

Ejercicios sencillos

tcp_wrappers en Kali es antiguo, en Kali se usa otras formas más modernas.

Te propongo 6 ejercicios prácticos modernos y sencillos para sustituir TCP Wrappers:

Estos ejercicios usan:

- sshd_config para limitar usuarios e IPs
- ufw o iptables para controlar accesos por red
- Simulaciones locales seguras (sin afectar entornos reales)

♦ Ejercicio 1 — Limitar acceso SSH solo al usuario "kali"

Objetivo: Configurar SSH para que solo un usuario pueda acceder.

Pasos:

1. Edita el archivo de configuración:

```
sudo nano /etc/ssh/sshd_config
```

2. Añade al final:

```
AllowUsers kali
```

3. Guarda y reinicia el servicio:

```
sudo systemctl restart ssh
```

```
~/Doc/Ejercicios_seguridad_informatica_2025 main > sudo vim /etc/ssh/sshd_config
~/Doc/Ejercicios_seguridad_informatica_2025 main > sudo systemctl restart ssh
~/Doc/Ejercicios_seguridad_informatica_2025 main > sudo systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled; preset: disabled)
   Active: active (running) since Tue 2025-09-30 11:24:33 CEST; 14s ago
 Invocation: 1aa432ccf1e54d8e8929c1306c733aca
    Docs: man:sshd(8)
          man:sshd_config(5)
   Process: 9264 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
  Main PID: 9266 (sshd)
    Tasks: 1 (limit: 6870)
   Memory: 1.9M (peak: 2.8M)
      CPU: 19ms
   CGroup: /system.slice/ssh.service
           └─9266 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Sep 30 11:24:33 kali systemd[1]: Starting ssh.service - OpenBSD Secure Shell server ...
Sep 30 11:24:33 kali sshd[9266]: Server listening on 0.0.0.0 port 22.
Sep 30 11:24:33 kali sshd[9266]: Server listening on :: port 22.
Sep 30 11:24:33 kali systemd[1]: Started ssh.service - OpenBSD Secure Shell server.
```

 Prueba a conectarte desde otro usuario (si existe) y verás que da “Access denied”.

Ejemplo;

su invitado

ssh invitado@localhost

```
~/Doc/Ejercicios_seguridad_informatica_2025 main > ssh csubires@localhost
csubires@localhost's password:
Permission denied, please try again.
csubires@localhost's password:
Permission denied, please try again.
csubires@localhost's password:
csubires@localhost: Permission denied (publickey,password).
```

 **Aprenden: Control de acceso por usuario.**

♦ Ejercicio 2 — Limitar SSH solo a conexiones locales (127.0.0.1)

Objetivo: Asegurar que solo se pueda hacer SSH desde el propio equipo.

Pasos:

1. Edita el archivo:

```
sudo nano /etc/ssh/sshd_config
```

2. Añade o cambia esta línea:

```
ListenAddress 127.0.0.1
```

3. Reinicia el servicio:

```
sudo systemctl restart ssh
```

 **Ahora prueba desde el propio Kali: ssh localhost** 

```
~/Doc/Ejercicios_seguridad_informatica_2025 main > ssh kali@localhost
kali@localhost's password:
Last login: Tue Sep 30 09:21:33 CEST 2025 from :0 on tty7
Linux kali 6.12.38+kali-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.12.38-1kali1 (2025-08-12) x86_64

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individual files in /usr/share/doc/*/copyright.

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permitted by applicable law.
Last login: Mon Sep 29 13:56:41 2025 from 192.168.0.59
```

🔄 Desde otra máquina de la red: ❌ Conexión rechazada

```
PowerShell 7 (x64)
PowerShell 7.2.24
Copyright (c) Microsoft Corporation.
https://aka.ms/powershell
Type 'help' to get help.

A new PowerShell stable release is available: v7.5.3
Upgrade now, or check out the release page at:
https://aka.ms/PowerShell-Release?tag=v7.5.3

S C:\Users\2-DAW> ssh kali@192.168.0.41
ssh: connect to host 192.168.0.41 port 22: Connection refused
S C:\Users\2-DAW>
```

👉 Aprenden: Limitación por dirección IP de escucha.

♦ Ejercicio 3 — Bloquear y permitir IPs usando ufw (Firewall sencillo)

Objetivo: Permitir SSH solo desde una IP o subred específica.

Pasos:

1. Instala UFW si no está:

```
sudo apt install ufw
```

```
~/Doc/Ejercicios_seguridad_informatica_2025 main > sudo apt install ufw
Installing:
  ufw

Summary:
  Upgrading: 0, Installing: 1, Removing: 0, Not Upgrading: 43
  Download size: 169 kB
  Space needed: 880 kB / 51.3 GB available
```

2. Configura el firewall:

```
sudo ufw default deny incoming
```

```
~/Doc/Ejercicios_seguridad_informatica_2025 main > sudo ufw default deny incoming
Default incoming policy changed to 'deny'
(be sure to update your rules accordingly)
```

```
sudo ufw allow from 192.168.1.40 to any port 22 proto tcp
```

```
sudo ufw enable
```

```
~/Doc/Ejercicios_seguridad_informatica_2025 main > sudo ufw allow from 192.168.0.41 to any port 22 proto tcp
Rules updated

~/Doc/Ejercicios_seguridad_informatica_2025 main > sudo ufw enable
Firewall is active and enabled on system startup
```

