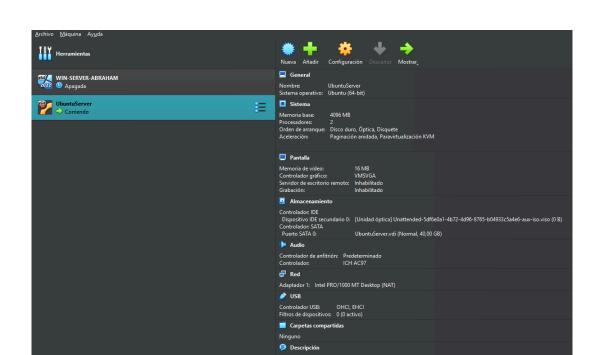


🏆 Reto Día 7: Despliegue y Preparación de un Servidor Linux para Producción 🐧 🔧 📡

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🚀 Fase 1: Instalación del Entorno de Pruebas





Configurar el sistema con un usuario administrador seguro:

El mismo Virtualbox crea un usuario administrador.

Asignar una **IP estática** en la red local y probar conectividad con ping:

1. Editamos el archivo de configuración en /etc/netplan/ de la siguiente manera con el comando:

sudo nano /etc/netplan/"nombre archivo de configuracion".yaml

- 2. Aplicamos con: sudo netplan apply
- 3. Hacemos ping con: ping google.com

```
Jbuntu 24.04.2 LTS UbuntuServer tty1

JbuntuServer login: vboxuser
Password:
Relcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-60-generic x86_64)

* Documentation: https://help.ubuntu.com

* Management: https://landscape.canonical.com

* Support: https://ubuntu.com/pro

System information as of Wed Jun 18 07:04:58 AM UTC 2025

System load: 0.0 Processes: 115

Usage of /: 6.5% of 39.07GB Users logged in: 0

Memory usage: 6% IPv4 address for enp0s3: 192.168.1.100

Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

Jupdates can be applied immediately.

Pable ESM Apps to receive additional future security updates.

See https://ubuntu.com/esm or run: sudo pro status

Aboxuser@UbuntuServer: $ ping google.com
PING google.com (142.250.200.78) 56(84) bytes of data.

Journal of the ping google.com (142.250.200.78) icmp_seq=1 ttl=117 time=11.4 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=2 ttl=117 time=11.3 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=3 ttl=117 time=11.2 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=4 ttl=117 time=20.6 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=5 ttl=117 time=11.0 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=6 ttl=117 time=11.0 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=6 ttl=117 time=11.0 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=6 ttl=117 time=11.0 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=6 ttl=117 time=11.0 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=6 ttl=117 time=11.0 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=6 ttl=117 time=11.0 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=6 ttl=117 time=11.0 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=6 ttl=117 time=11.0 ms to bytes from mad07s24-in-f14.1e100.net (142.250.200.78): icmp_seq=6 ttl=117 time=11.0 ms to
```

Habilitar el acceso remoto mediante SSH y verificar conexión.

1. Instalar el servidor SSH con el comando: sudo apt install openssh-server

- 2. Ver si el servicio esta activo: sudo systemctl status ssh
- 3. Nos conectamos con el comando: ssh vboxuser@192.168.1.100

```
/boxuser@UbuntuServer:~$ ssh vboxuser@192.168.1.100
The authenticity of host '192.168.1.100 (192.168.1.100)' can't be established.
ED25519 key fingerprint is SHA256:hx4b3Bc4iPCWRugehfxUVTlYsKBJVvYizxlPGlkMLtY.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
Please type 'yes', 'no' or the fingerprint: yes
Harning: Permanently added '192.168.1.100' (ED25519) to the list of known hosts.
Aboxuser@192.168.1.100's password:
Helcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-60-generic x86_64)

* Documentation: https://help.ubuntu.com

* Management: https://landscape.canonical.com

* Support: https://ubuntu.com/pro

System information as of Wed Jun 18 07:14:33 AM UTC 2025

System load: 0.0 Processes: 113
Usage of /: 6.5% of 39.07GB Users logged in: 1
Memory usage: 7% IPv4 address for enp0s3: 192.168.1.100

Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

O updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.

See https://ubuntu.com/esm or run: sudo pro status

//boxuser@UbuntuServer:~$ _____
```

