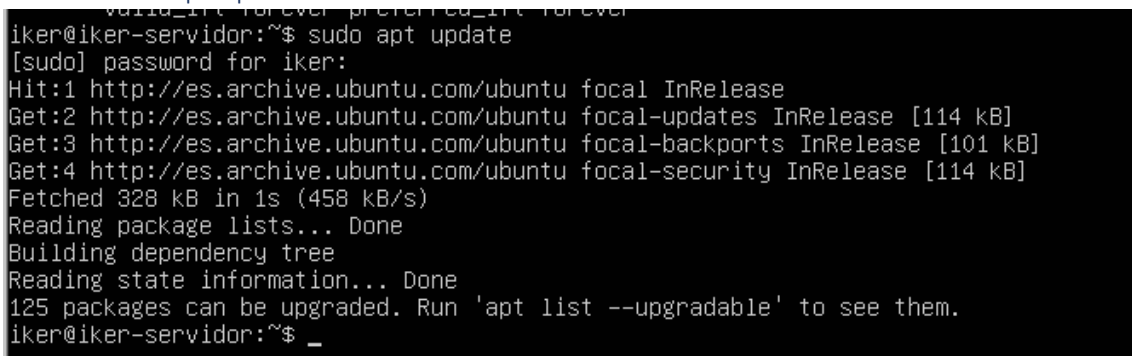
In the 'UbuntuCliente' terminal, the user runs `ifconfig` and `ip a`. The output of `ifconfig` shows the `enp0s3` interface with IP `10.0.2.4` and netmask `255.255.255.0`. The output of `ip a` shows the `lo` interface with IP `127.0.0.1` and the `enp0s3` interface with IP `10.0.2.4`.

Both terminals show a successful ping test between the two VMs. In the 'UbuntuServidor' terminal, the user runs `ping 10.0.2.4` and receives 56(84) bytes of data. In the 'UbuntuCliente' terminal, the user runs `ping 10.0.2.15` and receives 56(84) bytes of data.

## D) Instalación de Apache:

- a. Instalamos el servicio:

- i. `sudo apt update`



The image shows a terminal window titled 'UbuntuServidor [Corriendo]' with the user 'iker' at the prompt. The user runs `sudo apt update`. The output shows the following:

```
iker@iker-servidor:~$ sudo apt update
[sudo] password for iker:
Hit:1 http://es.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://es.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://es.archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]
Get:4 http://es.archive.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Fetched 328 kB in 1s (458 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
125 packages can be upgraded. Run 'apt list --upgradable' to see them.
iker@iker-servidor:~$ _
```

ii. `sudo apt install apache2`

```
Setting up apache2 (2.4.41-4ubuntu3.4) ...
Enabling module mpm_event.
Enabling module authz_core.
Enabling module authz_host.
Enabling module authn_core.
Enabling module auth_basic.
Enabling module access_compat.
Enabling module authn_file.
Enabling module authz_user.
Enabling module alias.
Enabling module dir.
Enabling module autoindex.
Enabling module env.
Enabling module mime.
Enabling module negotiation.
Enabling module setenvif.
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling module reqtimeout.
Enabling conf charset.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/systemd/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36-6) ...
Processing triggers for systemd (245.4-4ubuntu3.11) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9) ...
iker@iker-servidor:~$ sudo apt install apache2_
```

b. Apache se registra a sí mismo como un servicio con ufw (Uncomplicated Firewall) al instalarse, haciendo que permitir el acceso de Nginx sea fácil.

i. `sudo ufw app list` -> muestra el listado de perfiles de aplicaciones configuradas para ufw. Comprueba que hay tres disponibles para Apache:

```
iker@iker-servidor:~$ sudo ufw app list
Available applications:
  Apache
  Apache Full
  Apache Secure
iker@iker-servidor:~$ _
```

c. Para probar el servicio de Apache verifica la funcionalidad de las combinaciones pertinentes:

- i. `sudo service apache2 status/start/stop/restart`-> inicia, para, reinicia el servicio apache. Prueba que lo hacen (adjunta captura con cada combinación).

```
iker@iker-servidor:~$ sudo service apache2 status
• apache2.service - The Apache HTTP Server
  Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
  Active: active (running) since Wed 2021-09-15 18:29:20 UTC; 11min ago
    Docs: https://httpd.apache.org/docs/2.4/
  Main PID: 2942 (apache2)
    Tasks: 55 (limit: 4618)
  Memory: 5.2M
  CGroup: /system.slice/apache2.service
          └─2942 /usr/sbin/apache2 -k start
            └─2944 /usr/sbin/apache2 -k start
              └─2945 /usr/sbin/apache2 -k start

Sep 15 18:29:20 iker-servidor systemd[1]: Starting The Apache HTTP Server...
Sep 15 18:29:20 iker-servidor apachectl[2923]: AH00558: apache2: Could not reliably determine the s
Sep 15 18:29:20 iker-servidor systemd[1]: Started The Apache HTTP Server.
lines 1-15/15 (END)
```

UbuntuServidor [Corriendo] - Oracle VM VirtualBox

Archivo Máquina Ver Entrada Dispositivos Ayuda

```
iker@iker-servidor:~$ sudo service apache2 stop
iker@iker-servidor:~$ sudo service apache2 status
• apache2.service - The Apache HTTP Server
  Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
  Active: inactive (dead) since Wed 2021-09-15 18:42:39 UTC; 4s ago
    Docs: https://httpd.apache.org/docs/2.4/
  Process: 3562 ExecStop=/usr/sbin/apachectl stop (code=exited, status=0/SUCCESS)
  Main PID: 2942 (code=exited, status=0/SUCCESS)

Sep 15 18:29:20 iker-servidor systemd[1]: Starting The Apache HTTP Server...
Sep 15 18:29:20 iker-servidor apachectl[2923]: AH00558: apache2: Could not reliably determine the s
Sep 15 18:29:20 iker-servidor systemd[1]: Started The Apache HTTP Server.
Sep 15 18:42:39 iker-servidor systemd[1]: Stopping The Apache HTTP Server...
Sep 15 18:42:39 iker-servidor apachectl[3564]: AH00558: apache2: Could not reliably determine the s
Sep 15 18:42:39 iker-servidor systemd[1]: apache2.service: Succeeded.
Sep 15 18:42:39 iker-servidor systemd[1]: Stopped The Apache HTTP Server.
lines 1-14/14 (END)
```

CTRL DERECHA

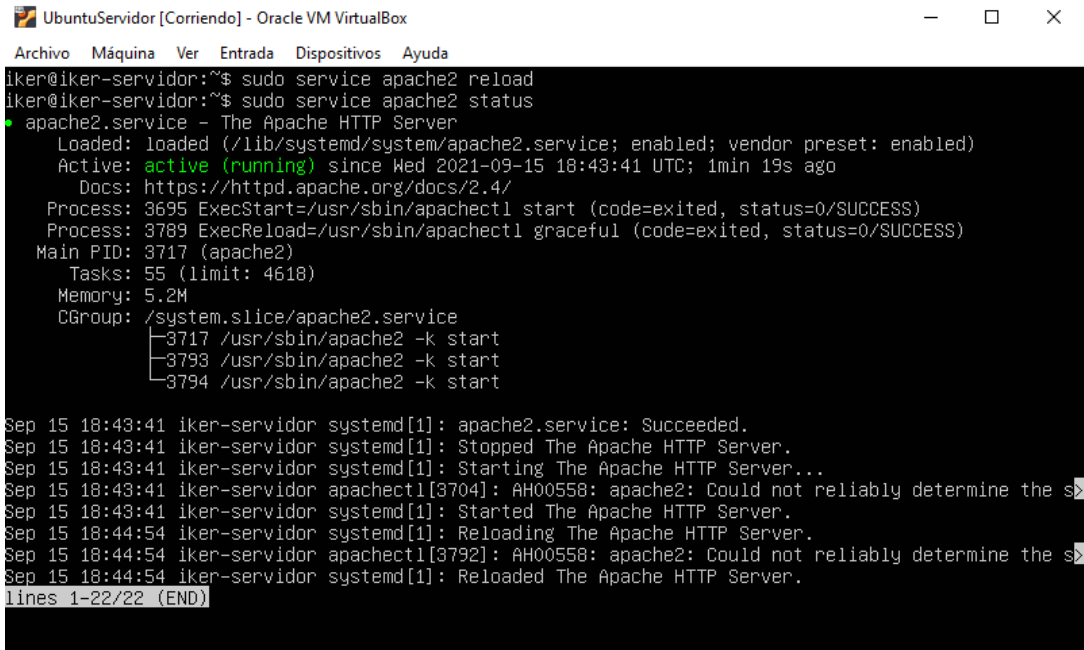
```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
iker@iker-servidor:~$ sudo service apache2 start
iker@iker-servidor:~$ sudo service apache2 status
• apache2.service - The Apache HTTP Server
  Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
  Active: active (running) since Wed 2021-09-15 18:43:11 UTC; 4s ago
    Docs: https://httpd.apache.org/docs/2.4/
  Process: 3598 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
 Main PID: 3620 (apache2)
   Tasks: 55 (limit: 4618)
  Memory: 4.9M
   CGroup: /system.slice/apache2.service
           └─3620 /usr/sbin/apache2 -k start
             └─3621 /usr/sbin/apache2 -k start
               └─3622 /usr/sbin/apache2 -k start

Sep 15 18:43:11 iker-servidor systemd[1]: Starting The Apache HTTP Server...
Sep 15 18:43:11 iker-servidor apachectl[3601]: AH00558: apache2: Could not reliably determine the s
Sep 15 18:43:11 iker-servidor systemd[1]: Started The Apache HTTP Server.
lines 1-16/16 (END)
```

```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
iker@iker-servidor:~$ sudo service apache2 restart
iker@iker-servidor:~$ sudo service apache2 status
• apache2.service - The Apache HTTP Server
  Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
  Active: active (running) since Wed 2021-09-15 18:43:41 UTC; 3s ago
    Docs: https://httpd.apache.org/docs/2.4/
  Process: 3695 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
 Main PID: 3717 (apache2)
   Tasks: 55 (limit: 4618)
  Memory: 4.9M
   CGroup: /system.slice/apache2.service
           └─3717 /usr/sbin/apache2 -k start
             └─3718 /usr/sbin/apache2 -k start
               └─3719 /usr/sbin/apache2 -k start

Sep 15 18:43:41 iker-servidor systemd[1]: apache2.service: Succeeded.
Sep 15 18:43:41 iker-servidor systemd[1]: Stopped The Apache HTTP Server.
Sep 15 18:43:41 iker-servidor systemd[1]: Starting The Apache HTTP Server...
Sep 15 18:43:41 iker-servidor apachectl[3704]: AH00558: apache2: Could not reliably determine the s
Sep 15 18:43:41 iker-servidor systemd[1]: Started The Apache HTTP Server.
lines 1-18/18 (END)
```

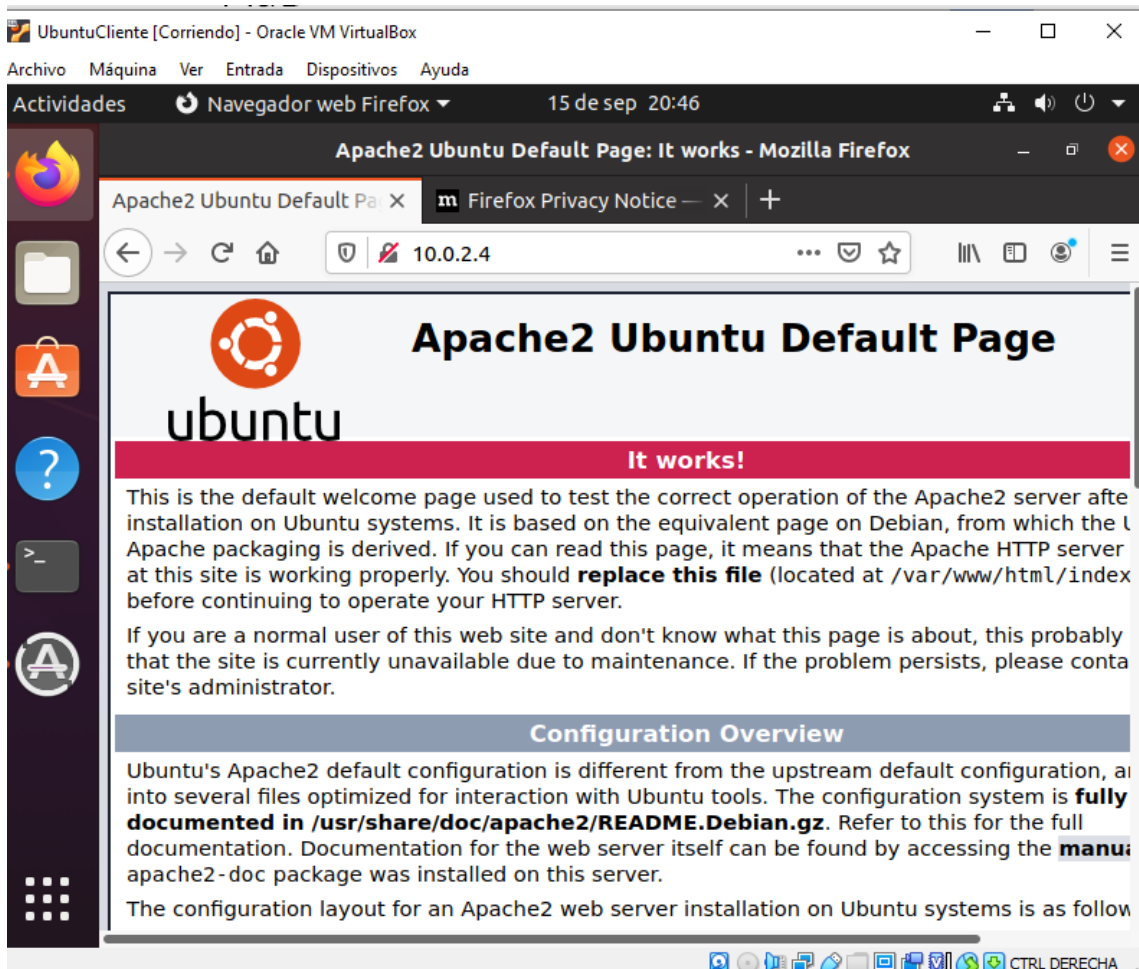
- ii. `sudo service apache2 reload` -> Si simplemente está haciendo cambios de configuración, a menudo Apache se puede recargar sin perder las conexiones. Pruébalo.



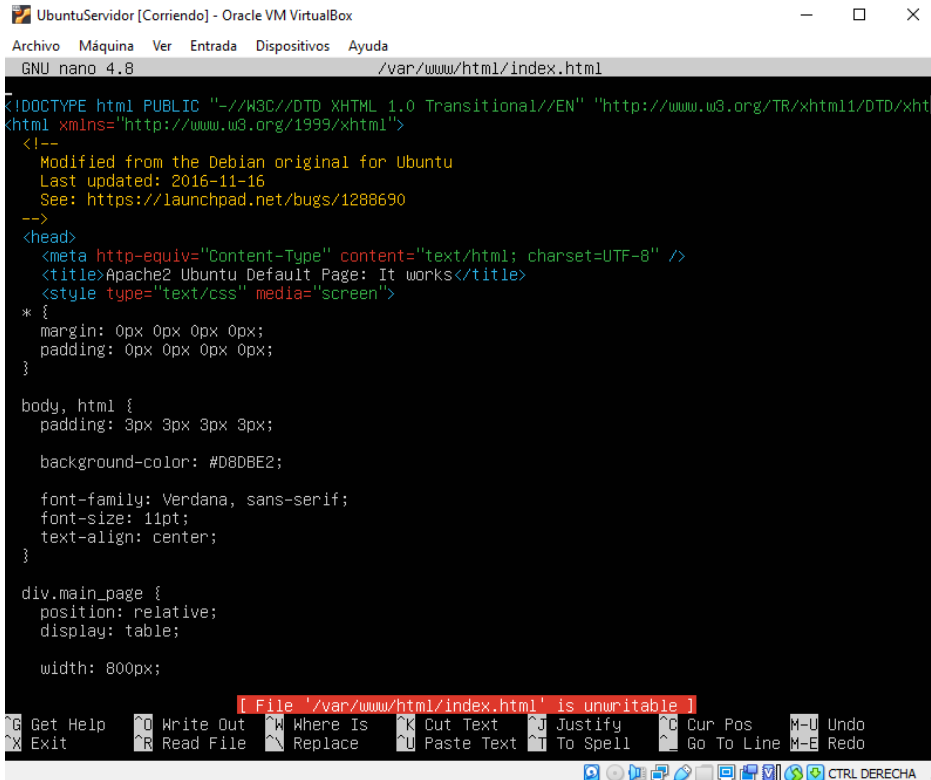
```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
iker@iker-servidor:~$ sudo service apache2 reload
iker@iker-servidor:~$ sudo service apache2 status
• apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2021-09-15 18:43:41 UTC; 1min 19s ago
     Docs: https://httpd.apache.org/docs/2.4/
   Process: 3695 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
   Process: 3789 ExecReload=/usr/sbin/apachectl graceful (code=exited, status=0/SUCCESS)
  Main PID: 3717 (apache2)
    Tasks: 55 (limit: 4618)
   Memory: 5.2M
   CGroup: /system.slice/apache2.service
           └─3717 /usr/sbin/apache2 -k start
             └─3793 /usr/sbin/apache2 -k start
               └─3794 /usr/sbin/apache2 -k start

Sep 15 18:43:41 iker-servidor systemd[1]: apache2.service: Succeeded.
Sep 15 18:43:41 iker-servidor systemd[1]: Stopped The Apache HTTP Server.
Sep 15 18:43:41 iker-servidor systemd[1]: Starting The Apache HTTP Server...
Sep 15 18:43:41 iker-servidor apachectl[3704]: AH00558: apache2: Could not reliably determine the s
Sep 15 18:43:41 iker-servidor systemd[1]: Started The Apache HTTP Server.
Sep 15 18:44:54 iker-servidor systemd[1]: Reloading The Apache HTTP Server.
Sep 15 18:44:54 iker-servidor apachectl[3792]: AH00558: apache2: Could not reliably determine the s
Sep 15 18:44:54 iker-servidor systemd[1]: Reloaded The Apache HTTP Server.
lines 1-22/22 (END)
```

- d. Desde el navegador web del cliente probar que Apache funciona (IP\_SERVER:80). Aparecerá una página html por defecto



- e. Verifica que lo que ves coincide con el contenido del archivo  
/var/www/html/index.html



UbuntuServidor [Corriendo] - Oracle VM VirtualBox

Archivo Máquina Ver Entrada Dispositivos Ayuda

GNU nano 4.8 /var/www/html/index.html

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<!--
  Modified from the Debian original for Ubuntu
  Last updated: 2016-11-16
  See: https://launchpad.net/bugs/1288690
-->
<head>
  <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
  <title>Apache2 Ubuntu Default Page: It works</title>
  <style type="text/css" media="screen">
* {
  margin: 0px 0px 0px 0px;
  padding: 0px 0px 0px 0px;
}

body, html {
  padding: 3px 3px 3px 3px;

  background-color: #D8DBE2;

  font-family: Verdana, sans-serif;
  font-size: 11pt;
  text-align: center;
}

div.main_page {
  position: relative;
  display: table;

  width: 800px;
```

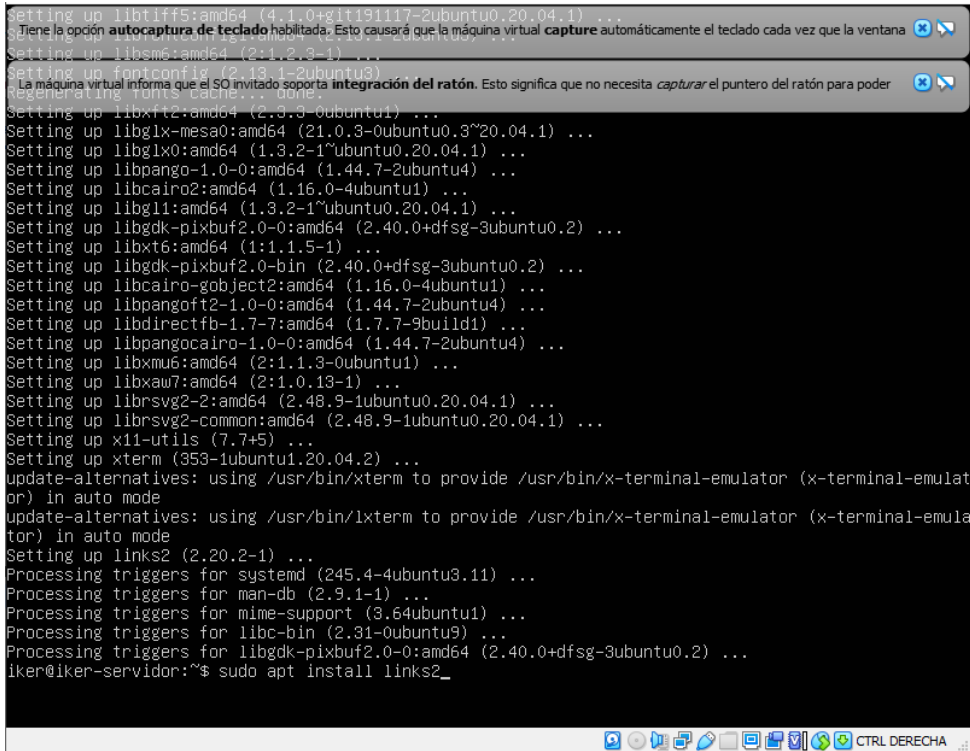
[ File '/var/www/html/index.html' is unwritable ]

Get Help Write Out Where Is Cut Text Justify Cur Pos M-U Undo  
Exit Read File Replace U Paste Text To Spell Go To Line M-E Redo

CTRL DERECHA

## E) Navegación web por consola:

- a. Aunque parezca que no, también se puede navegar por bash. Instala el  
paquete links2.

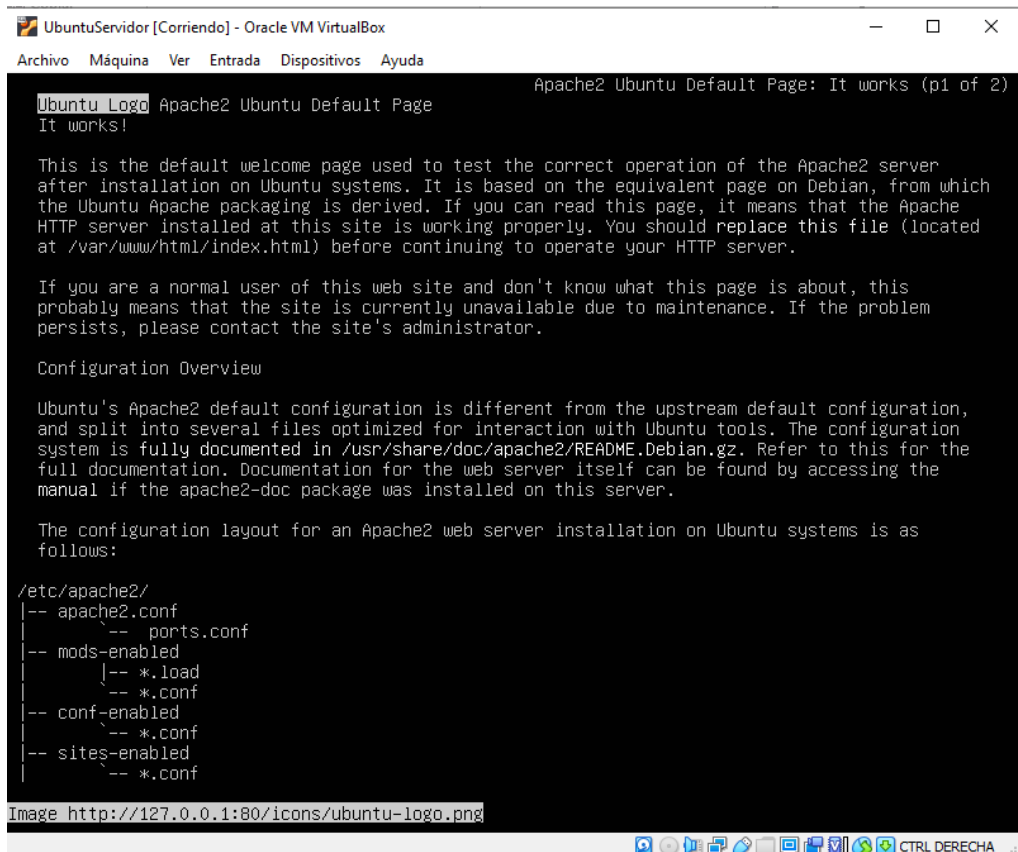


Setting up libtiff5:amd64 (4.1.0+git191117-2ubuntu0.20.04.1) ...  
Setting up libfontconfig1:amd64 (2.13.1-2ubuntu3) ...  
Setting up libsm6:amd64 (2:1.2.3-1) ...  
Setting up fontconfig (2.13.1-2ubuntu3) ...  
La máquina virtual informa que el SO invitado soporta integración del ratón. Esto significa que no necesita capturar el puntero del ratón para poder  
regresar al menú principal de la consola.  
Setting up libxft2:amd64 (2.3.3-0ubuntu1) ...  
Setting up libglx-mesa0:amd64 (21.0.3-0ubuntu0.3~20.04.1) ...  
Setting up libglx0:amd64 (1.3.2-1~ubuntu0.20.04.1) ...  
Setting up libpango-1.0-0:amd64 (1.44.7-2ubuntu4) ...  
Setting up libcairo2:amd64 (1.16.0-4ubuntu1) ...  
Setting up libglib2.0-0:amd64 (2.68.0-2ubuntu0.20.04.1) ...  
Setting up libgdk-pixbuf2.0-0:amd64 (2.40.0+dfsg-3ubuntu0.2) ...  
Setting up libxt6:amd64 (1:1.1.5-1) ...  
Setting up libgdk-pixbuf2.0-bin (2.40.0+dfsg-3ubuntu0.2) ...  
Setting up libcairo-gobject2:amd64 (1.16.0-4ubuntu1) ...  
Setting up libpangocairo-1.0-0:amd64 (1.44.7-2ubuntu4) ...  
Setting up libdirectfb-1.7-7:amd64 (1.7.7-9build1) ...  
Setting up libpangocairo-1.0-0:amd64 (1.44.7-2ubuntu4) ...  
Setting up libxmu6:amd64 (2:1.1.3-0ubuntu1) ...  
Setting up libxaw7:amd64 (2:1.0.13-1) ...  
Setting up librsvg2-2:amd64 (2.48.9-1ubuntu0.20.04.1) ...  
Setting up librsvg2-common:amd64 (2.48.9-1ubuntu0.20.04.1) ...  
Setting up x11-utils (7.7+5) ...  
Setting up xterm (353-1ubuntu1.20.04.2) ...  
update-alternatives: using /usr/bin/xterm to provide /usr/bin/x-terminal-emulator (x-terminal-emulator) in auto mode  
update-alternatives: using /usr/bin/lxterm to provide /usr/bin/x-terminal-emulator (x-terminal-emulator) in auto mode  
Setting up links2 (2.20.2-1) ...  
Processing triggers for systemd (245.4-4ubuntu3.11) ...  
Processing triggers for man-db (2.9.1-1) ...  
Processing triggers for mime-support (3.64ubuntu1) ...  
Processing triggers for libc-bin (2.31-0ubuntu9) ...  
Processing triggers for libgdk-pixbuf2.0-0:amd64 (2.40.0+dfsg-3ubuntu0.2) ...  
iker@iker-servidor:~\$ sudo apt install links2\_

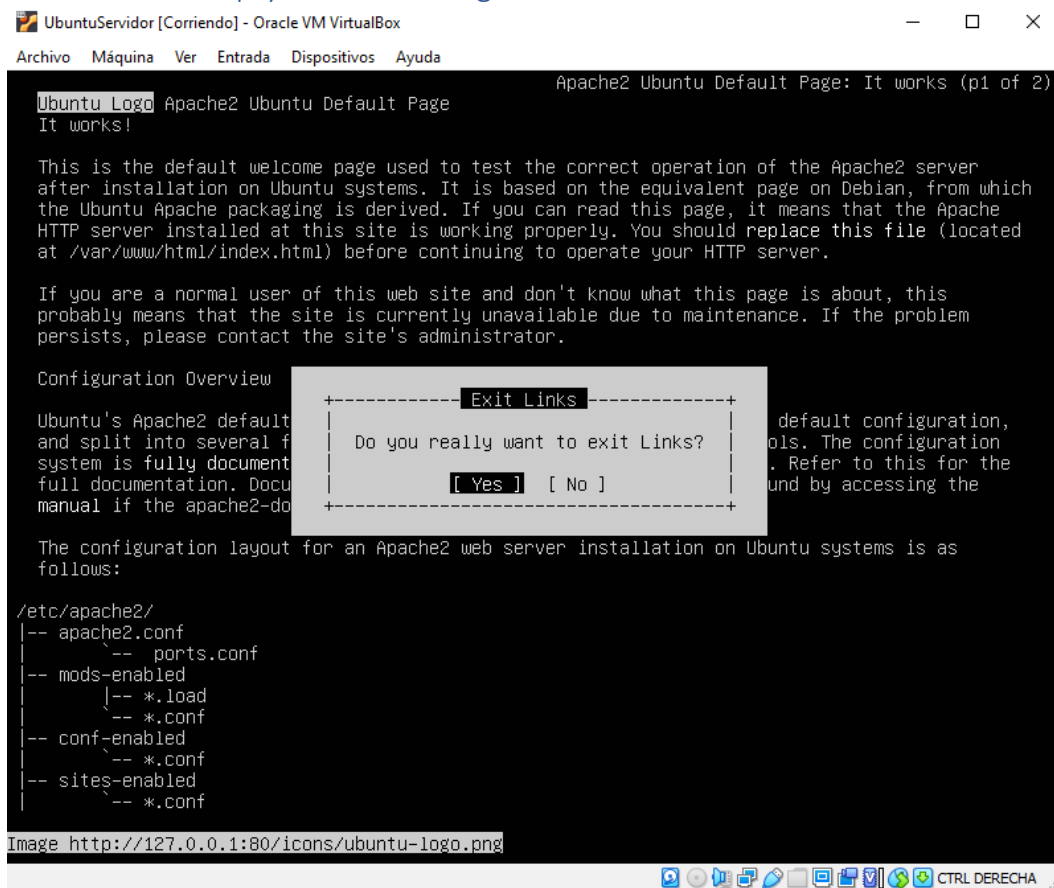
CTRL DERECHA



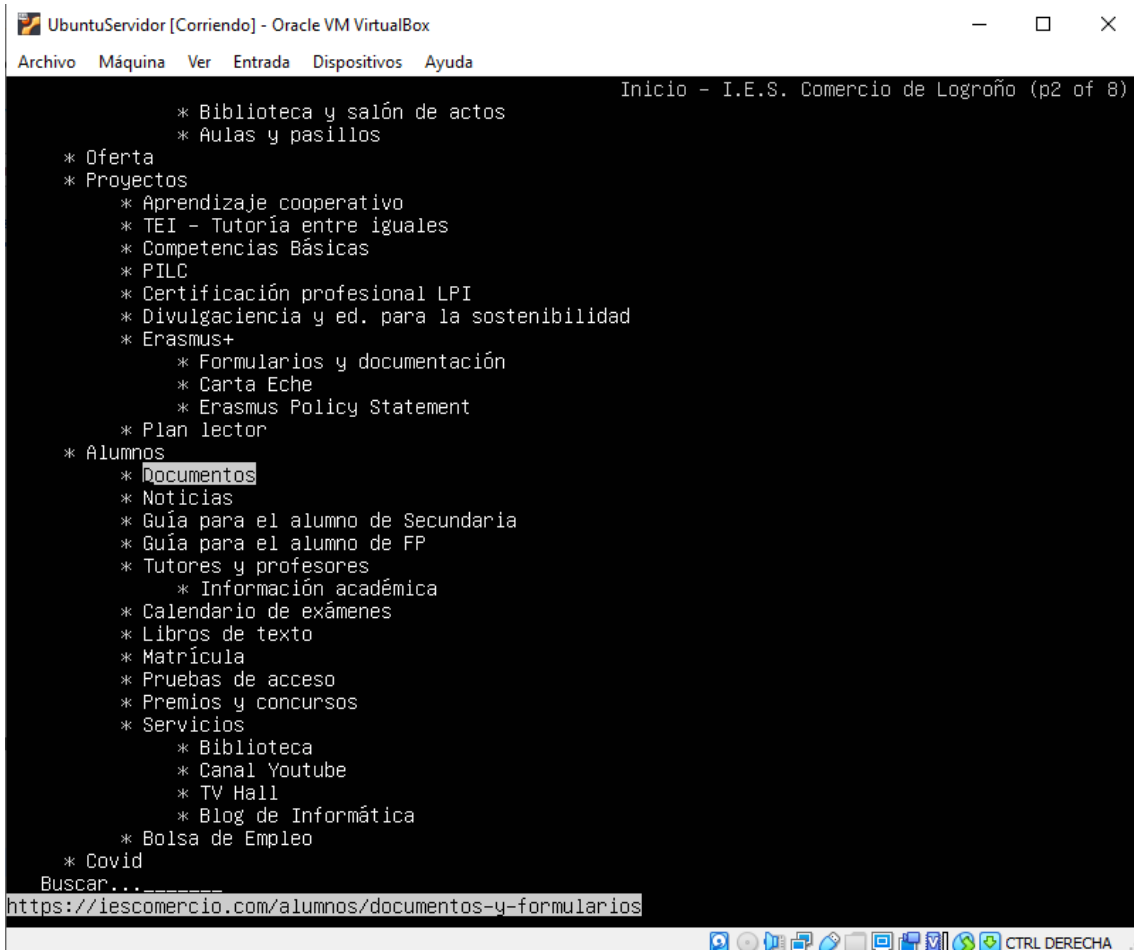
## b. Ejecuta "links2 IP\_SERVER:80"



## c. Escribe "q" y sal de la navegación.



d. Ejecuta “links2 iescomercio.com” y navega por distintas secciones.

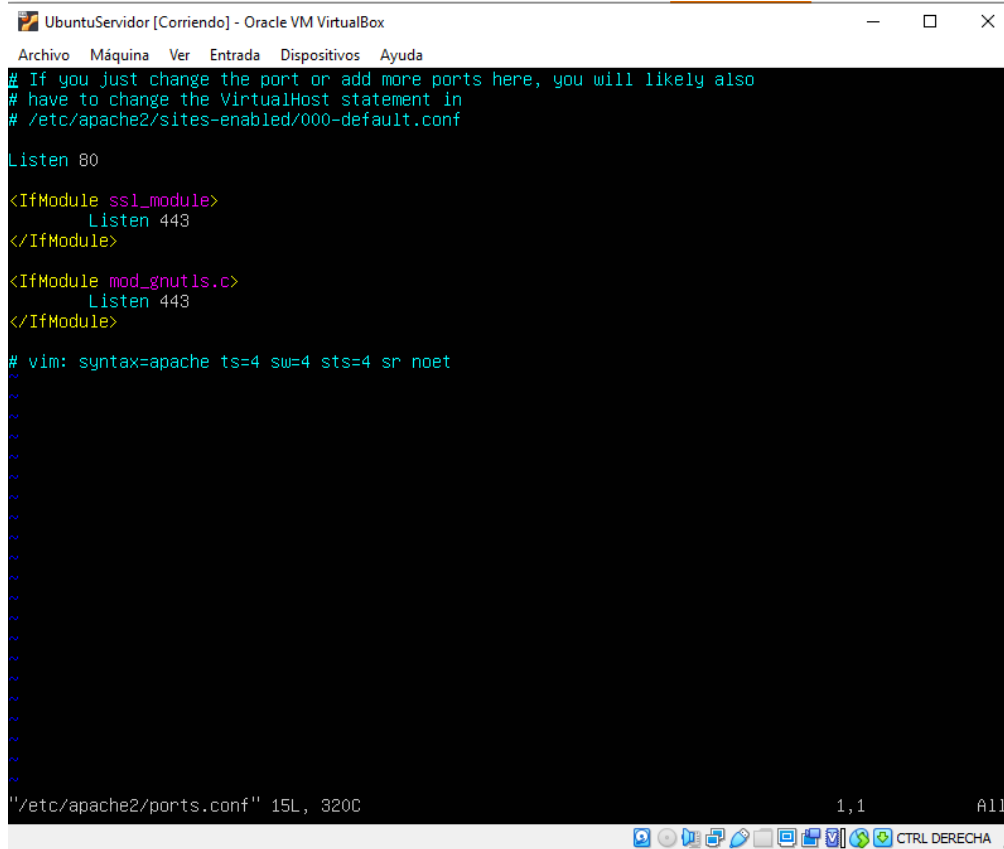