🚀 Fase 3: Gestión de usuarios y seguridad

- Crear tres usuarios con diferentes permisos en el servidor.
 - 1. Creamos los usuarios de la siguiente forma:

sudo adduser abraham sudo adduser abraham2 sudo adduser abraham3

```
ubouser@UbuntuServer:"S sudo adduser abraham (sudo) passured for vbouser:

Info: Adding user abraham (sudo) 1.59999 ...

Info: Beleting UDV-01 from pass 1000 to 59999 ...

Info: Beleting UDV-01 from passured 1000 to 59999 ...

Info: Cataling Dub (1) from passured 1000 to 59999 ...

Info: Cataling Dub (2) from passured 1000 to 59999 ...

Info: Cataling Dub (2) from passured 1000 to 5999 ...

Info: Cataling Dub (2) from passured 1000 to 5999 ...

Retupe new passured 100 to 500 to 50
```

```
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Nome Number []:
    Other []:
    Is the information correct? [Y/n] y
    Ind: Adding new user "abraham" to supplemental / extra groups "users"...
    Ind: Adding new user "abraham" to group users"...
    Ind: Adding new user "abraham" to group users"...
    Ind: Adding new user "abraham" to group users"...
    Ind: Adding new group, abraham" (1982)
    Ind: Adding new group abraham (1982)
    Ind: Adding new group abraham (1982)
    Ind: Adding new group abraham (1983)
    Ind: Adding new user abrahams (1983)
    Ind: Adding new user abrahams (1983)
    Ind: Adding new user abrahams (1983)
    Ind: Selecting UD/CDI from range 1000 to 59999
    Ind: Adding new group, abrahams (1983)
    Ind: Creating UD/CDI from range 1000 to 59999
    Ind: Adding new group, abrahams (1983)
    Ind: Creating UD/CDI from range 1000 to 59999
    Ind: Adding new group, abrahams (1983)
    Ind: Creating UD/CDI from range 1000 to 59999
    Ind: Adding new group, abrahams (1983)
    Ind: Creating UD/CDI from range 1000 to 59999
    Ind: Adding new group, abrahams (1983)
    Ind: Adding new group, abrahams (1983)
    Ind: Creating UD/CDI from range 1000 to 59999
    Ind: Adding new group, abrahams (1983)
    Ind: Creating UD/CDI from range 1000 to 59999
    Ind: Adding new group, abrahams (1983)
    Ind: Adding new group, abrahams (1983)
    Ind: Adding new group, abrahams (1983)
    Ind: Addin
```

Asignar permisos específicos a cada usuario y probar accesos.

(Los permisos se explican en la segunda parte del reto)

Conectamos el usuario abraham2 por ejemplo con:

ssh abraham2@192.168.1.100

```
vboxuser@UbuntuServer:~$ ssh abraham2@192.168.1.100
abraham2@192.168.1.100's password:
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-60-generic x86_64)
 * Documentation: https://help.ubuntu.com
 * Management:
                  https://landscape.canonical.com
 * Support:
                 https://ubuntu.com/pro
 System information as of Wed Jun 18 07:18:59 AM UTC 2025
 System load: 0.01
                                                            119
                                  Processes:
 Usage of /: 6.6% of 39.07GB Users logged in:
 Memory usage: 7%
                                  IPv4 address for enp0s3: 192.168.1.100
 Swap usage: 0%
Expanded Security Maintenance for Applications is not enabled.
0 updates can be applied immediately.
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
abraham2@UbuntuServer:~$
```

Configurar el firewall con UFW y permitir solo las conexiones necesarias.