```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
Inicio - I.E.S. Comercio de Logroño (p2 of 8)

    * Biblioteca y salón de actos
    * Aulas y pasillos
* Oferta
* Proyectos
    * Aprendizaje cooperativo
    * TEI - Tutoría entre iguales
    * Competencias Básicas
    * PILC
    * Certificación profesional LPI
    * Divulgaciencia y ed. para la sostenibilidad
    * Erasmus+
        * Formularios y documentación
        * Carta Eche
        * Erasmus Policy Statement
    * Plan lector
* Alumnos
    * Documentos
    * Noticias
    * Guía para el alumno de Secundaria
    * Guía para el alumno de FP
    * Tutores y profesores
        * Información académica
    * Calendario de exámenes
    * Libros de texto
    * Matrícula
    * Pruebas de acceso
    * Premios y concursos
    * Servicios
        * Biblioteca
        * Canal Youtube
        * TV Hall
        * Blog de Informática
    * Bolsa de Empleo
* Covid
Buscar.....
https://iescomercio.com/alumnos/documentos-y-formularios
```

## F) Para cambiar de puerto:

### a. Acude a ports.conf y edítalo.



```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
# If you just change the port or add more ports here, you will likely also
# have to change the VirtualHost statement in
# /etc/apache2/sites-enabled/000-default.conf

Listen 80

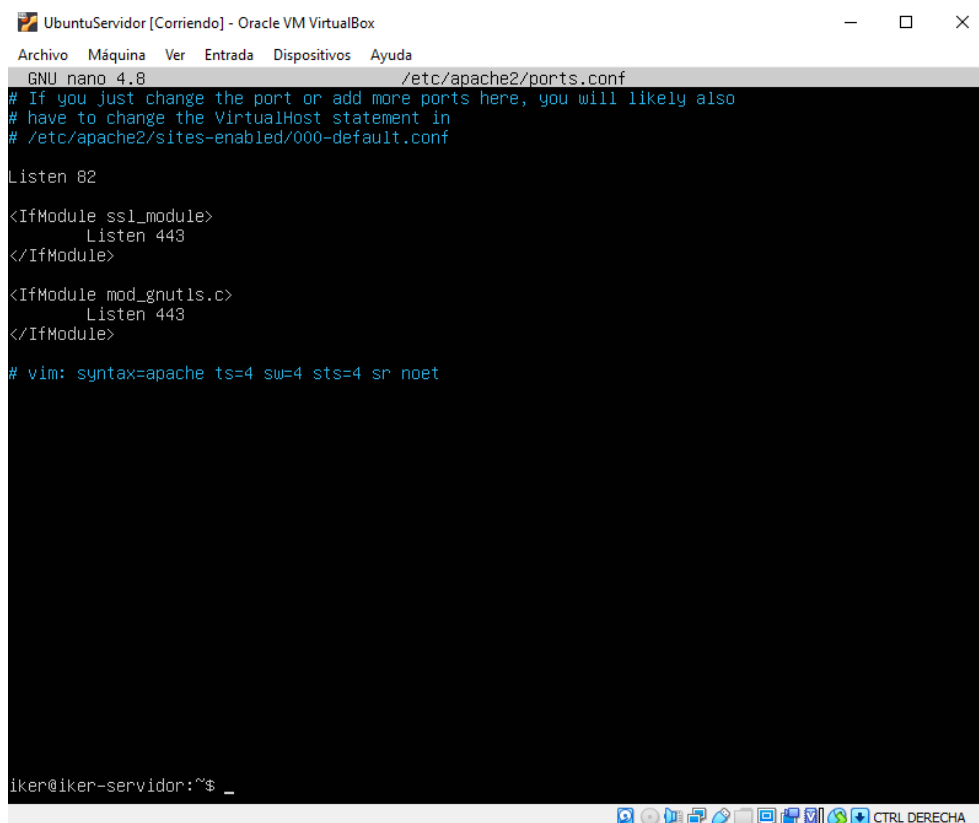
<IfModule ssl_module>
    Listen 443
</IfModule>

<IfModule mod_gnutls.c>
    Listen 443
</IfModule>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet

"/etc/apache2/ports.conf" 15L, 320C 1,1 All
CTRL DERECHA
```

### b. Cambia listen 80 por <nuevopuerto>



```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
GNU nano 4.8 /etc/apache2/ports.conf
# If you just change the port or add more ports here, you will likely also
# have to change the VirtualHost statement in
# /etc/apache2/sites-enabled/000-default.conf