1. Verificamos el estado del firewall con:

sudo ufw status

2. Denegamos todo el tráfico entrante y permitimos todo el saliente con:

sudo ufw default deny incoming sudo ufw default allow outgoing

3. Permitimos el acceso SSH:

sudo ufw allow ssh (Permite el puerto 22) sudo ufw allow http (Permite el puerto 80) sudo ufw allow https (Permite el puerto 443)

4. Activamos el firewall:

sudo ufw enable

5. Verificamos las reglas que están activas:

sudo ufw status verbose

Parte 2



Verificar que el sistema arranque sin errores y actualiza sus paquetes (apt update & & apt upgrade).

Actualizamos Ubuntu Server con: sudo apt update && sudo apt upgrade -y

```
vboxuser@UbuntuServer:~$ sudo apt update
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:2 http://es.archive.ubuntu.com/ubuntu noble InRelease
Get:3 http://es.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Hit:4 http://es.archive.ubuntu.com/ubuntu noble-backports InRelease
Fetched 126 kB in 1s (150 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
1 package can be upgraded. Run 'apt list --upgradable' to see it.
vboxuser@UbuntuServer:~$ sudo apt upgrade
Reading package lists... Done
Building dependency tree... Done
Building dependency tree... Done
Calculating upgrade... Done
Calculating upgrades... Done
The following upgrades have been deferred due to phasing:
ubuntu-drivers-common
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
vboxuser@UbuntuServer:~$
```


Configurar el archivo /etc/hosts correctamente con el nombre del servidor.

Edite el archivo /etc/hosts con: sudo nano /etc/hosts

GNU nano 7.2 127.0.0.1 localhost 127.0.0.1 vrboxuser 192.168.1.100 vrboxuser

Añadimos la linea: 192.168.1.100 vrboxuser

Instalar y habilitar el servicio SSH.

(Ya realizado antes)

Verificar la conexión remota desde otro sistema con ssh.

(Ya realizado antes)

Fase 3: Seguridad mínima obligatoria

Configurar UFW

Permitiremos solo el trafico por puerto 22 (SSH) y puerto 80 (HTTP):

sudo ufw allow 22/tcp

sudo ufw allow 80/tcp

```
vboxuser@UbuntuServer:~$ sudo ufw allow 22/tcp
Skipping adding existing rule
Skipping adding existing rule (v6)
vboxuser@UbuntuServer:~$ sudo ufw allow 80/tcp
Rule added
Rule added (v6)
vboxuser@UbuntuServer:~$ sudo ufw status
Status: active
Tο
                           Action
                                       From
22/tcp
                           ALLOW
                                       Anywhere
80/tcp
                           ALLOW
                                       Anywhere
22/tcp (v6)
                           ALLOW
                                       Anywhere (v6)
80/tcp (v6)
                           ALLOW
                                       Anywhere (v6)
vboxuser@UbuntuServer:~$ _
```

Crear un nuevo usuario llamado desarrollador, con acceso limitado y sin permisos de superusuario.

Creamos el usuario: sudo adduser desarrollador

```
vboxuser@UbuntuServer:~$ sudo adduser desarrollador
info: Adding user `desarrollador' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group `desarrollador' (1004) ...
info: Adding new user `desarrollador' (1004) with group `desarrollador (1004)' ..
info: Creating home directory `/home/desarrollador' ...
info: Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for desarrollador
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Hork Phone []:
    Hore Phone []:
    Other []:
    Is the information correct? [Y/n] y
info: Adding new user `desarrollador' to supplemental / extra groups `users' ...
info: Adding user `desarrollador' to group `users' ...
vboxuser@UbuntuServer:~$ _
```

- Cambiar el puerto por defecto de SSH a 2222 y reforzar la configuración (/etc/ssh/sshd_config).
 - Desactivar el acceso SSH del usuario root.