Listen 82

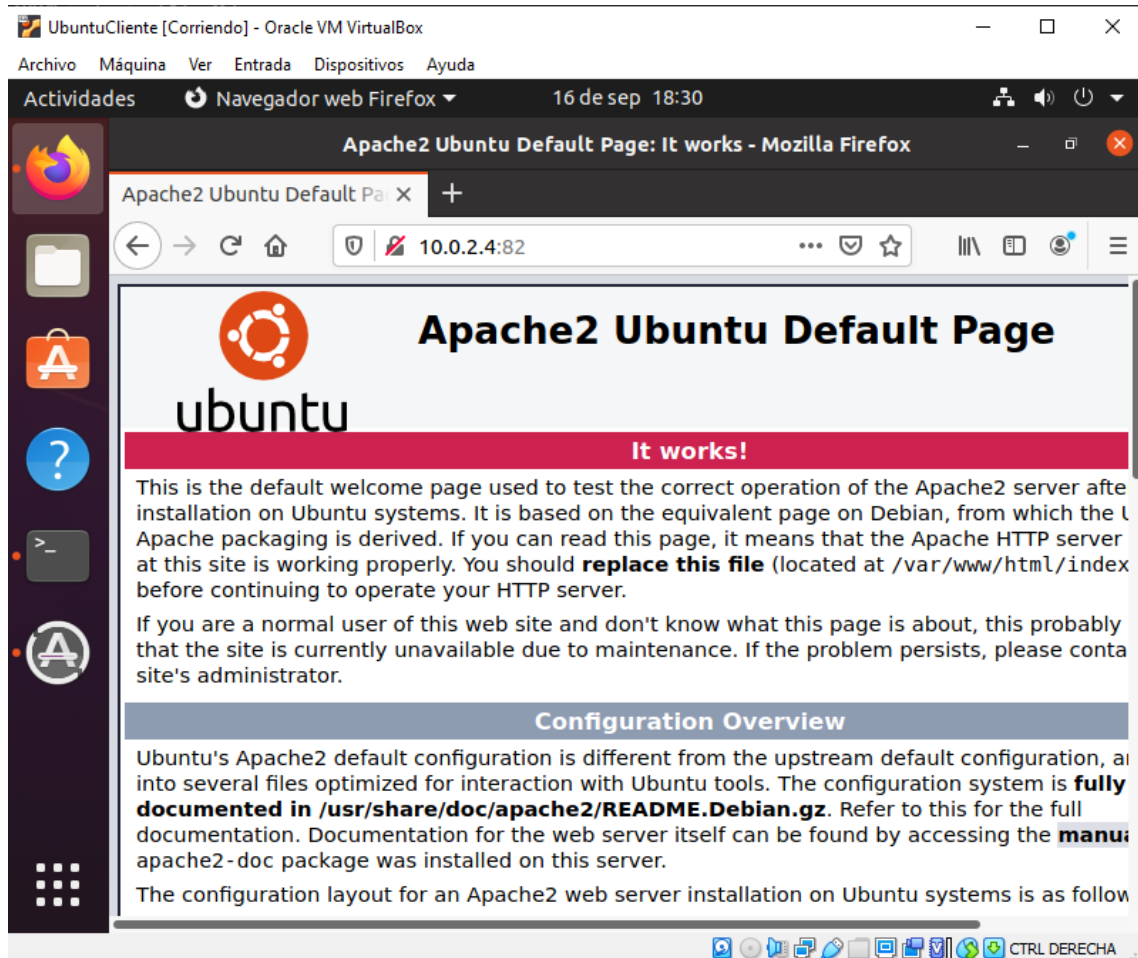
<IfModule ssl_module>
    Listen 443
</IfModule>

<IfModule mod_gnutls.c>
    Listen 443
</IfModule>

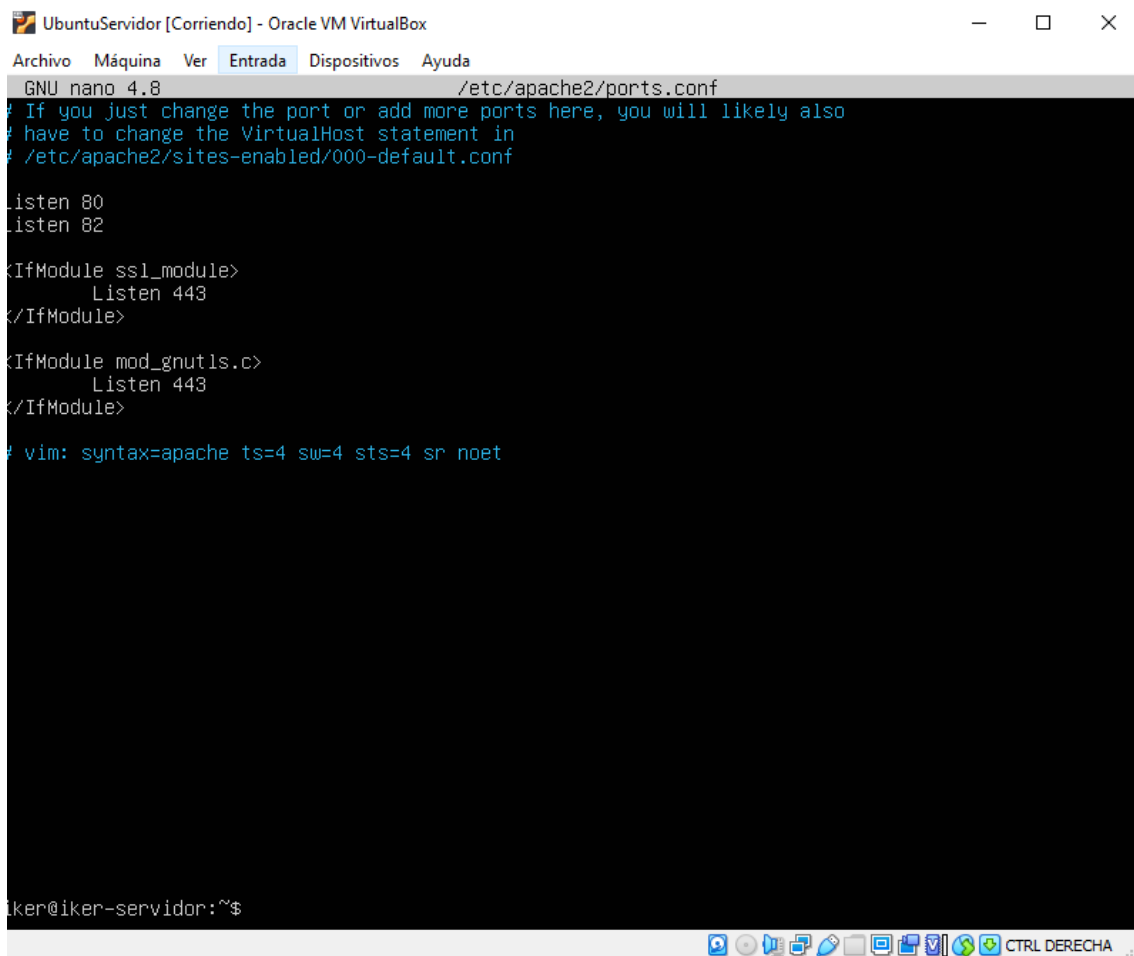
# vim: syntax=apache ts=4 sw=4 sts=4 sr noet

iker@iker-servidor:~$ _
CTRL DERECHA
```

- c. Reiniciar servidor y verifica que atiende por el nuevo puerto, basta lanzar una nueva petición vía browser del cliente.



- d. Agrega un segundo puerto debajo del primero sólo para la IP de tu cliente Ubuntu y verifica que está activo el servicio en ambos puertos. Es decir, que responde la página web principal por cada puerto.



```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
GNU nano 4.8 /etc/apache2/ports.conf
# If you just change the port or add more ports here, you will likely also
# have to change the VirtualHost statement in
# /etc/apache2/sites-enabled/000-default.conf

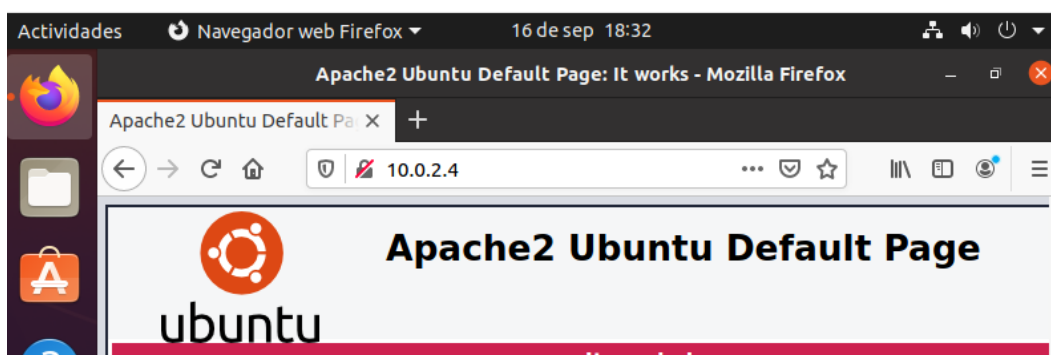
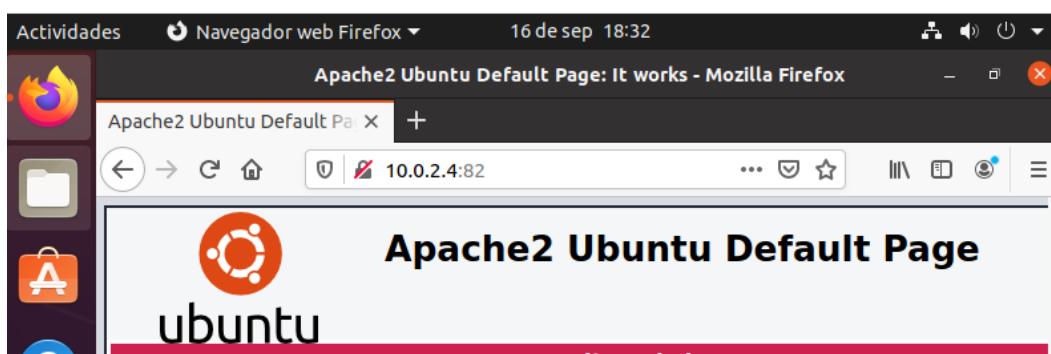
Listen 80
Listen 82

<IfModule ssl_module>
    Listen 443
</IfModule>

<IfModule mod_gnutls.c>
    Listen 443
</IfModule>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet

iker@iker-servidor:~$
```



## G) Instalación de MySQL:

### a. apt-get install mysql-server

```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
reading /usr/share/mecab/dic/ipadic/Noun.csv ... 60477
reading /usr/share/mecab/dic/ipadic/Noun.adverbial.csv ... 795
reading /usr/share/mecab/dic/ipadic/Noun.advj.csv ... 3328
reading /usr/share/mecab/dic/ipadic/Noun.org.csv ... 16668
reading /usr/share/mecab/dic/ipadic/Noun.proper.csv ... 27328
reading /usr/share/mecab/dic/ipadic/Others.csv ... 2
reading /usr/share/mecab/dic/ipadic/Noun.number.csv ... 42
reading /usr/share/mecab/dic/ipadic/Verb.csv ... 130750
reading /usr/share/mecab/dic/ipadic/Noun.name.csv ... 34202
reading /usr/share/mecab/dic/ipadic/Noun.verbal.csv ... 12146
reading /usr/share/mecab/dic/ipadic/Auxil.csv ... 199
emitting double-array: 100% |#####|
reading /usr/share/mecab/dic/ipadic/matrix.def ... 1316x1316
emitting matrix : 100% |#####|

done!
update-alternatives: using /var/lib/mecab/dic/ipadic-utf8 to provide /var/lib/mecab/dic/debian (meca
b-dictionary) in auto mode
Setting up libhtml-parser-perl (3.72-5) ...
Setting up libhttp-message-perl (6.22-1) ...
Setting up mysql-server-8.0 (8.0.26-0ubuntu0.20.04.2) ...
update-alternatives: using /etc/mysql/mysql.cnf to provide /etc/mysql/my.cnf (my.cnf) in auto mode
Renaming removed key_buffer and mysam-recover options (if present)
mysqld will log errors to /var/log/mysql/error.log
mysqld is running as pid 8268
Created symlink /etc/systemd/system/multi-user.target.wants/mysql.service → /lib/systemd/system/mysql
l.service.
Setting up libcgi-pm-perl (4.46-1) ...
Setting up libhtml-template-perl (2.97-1) ...
Setting up mysql-server (8.0.26-0ubuntu0.20.04.2) ...
Setting up libcgi-fast-perl (1:2.15-1) ...
Processing triggers for systemd (245.4-4ubuntu3.11) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9) ...
iker@iker-servidor:~$ sudo apt install mysql-server
```

### b. Verifica que puedes administrar bases de datos mediante mysql – u root

```
iker@iker-servidor:~$ mysql -u root
ERROR 1698 (28000): Access denied for user 'root'@'localhost'
iker@iker-servidor:~$ sudo mysql -u root
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 9
Server version: 8.0.26-0ubuntu0.20.04.2 (Ubuntu)

Copyright (c) 2000, 2021, Oracle and/or its affiliates.

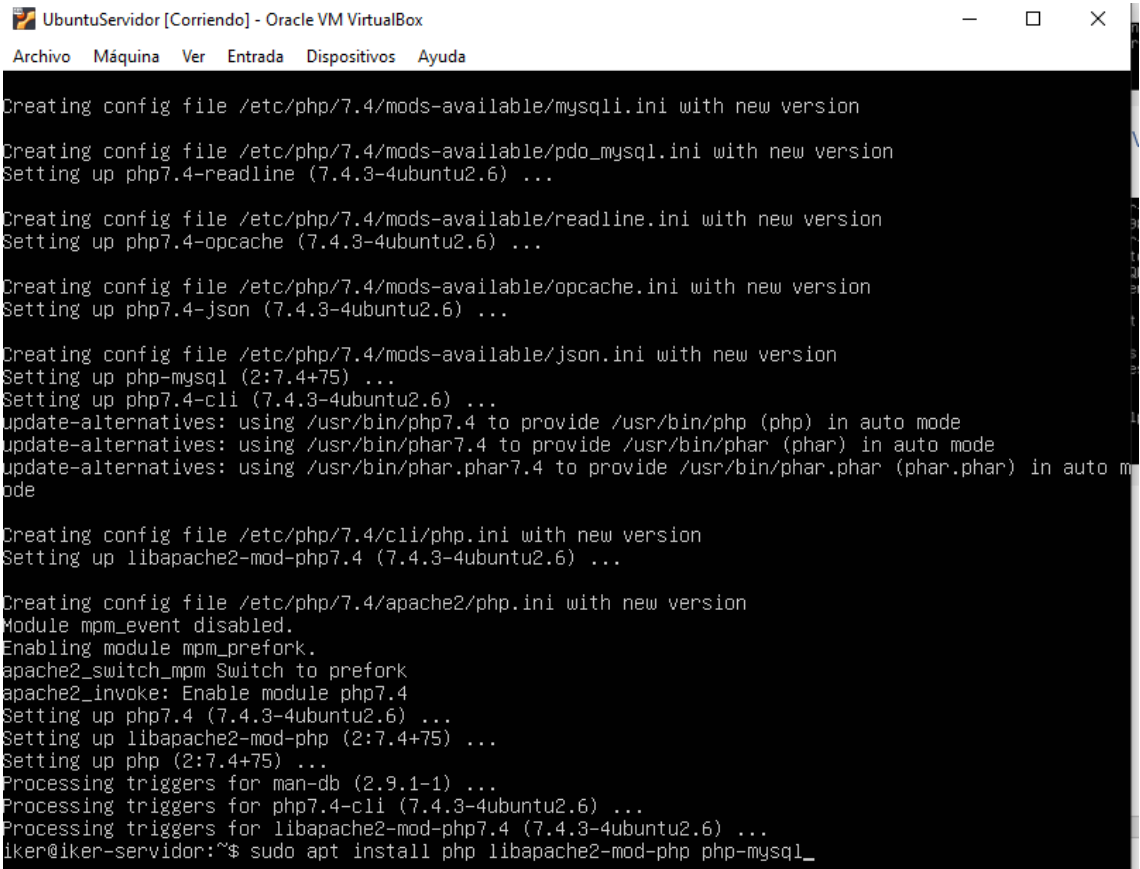
Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

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

mysql>
```

## H) Instalación de PHP:

### a. apt-get install php libapache2-mod-php php-mysql



```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda

Creating config file /etc/php/7.4/mods-available/mysqli.ini with new version
Creating config file /etc/php/7.4/mods-available/pdo_mysql.ini with new version
Setting up php7.4-readline (7.4.3-4ubuntu2.6) ...

Creating config file /etc/php/7.4/mods-available/readline.ini with new version
Setting up php7.4-opcache (7.4.3-4ubuntu2.6) ...

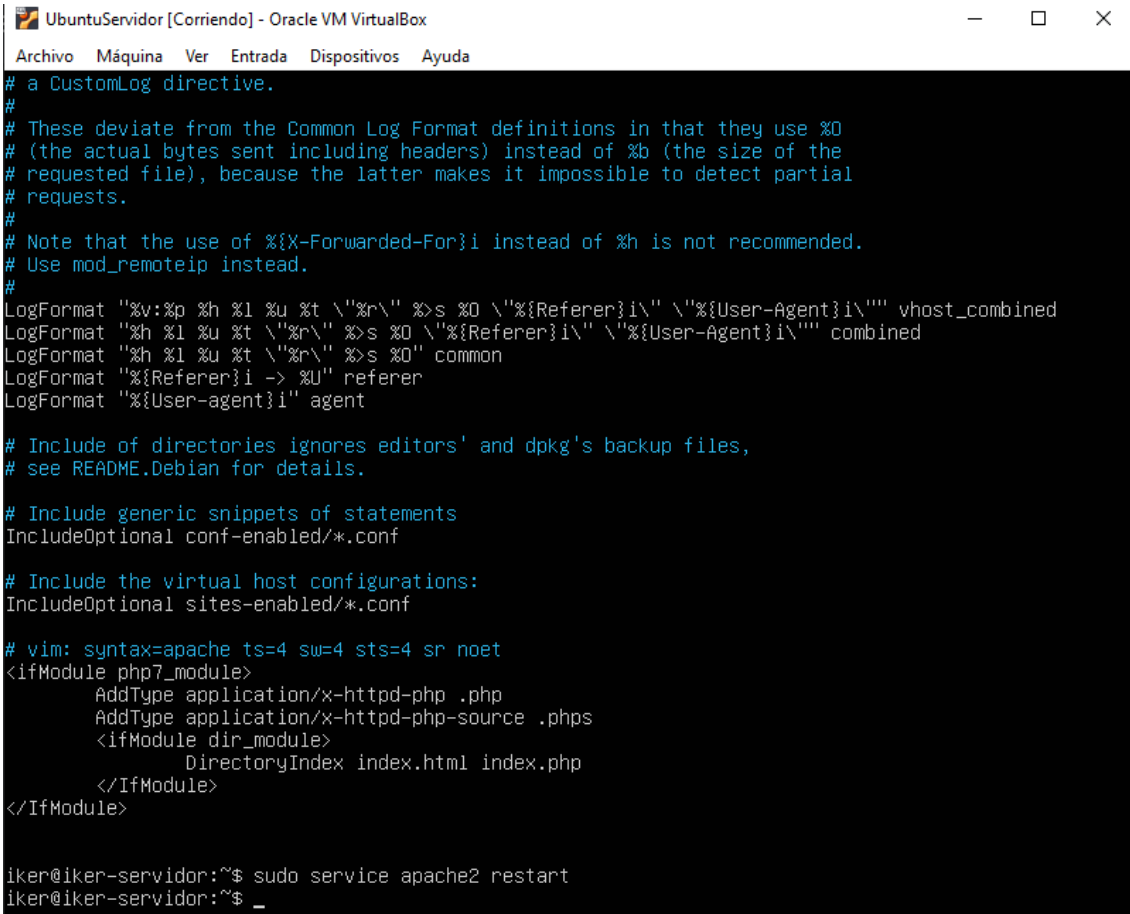
Creating config file /etc/php/7.4/mods-available/opcache.ini with new version
Setting up php7.4-json (7.4.3-4ubuntu2.6) ...

Creating config file /etc/php/7.4/mods-available/json.ini with new version
Setting up php-mysql (2:7.4+75) ...
Setting up php7.4-cli (7.4.3-4ubuntu2.6) ...
update-alternatives: using /usr/bin/php7.4 to provide /usr/bin/php (php) in auto mode
update-alternatives: using /usr/bin/phar7.4 to provide /usr/bin/phar (phar) in auto mode
update-alternatives: using /usr/bin/phar.phar7.4 to provide /usr/bin/phar.phar (phar.phar) in auto mode

Creating config file /etc/php/7.4/cli/php.ini with new version
Setting up libapache2-mod-php7.4 (7.4.3-4ubuntu2.6) ...

Creating config file /etc/php/7.4/apache2/php.ini with new version
Module mpm_event disabled.
Enabling module mpm_prefork.
apache2_switch_mpm Switch to prefork
apache2_invoke: Enable module php7.4
Setting up php7.4 (7.4.3-4ubuntu2.6) ...
Setting up libapache2-mod-php (2:7.4+75) ...
Setting up php (2:7.4+75) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for php7.4-cli (7.4.3-4ubuntu2.6) ...
Processing triggers for libapache2-mod-php7.4 (7.4.3-4ubuntu2.6) ...
iker@iker-servidor:~$ sudo apt install php libapache2-mod-php php-mysql_
```

b. Agrega al final de /etc/apache2/apache2.conf:



```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
# a CustomLog directive.
#
# These deviate from the Common Log Format definitions in that they use %0
# (the actual bytes sent including headers) instead of %b (the size of the
# requested file), because the latter makes it impossible to detect partial
# requests.
#
# Note that the use of %{X-Forwarded-For}i instead of %h is not recommended.
# Use mod_remoteip instead.
#
LogFormat "%v:%p %h %l %u %t \"%r\" %>s %0 \"%{Referer}i\" \"%{User-Agent}i\"" vhost_combined
LogFormat "%h %l %u %t \"%r\" %>s %0 \"%{Referer}i\" \"%{User-Agent}i\"" combined
LogFormat "%h %l %u %t \"%r\" %>s %0" common
LogFormat "%{Referer}i -> %U" referer
LogFormat "%{User-agent}i" agent

# Include of directories ignores editors' and dpkg's backup files,
# see README.Debian for details.

# Include generic snippets of statements
IncludeOptional conf-enabled/*.conf

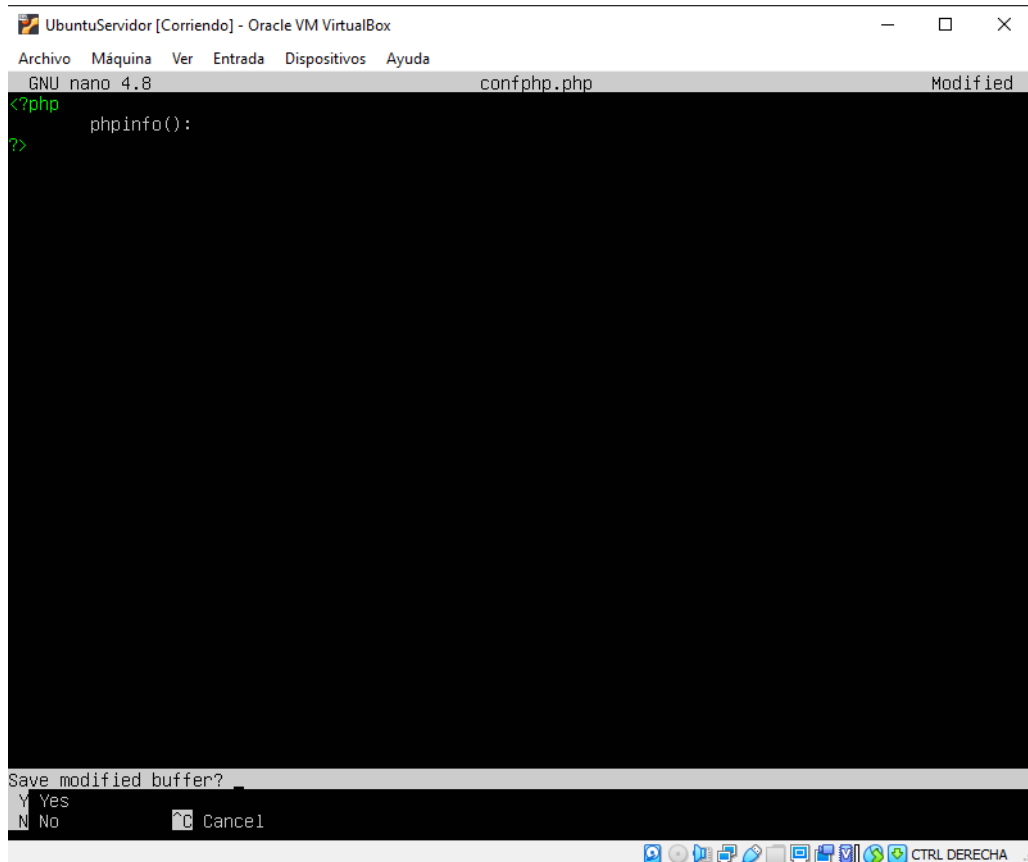
# Include the virtual host configurations:
IncludeOptional sites-enabled/*.conf

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet
<ifModule php7_module>
    AddType application/x-httpd-php .php
    AddType application/x-httpd-php-source .phps
    <ifModule dir_module>
        DirectoryIndex index.html index.php
    </IfModule>
</IfModule>

iker@iker-servidor:~$ sudo service apache2 restart
iker@iker-servidor:~$ _
```

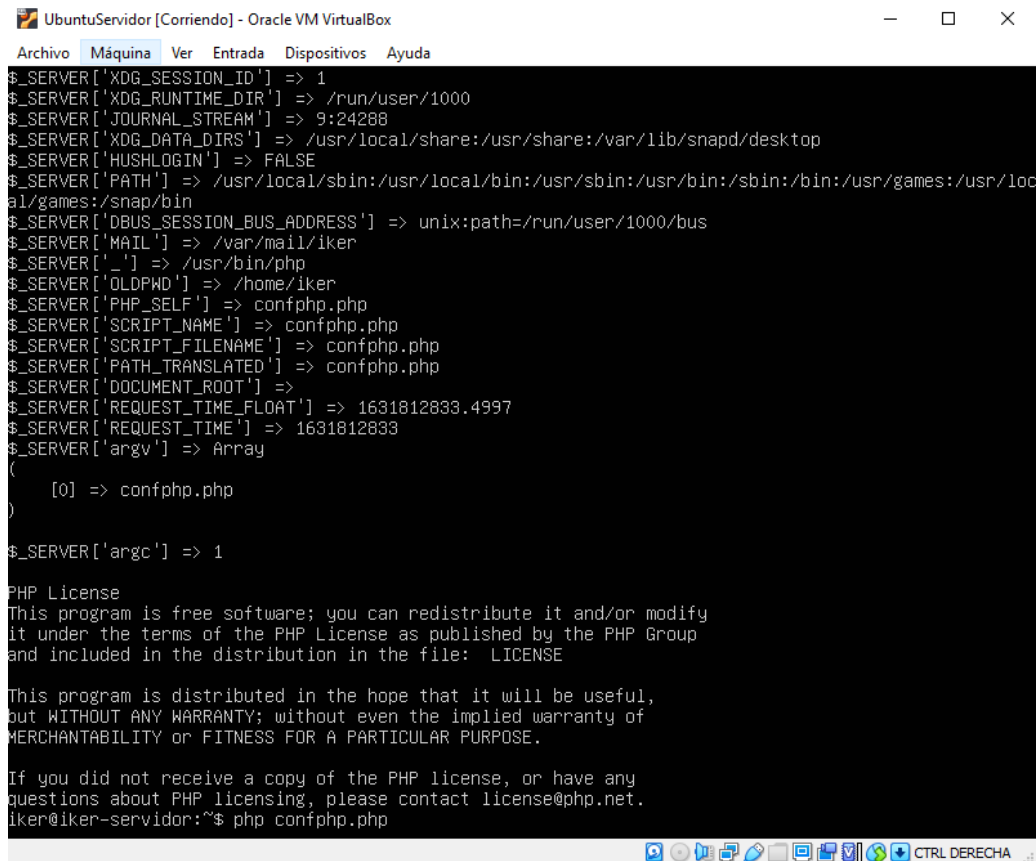


- c. Crea un archivo PHP que devuelva toda la configuración de PHP y ejecútalo vía Shell y vía navegador web.