Editamos el archivo de configuracion de SSH con: sudo nano /etc/ssh/sshd config

En el archivo,cambiamos donde dice **#Port 22** a **#Port 2222**, y desactivaremos el acceso root poniendo **"no"** en **PermitRootLogin**. Quedaria algo asi:

```
# This is the schol server system-wide configuration file. See
# scholoning(s) for more information.
# This sight was compiled with FATH=/usr/local/bin:/usr/sbin:/usr/sbin:/usr/sbin:/usr/games
# The strategy used for options in the default submode with
# OpenShit is to specify options with their default submode
# possible, but leave them commented. Uncommented options override the
# default value.

Include /etr/ssh/sshd_config.d/*.conf
# When systemed socket activation is used (the default), the socket
# configuration must be re-generated efter changing Port, AddressFamily, or
# ListenAddress.
# For changes to take effect, run:
# systemcti demon-reload
# systemcti demon-reload
# systemcti demon-reload
# systemcti restart ssh.socket
## port 20
## MostRey /etr/ssh/ssh_bost_psa_key
## MostRey /etr/ssh/ssh_bost_psa_key
## MostRey /etr/ssh/ssh_bost_psa_key
## MostRey /etr/ssh/ssh_bost_psa_key
## Clichers and Reging
## Refearling into the fearling port
## Authentication:
## Authentication:
## Authentication:
## Authentication:
## Authentication:
## Authentication:
## Beaf File
## Refear Fil
```

Luego es importante que despues de que hagamos todo, permitamos el puerto 2222 con el siguiente comando: sudo ufw allow 2222/tcp

vboxuser@UbuntuServer:~\$ sudo ufw allow 2222/tcp Rule added Rule added (v6) vboxuser@UbuntuServer:~\$

Reiniciamos con: sudo systemctl restart sshd

Y probamos que funcione correctamente: ssh "usuario"@192.168.1.100 -p 2222

vboxuser@UbuntuServer:~\$ ssh vboxuser@192.168.1.100 -p 2222 ssh: connect to host 192.168.1.100 port 2222: Connection refused vboxuser@UbuntuServer:~\$ _

Crear una estructura de carpetas en /srv/

Creamos los directorios con:

sudo mkdir -p /srv/www /srv/repositorios /srv/docs

vboxuser@UbuntuServer:~\$ sudo mkdir -p /srv/www /srv/repositorios /srv/docs

✓ Establecer permisos específicos:

Vamos a dar acceso de escritura para "desarrollador" con:

sudo chown -R desarrollador /srv/www

sudo chmod -R 775 /srv/www

Y acceso exclusivo a nuestro usuario administrador con:

sudo chown -R vboxuser /srv/repositorios

sudo chmod -R 770 /srv/repositorios

```
/boxuser@UbuntuServer:~$ sudo chown -R desarrollador /srv/www
/boxuser@UbuntuServer:~$ sudo chmod -R 775 /srv/www
/boxuser@UbuntuServer:~$ sudo chown -R vboxuser /srv/www
/boxuser@UbuntuServer:~$ sudo chown -R vboxuser /srv/repositorios
/boxuser@UbuntuServer:~$ sudo chmod -R 770 /srv/repositorios
/boxuser@UbuntuServer:~$
```

Instalar el servidor web Apache2 o NGINX (a elegir) y colocar una página de prueba en /srv/www.

Instalamos NGINX:

sudo apt install nginx -y

Editamos el archivo de configuración de NGINX

sudo nano /etc/nginx/sites-available/default

y cambiamos la linea que dice "root /var/www/html;" borrando solo "html"

Verificamos que este todo correcto y reiniciamos NGINX con estos comandos:

sudo nginx -t

sudo systemctl restart nginx

```
vboxuser@UbuntuServer:~$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
vboxuser@UbuntuServer:~$ sudo systemctl restart nginx
vboxuser@UbuntuServer:~$
```

Ahora crearemos un archivo index.html con:

sudo tee /srv/www/index.html

```
vboxuser@UbuntuServer:~$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successf
vboxuser@UbuntuServer:~$ sudo systemctl restart nginx
vboxuser@UbuntuServer:~$ sudo tee /srv/www/index.html
```

El comando "tee" es para escribir en una ubicación protegida.

Para comprobar que funciona correctamente, vamos a un navegador web, en mi caso el de mi máquina local, y al escribir la dirección IP del servidor nos debería de aparecer la pagina de prueba.