```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
GNU nano 4.8 confphp.php Modified
<?php
phpinfo():
?>

Save modified buffer?
Y Yes
N No  C Cancel
```



```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda
$_SERVER['XDG_SESSION_ID'] => 1
$_SERVER['XDG_RUNTIME_DIR'] => /run/user/1000
$_SERVER['JOURNAL_STREAM'] => 9:24288
$_SERVER['XDG_DATA_DIRS'] => /usr/local/share:/usr/share:/var/lib/napd/desktop
$_SERVER['HUSHLOGIN'] => FALSE
$_SERVER['PATH'] => /usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
$_SERVER['DBUS_SESSION_BUS_ADDRESS'] => unix:path=/run/user/1000/bus
$_SERVER['MAIL'] => /var/mail/iker
$_SERVER['_'] => /usr/bin/php
$_SERVER['OLDPWD'] => /home/iker
$_SERVER['PHP_SELF'] => confphp.php
$_SERVER['SCRIPT_NAME'] => confphp.php
$_SERVER['SCRIPT_FILENAME'] => confphp.php
$_SERVER['PATH_TRANSLATED'] => confphp.php
$_SERVER['DOCUMENT_ROOT'] =>
$_SERVER['REQUEST_TIME_FLOAT'] => 1631812833.4997
$_SERVER['REQUEST_TIME'] => 1631812833
$_SERVER['argv'] => Array
(
    [0] => confphp.php
)
$_SERVER['argc'] => 1

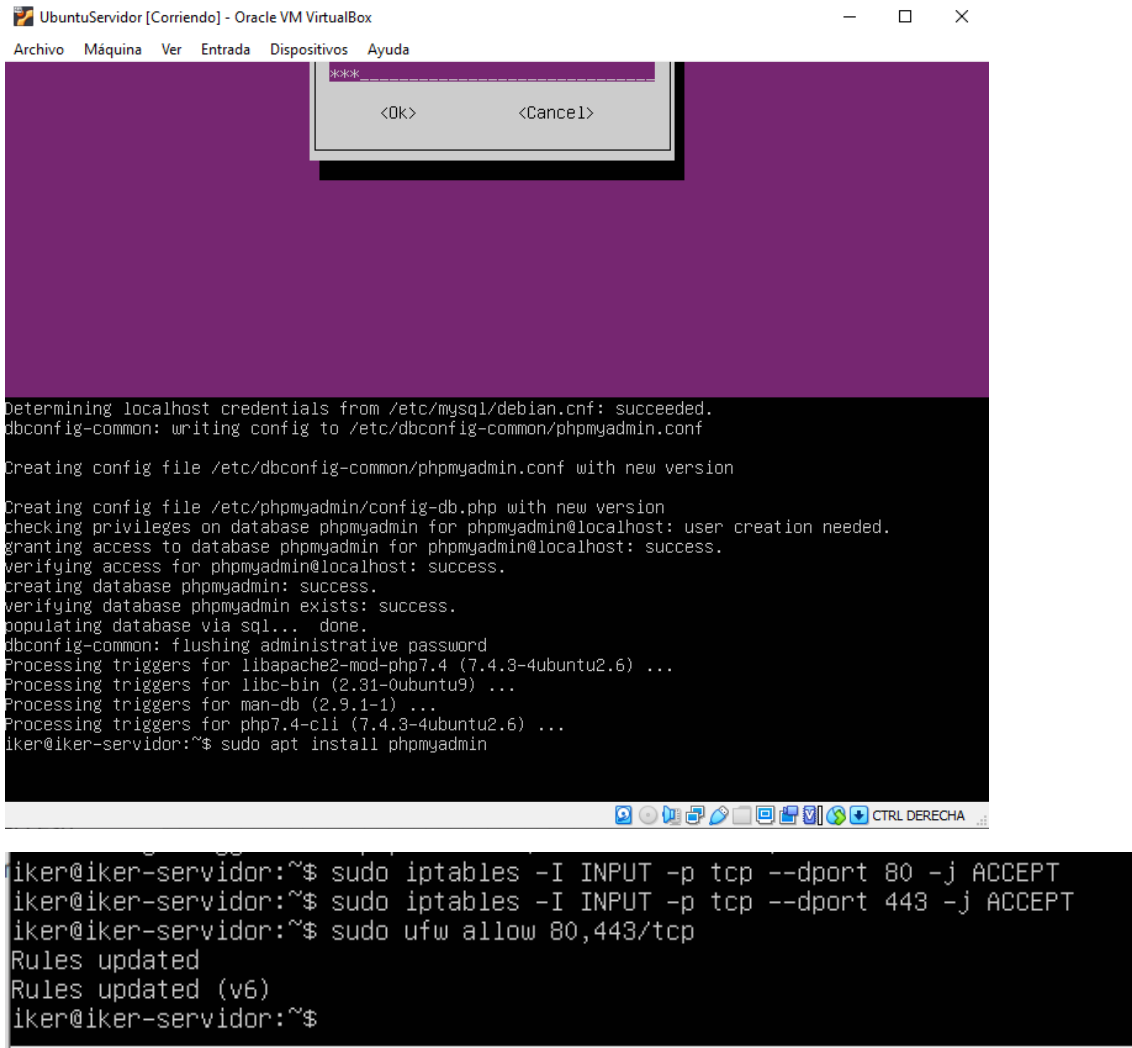
PHP License
This program is free software; you can redistribute it and/or modify
it under the terms of the PHP License as published by the PHP Group
and included in the distribution in the file: LICENSE

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

If you did not receive a copy of the PHP license, or have any
questions about PHP licensing, please contact license@php.net.
iker@iker-servidor:~$ php confphp.php
```

## I) Instala PHPMYADMIN:

1. Sigue los pasos de <https://www.sololinux.es/instalar-phpmyadminen-ubuntu-20-04-focal-lamp/>

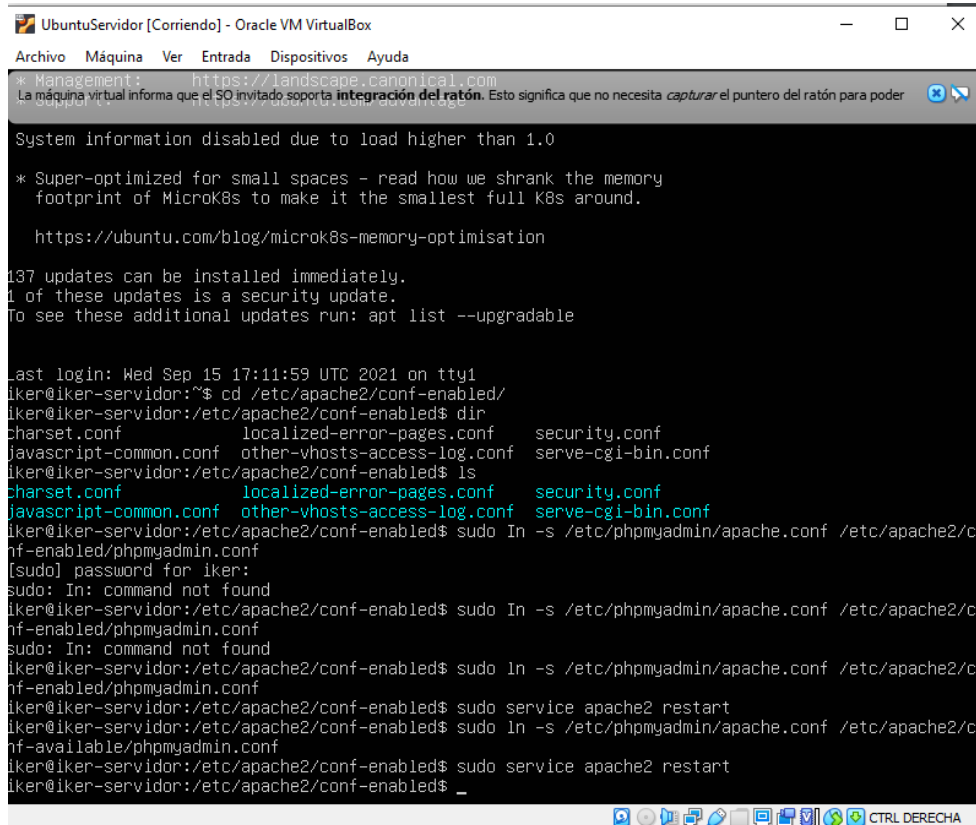


```

Determining localhost credentials from /etc/mysql/debian.cnf: succeeded.
dbconfig-common: writing config to /etc/dbconfig-common/phpmyadmin.conf
Creating config file /etc/dbconfig-common/phpmyadmin.conf with new version
Creating config file /etc/phpmyadmin/config-db.php with new version
checking privileges on database phpmyadmin for phpmyadmin@localhost: user creation needed.
granting access to database phpmyadmin for phpmyadmin@localhost: success.
verifying access for phpmyadmin@localhost: success.
creating database phpmyadmin: success.
verifying database phpmyadmin exists: success.
populating database via sql... done.
dbconfig-common: flushing administrative password
Processing triggers for libapache2-mod-php7.4 (7.4.3-4ubuntu2.6) ...
Processing triggers for libc-bin (2.31-0ubuntu9) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for php7.4-cli (7.4.3-4ubuntu2.6) ...
iker@iker-servidor:~$ sudo apt install phpmyadmin

iker@iker-servidor:~$ sudo iptables -I INPUT -p tcp --dport 80 -j ACCEPT
iker@iker-servidor:~$ sudo iptables -I INPUT -p tcp --dport 443 -j ACCEPT
iker@iker-servidor:~$ sudo ufw allow 80,443/tcp
Rules updated
Rules updated (v6)
iker@iker-servidor:~$
```

- b. Probablemente tengas el mismo problema que el usuario SinE del post final. Haz caso a la sugerencia del autor con esa salvedad:



The screenshot shows a terminal window titled "UbuntuServidor [Corriendo] - Oracle VM VirtualBox". The terminal output includes the following text:

```
System information disabled due to load higher than 1.0

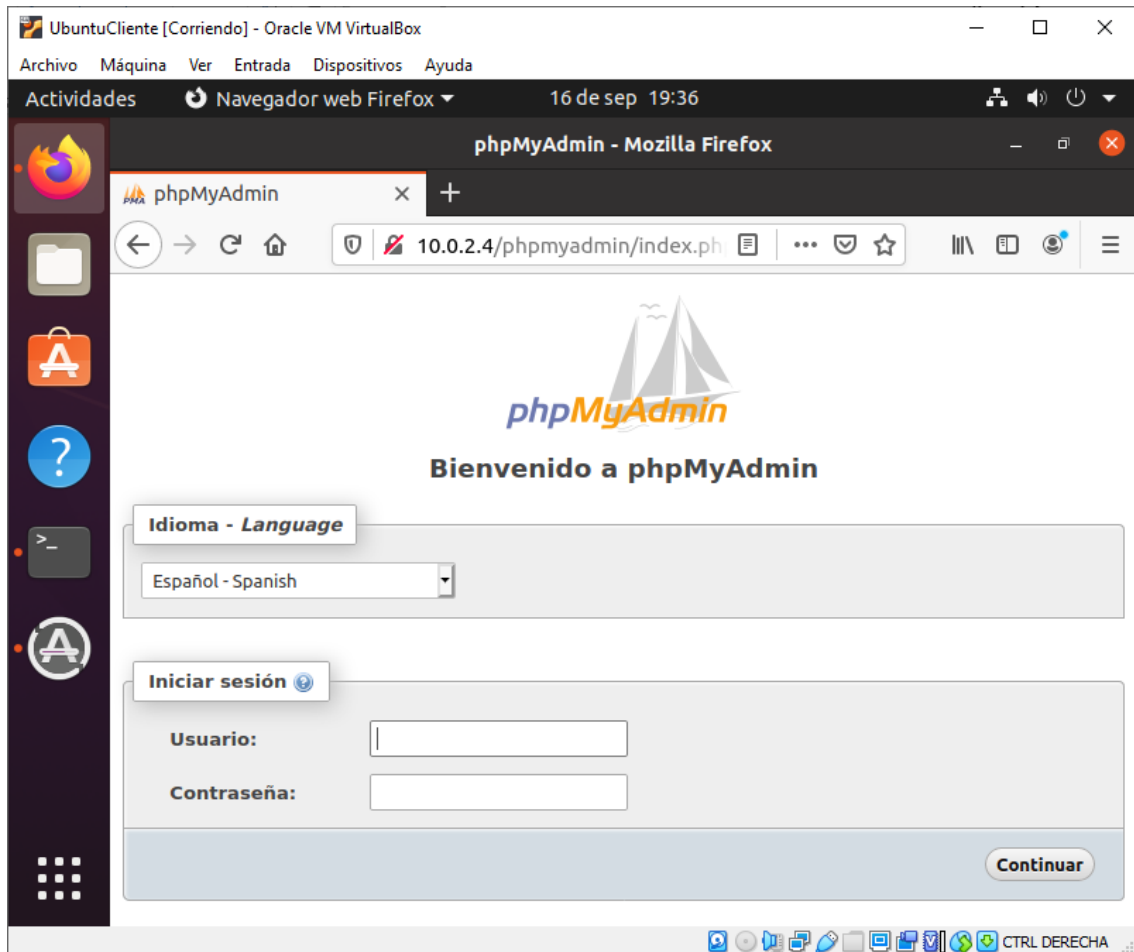
* Super-optimized for small spaces - read how we shrank the memory
  footprint of MicroK8s to make it the smallest full K8s around.

  https://ubuntu.com/blog/microk8s-memory-optimisation

137 updates can be installed immediately.
1 of these updates is a security update.
To see these additional updates run: apt list --upgradable

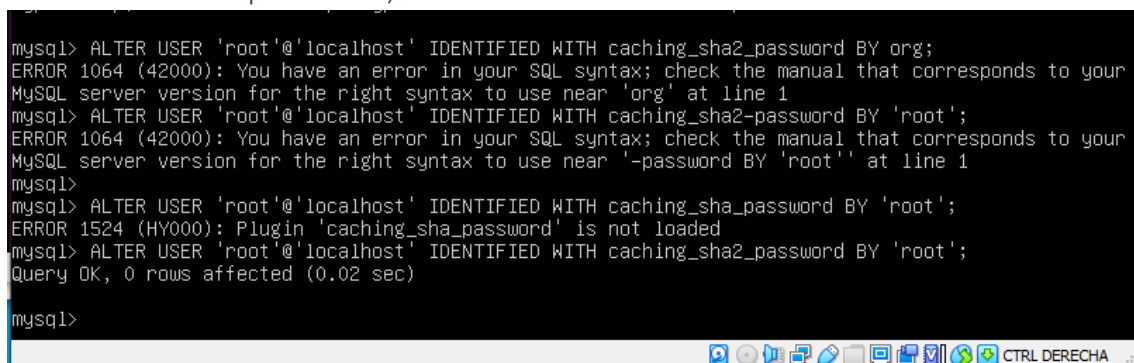
Last login: Wed Sep 15 17:11:59 UTC 2021 on tty1
iker@iker-servidor:~$ cd /etc/apache2/conf-enabled/
iker@iker-servidor:/etc/apache2/conf-enabled$ dir
charset.conf          localized-error-pages.conf  security.conf
javascript-common.conf other-vhosts-access-log.conf serve-cgi-bin.conf
iker@iker-servidor:/etc/apache2/conf-enabled$ ls
charset.conf          localized-error-pages.conf  security.conf
javascript-common.conf other-vhosts-access-log.conf serve-cgi-bin.conf
iker@iker-servidor:/etc/apache2/conf-enabled$ sudo ln -s /etc/phpmyadmin/apache.conf /etc/apache2/conf-enabled/phpmyadmin.conf
[sudo] password for iker:
sudo: In: command not found
iker@iker-servidor:/etc/apache2/conf-enabled$ sudo ln -s /etc/phpmyadmin/apache.conf /etc/apache2/conf-enabled/phpmyadmin.conf
[sudo: In: command not found
iker@iker-servidor:/etc/apache2/conf-enabled$ sudo ln -s /etc/phpmyadmin/apache.conf /etc/apache2/conf-enabled/phpmyadmin.conf
iker@iker-servidor:/etc/apache2/conf-enabled$ sudo service apache2 restart
iker@iker-servidor:/etc/apache2/conf-enabled$ sudo ln -s /etc/phpmyadmin/apache.conf /etc/apache2/conf-enabled/phpmyadmin.conf
iker@iker-servidor:/etc/apache2/conf-enabled$ sudo service apache2 restart
iker@iker-servidor:/etc/apache2/conf-enabled$ _
```

c. . Verifica que se visiona PhpMyAdmin vía el navegador del cliente.

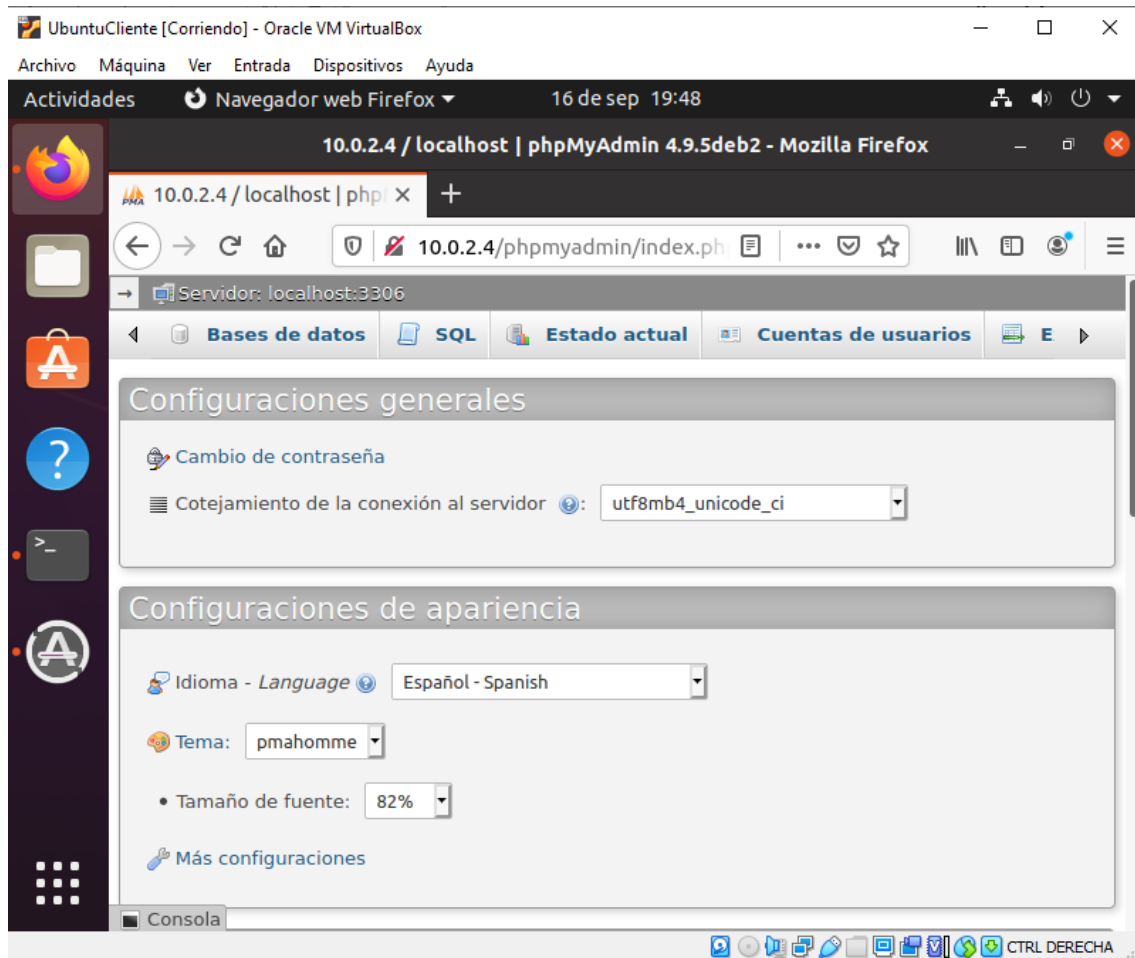


d. Observarás que no puedes autenticarte. Esto es porque MySQL no tiene password asociado a root. Para ello, entra en MySQL y ejecuta:

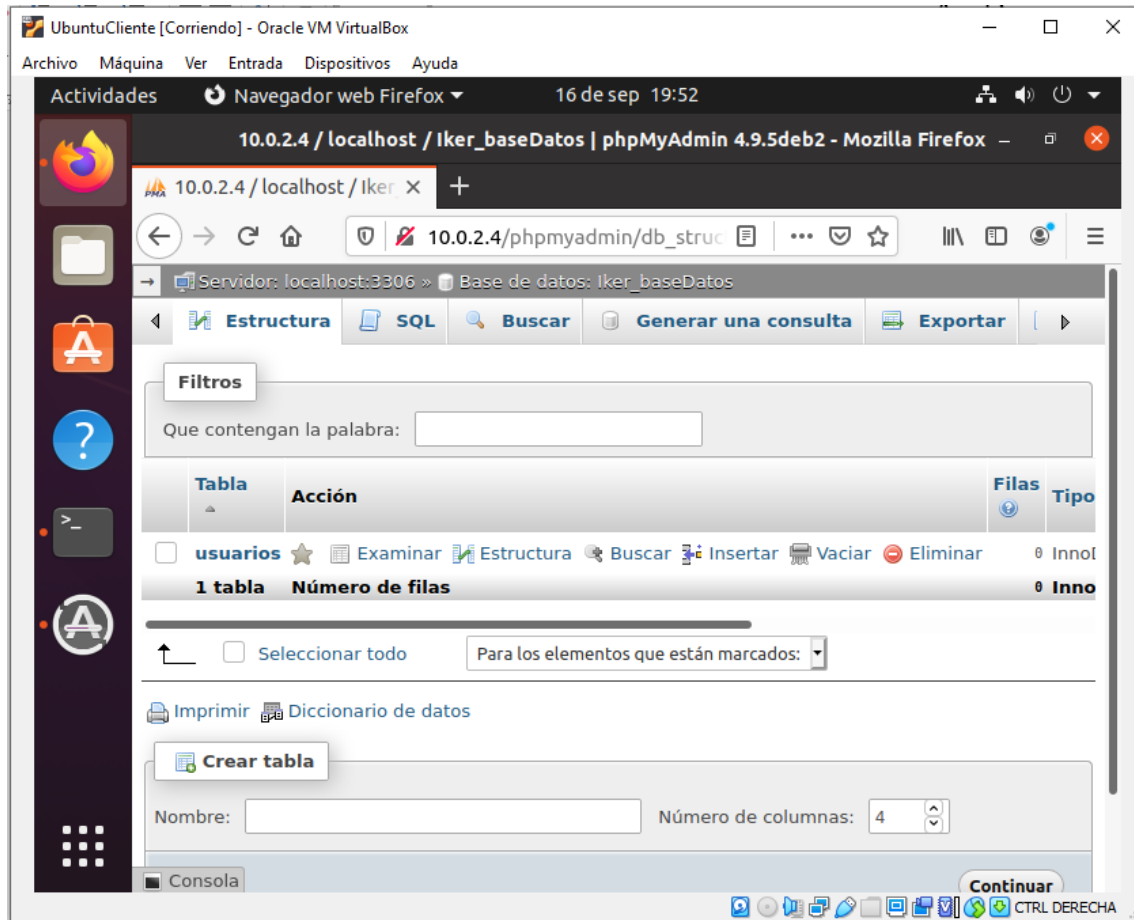
i. `ALTER USER 'root'@'localhost' IDENTIFIED WITH caching_sha2_password BY <nuevopassword>;`



e. Verifica que ahora ya sí puedes entrar



- f. Crea una BD de una única tabla con esa interfaz gráfica y comprueba que en consola (en servidor) aparece también.

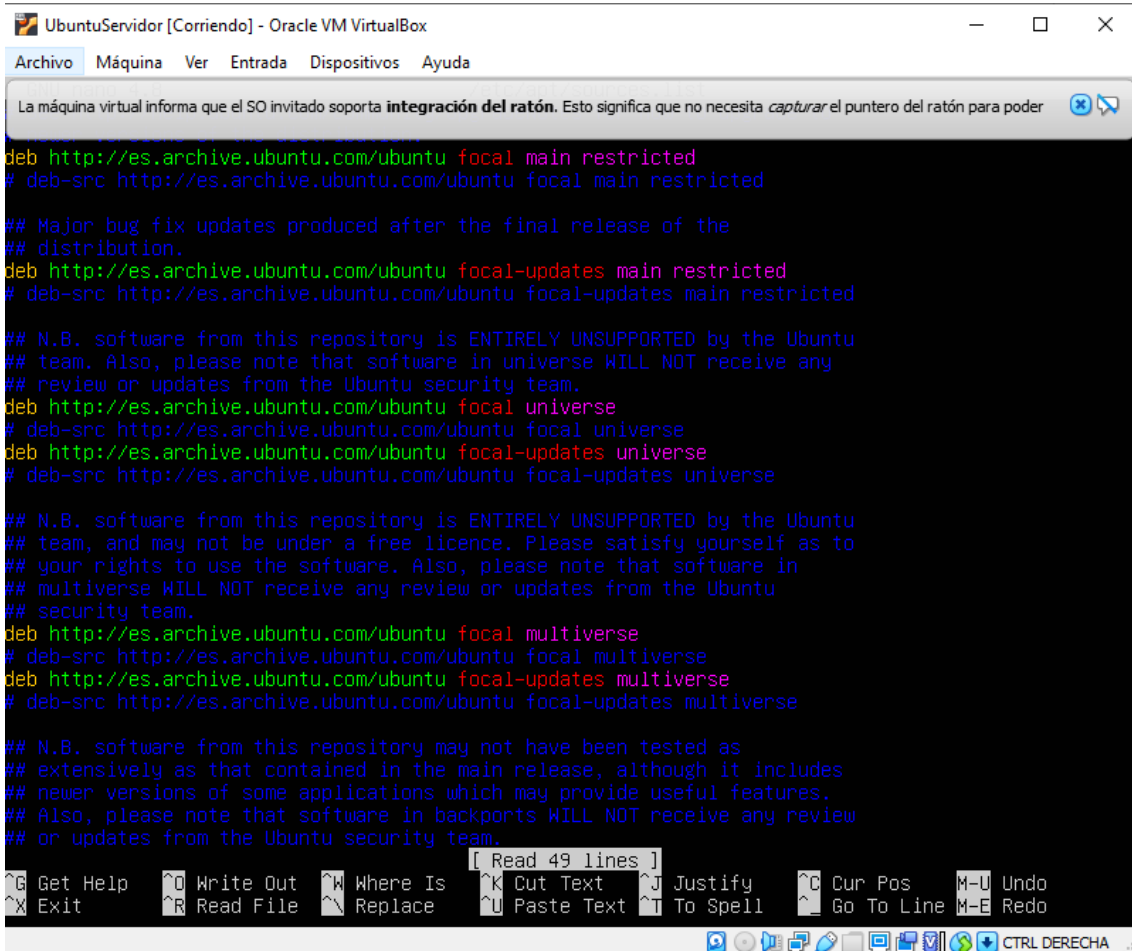


```
mysql> show databases;
+-----+
| Database |
+-----+
| Iker_baseDatos |
| information_schema |
| mysql |
| performance_schema |
| phpmyadmin |
| sys |
+-----+
6 rows in set (0.00 sec)

mysql> _
```

## J) Instala WEBMIN:

### a. Edita /etc/apt/sources.list



```
UbuntuServidor [Corriendo] - Oracle VM VirtualBox
Archivo  Máquina  Ver  Entrada  Dispositivos  Ayuda

La máquina virtual informa que el SO invitado soporta integración del ratón. Esto significa que no necesita capturar el puntero del ratón para poder

deb http://es.archive.ubuntu.com/ubuntu focal main restricted
# deb-src http://es.archive.ubuntu.com/ubuntu focal main restricted

## Major bug fix updates produced after the final release of the
## distribution.
deb http://es.archive.ubuntu.com/ubuntu focal-updates main restricted
# deb-src http://es.archive.ubuntu.com/ubuntu focal-updates main restricted

## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu
## team. Also, please note that software in universe WILL NOT receive any
## review or updates from the Ubuntu security team.
deb http://es.archive.ubuntu.com/ubuntu focal universe
# deb-src http://es.archive.ubuntu.com/ubuntu focal universe
deb http://es.archive.ubuntu.com/ubuntu focal-updates universe
# deb-src http://es.archive.ubuntu.com/ubuntu focal-updates universe

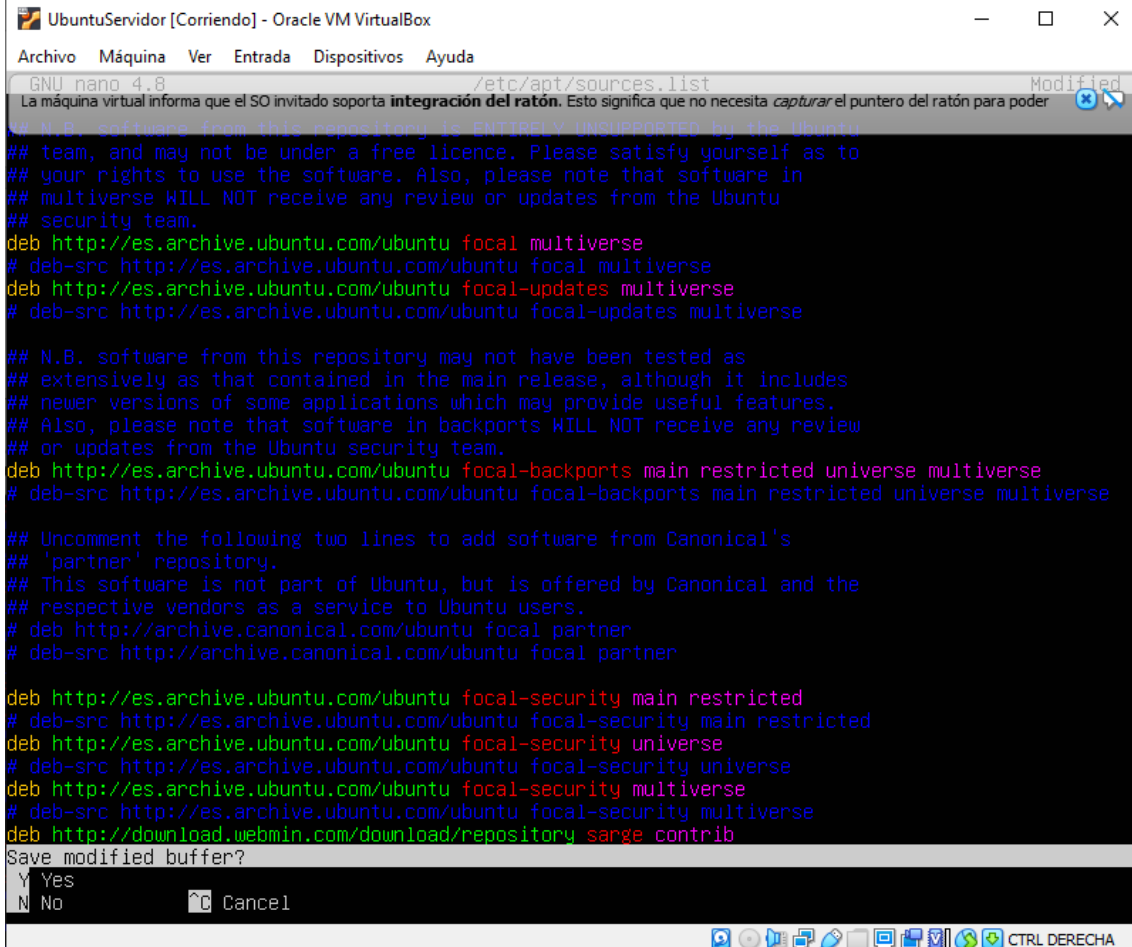
## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu
## team, and may not be under a free licence. Please satisfy yourself as to
## your rights to use the software. Also, please note that software in
## multiverse WILL NOT receive any review or updates from the Ubuntu
## security team.
deb http://es.archive.ubuntu.com/ubuntu focal multiverse
# deb-src http://es.archive.ubuntu.com/ubuntu focal multiverse
deb http://es.archive.ubuntu.com/ubuntu focal-updates multiverse
# deb-src http://es.archive.ubuntu.com/ubuntu focal-updates multiverse

## N.B. software from this repository may not have been tested as
## extensively as that contained in the main release, although it includes
## newer versions of some applications which may provide useful features.
## Also, please note that software in backports WILL NOT receive any review
## or updates from the Ubuntu security team.

[ Read 49 lines ]
^G Get Help  ^O Write Out  ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos   M-U Undo
^X Exit      ^R Read File  ^_ Replace   ^U Paste Text ^T To Spell  ^_ Go To Line M-E Redo

CTRL DERECHA
```

- b. Agrega deb <http://download.webmin.com/download/repository> sarge contrib (nuevo repositorio) al final del archivo y guárdalo.



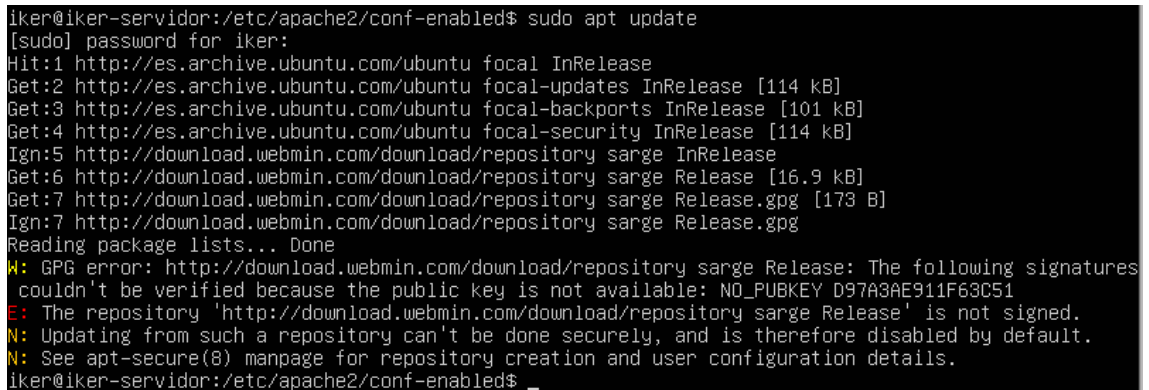
```
GNU nano 4.8 /etc/apt/sources.list
La máquina virtual informa que el SO invitado soporta integración del ratón. Esto significa que no necesita capturar el puntero del ratón para poder
## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu
## team, and may not be under a free licence. Please satisfy yourself as to
## your rights to use the software. Also, please note that software in
## multiverse WILL NOT receive any review or updates from the Ubuntu
## security team.
deb http://es.archive.ubuntu.com/ubuntu focal multiverse
# deb-src http://es.archive.ubuntu.com/ubuntu focal multiverse
deb http://es.archive.ubuntu.com/ubuntu focal-updates multiverse
# deb-src http://es.archive.ubuntu.com/ubuntu focal-updates multiverse

## N.B. software from this repository may not have been tested as
## extensively as that contained in the main release, although it includes
## newer versions of some applications which may provide useful features.
## Also, please note that software in backports WILL NOT receive any review
## or updates from the Ubuntu security team.
deb http://es.archive.ubuntu.com/ubuntu focal-backports main restricted universe multiverse
# deb-src http://es.archive.ubuntu.com/ubuntu focal-backports main restricted universe multiverse

## Uncomment the following two lines to add software from Canonical's
## 'partner' repository.
## This software is not part of Ubuntu, but is offered by Canonical and the
## respective vendors as a service to Ubuntu users.
# deb http://archive.canonical.com/ubuntu focal partner
# deb-src http://archive.canonical.com/ubuntu focal partner

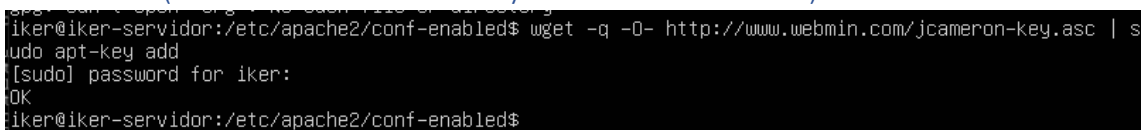
deb http://es.archive.ubuntu.com/ubuntu focal-security main restricted
# deb-src http://es.archive.ubuntu.com/ubuntu focal-security main restricted
deb http://es.archive.ubuntu.com/ubuntu focal-security universe
# deb-src http://es.archive.ubuntu.com/ubuntu focal-security universe
deb http://es.archive.ubuntu.com/ubuntu focal-security multiverse
# deb-src http://es.archive.ubuntu.com/ubuntu focal-security multiverse
deb http://download.webmin.com/download/repository sarge contrib
Save modified buffer?
Y Yes
N No Ctrl C Cancel
```

- c. Sudo apt update



```
iker@iker-servidor:/etc/apache2/conf-enabled$ sudo apt update
[sudo] password for iker:
Hit:1 http://es.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://es.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://es.archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]
Get:4 http://es.archive.ubuntu.com/ubuntu focal-security InRelease [114 kB]
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]
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.
iker@iker-servidor:/etc/apache2/conf-enabled$
```

- d. `wget -q -O- http://www.webmin.com/jcameron-key.asc | sudo apt-key add` (añade clave de webmin y las añade al sistema)



```
iker@iker-servidor:/etc/apache2/conf-enabled$ wget -q -O- http://www.webmin.com/jcameron-key.asc | s
udo apt-key add
[sudo] password for iker:
OK
iker@iker-servidor:/etc/apache2/conf-enabled$
```



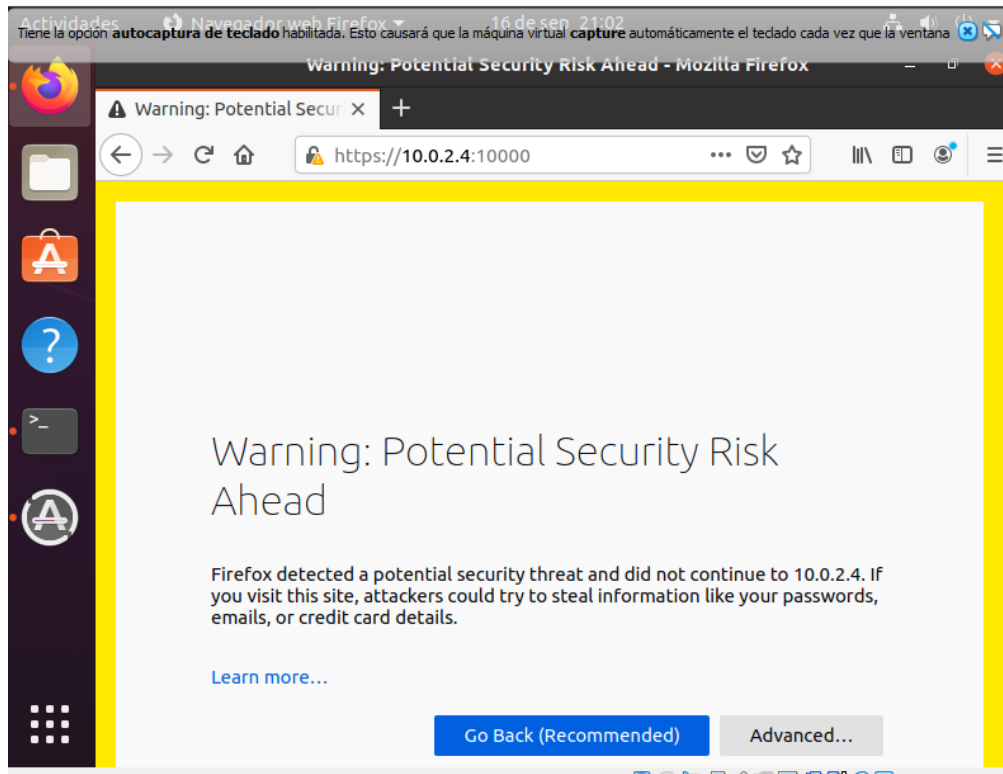
#### e. apt update

```
iker@iker-servidor:/etc/apache2/conf-enabled$ sudo apt update
Hit:1 http://es.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://es.archive.ubuntu.com/ubuntu focal-updates InRelease
Ign:3 http://download.webmin.com/download/repository sarge InRelease
Hit:4 http://es.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:5 http://es.archive.ubuntu.com/ubuntu focal-security 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 2s (8876 B/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
125 packages can be upgraded. Run 'apt list --upgradable' to see them.
iker@iker-servidor:/etc/apache2/conf-enabled$ _
```

#### f. apt install webmin

```
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://iker-servidor: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) ...
iker@iker-servidor:/etc/apache2/conf-enabled$ sudo apt install webmin
```

- g. Verifica que si entras a `https://IP_SERVER:10000` tienes problemas de certificado seguro.



- h. Momentáneamente deshabilitaremos la autenticación SSL modificando en `/etc/webmin/miniserv.conf` el parámetro `ssl = 1` (ponlo a 0 y reinicia el servicio).

```
mimetypes=/usr/share/webmin/mime.types
addtype.cgi=internal/cgi
realm=Webmin Server
logfile=/var/webmin/miniserv.log
errorlog=/var/webmin/miniserv.error
pidfile=/var/webmin/miniserv.pid
logtime=168
ssl=0
no_ssl2=1
no_ssl3=1
no_tls1=1
no_tls1_1=1
ssl_honorcipherorder=1
no_sslcompression=1
env_WEBMIN_CONFIG=/etc/webmin
env_WEBMIN_VAR=/var/webmin
atboot=1
logout=/etc/webmin/logout-flag
listen=10000
denyfile=.p1$
log=1
blockhost_failures=5
blockhost_time=60
syslog=1
ipv6=1
session=1
premodules=WebminCore
server=MiniServ/1.981
userfile=/etc/webmin/miniserv.users
keyfile=/etc/webmin/miniserv.pem
passwd_file=/etc/shadow

iker@iker-servidor:/etc/apache2/conf-enabled$ sudo /etc/init.d/webmin restart
Stopping Webmin server in /usr/share/webmin
Starting Webmin server in /usr/share/webmin
iker@iker-servidor:/etc/apache2/conf-enabled$
```

- i. Verifica que, ahora sí, accedes vía navegador a webmin con un usuario administrador del sistema.