🔄 Desde esa IP: ✅

```
~/Doc/Ejercicios_seguridad_informatica_2025 main > ssh kali@192.168.0.41
The authenticity of host '192.168.0.41 (192.168.0.41)' can't be established.
ED25519 key fingerprint is SHA256:ZfpsKoPyRh/gaHixWrSRiBggjAH0VqVxBh9TYI69b2w.
This host key is known by the following other names/addresses:
  ~/.ssh/known_hosts:5: [hashed name]
  ~/.ssh/known_hosts:8: [hashed name]
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.0.41' (ED25519) to the list of known hosts.
kali@192.168.0.41's password:
Last login: Tue Sep 30 11:27:37 CEST 2025 from 127.0.0.1 on ssh
Linux kali 6.12.38+kali-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.12.38-1kali1 (2025-08-12) x86_64

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Last login: Tue Sep 30 11:27:37 2025 from 127.0.0.1
```

🔄 Desde otras IPs: ❌

```
Seleccionar PowerShell 7 (x64)
PS C:\Users\2-DAW> ssh kali@192.168.0.41
ssh: connect to host 192.168.0.41 port 22: Connection timed out
```

👉 Aprenden: Control de red con firewall.

♦ Ejercicio 4 — Limitar por grupo (AllowGroups)

Objetivo: Solo un grupo del sistema puede acceder por SSH.

Pasos:

1. Crea un grupo:

```
sudo groupadd sshpermitidos
sudo usermod -aG sshpermitidos kali
```

2. En sshd_config, añade:

AllowGroups sshpermitidos

3. inicia el servicio SSH:

```
sudo systemctl restart ssh
```

```
~/Doc/Ejercicios_seguridad_informatica_2025 main > sudo vim /etc/ssh/sshd_config
~/Doc/Ejercicios_seguridad_informatica_2025 main > sudo groupadd sshpermitidos
~/Doc/Ejercicios_seguridad_informatica_2025 main > sudo usermod -aG sshpermitidos kali
~/Doc/Ejercicios_seguridad_informatica_2025 main > sudo systemctl restart ssh
```

🔄 Solo usuarios del grupo pueden acceder.

👉 Aprenden: Control por roles o departamentos.

```
~/Documents/box > sudo tail /etc/ssh/sshd_config
#       PermitTTY no
#       ForceCommand cvs server

#AllowUsers kali
#ListenAddress 127.0.0.1
AllowGroups sshpermitidos

~/Documents/box > ssh kali@192.168.0.41
kali@192.168.0.41's password:
Last login: Tue Sep 30 11:34:30 CEST 2025 from 192.168.0.41 on ssh
Linux kali 6.12.38+kali-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.12.38-1kal

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Last login: Tue Sep 30 11:34:30 2025 from 192.168.0.41
~ > exit
Connection to 192.168.0.41 closed.

~/Documents/box > ssh csubires@192.168.0.41
csubires@192.168.0.41's password:
Permission denied, please try again.
csubires@192.168.0.41's password:
Permission denied, please try again.
csubires@192.168.0.41's password:
csubires@192.168.0.41: Permission denied (publickey,password).
```


♦ Ejercicio 5 — Cambiar el puerto SSH y limitar accesos

Objetivo: Reforzar la seguridad básica moviendo el servicio a otro puerto.

Pasos:

1. Edita sshd_config:

Port 2222

2. Abre el puerto en el firewall:

sudo ufw allow 2222/tcp

3. Reinicia SSH:

sudo systemctl restart ssh

4. Prueba conexión:

ssh -p 2222 kali@localhost

👉 **Aprenden: Seguridad por ocultación + firewall.**

```
~/Documents/box > sudo vim /etc/ssh/sshd_config
~/Documents/box > sudo ufw allow 2222/tcp
Rule added
Rule added (v6)
~/Documents/box > sudo systemctl restart ssh
~/Documents/box > ssh -p 2222 kali@localhost
kali@localhost's password:
Last login: Tue Sep 30 11:38:42 CEST 2025 from 192.168.0.41 on ssh
Linux kali 6.12.38+kali-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.12.38-1kali1 (2025-08-12) x86_64

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Last login: Tue Sep 30 11:38:42 2025 from 192.168.0.41
```

♦ Ejercicio 6 — Auditar conexiones con journalctl y last

Objetivo: Ver intentos de acceso y conexiones pasadas.

Comandos:

sudo journalctl -u ssh

```
~/Documents/box > sudo journalctl -u ssh
Sep 24 11:12:50 kali systemd[1]: Starting ssh.service - OpenBSD Secure Shell server ...
Sep 24 11:12:50 kali sshd[26190]: Server listening on 0.0.0.0 port 22.
Sep 24 11:12:50 kali sshd[26190]: Server listening on :: port 22.
Sep 24 11:12:50 kali systemd[1]: Started ssh.service - OpenBSD Secure Shell server.
Sep 24 11:20:21 kali sshd[26190]: Received signal 15; terminating.
Sep 24 11:20:21 kali systemd[1]: Stopping ssh.service - OpenBSD Secure Shell server ...
Sep 24 11:20:21 kali systemd[1]: ssh.service: Deactivated successfully.
Sep 24 11:20:21 kali systemd[1]: Stopped ssh.service - OpenBSD Secure Shell server.
Sep 24 11:20:21 kali systemd[1]: Starting ssh.service - OpenBSD Secure Shell server ...
Sep 24 11:20:21 kali sshd[26821]: Server listening on 0.0.0.0 port 22.
Sep 24 11:20:21 kali sshd[26821]: Server listening on :: port 22.
Sep 24 11:20:21 kali systemd[1]: Started ssh.service - OpenBSD Secure Shell server.
Sep 29 13:52:26 kali sshd-session[95781]: Accepted password for csubires from ::1 port 36746 ssh2
Sep 29 13:52:26 kali sshd-session[95781]: pam_unix(sshd:session): session opened for user csubires(uid=1001) by csu
Sep 29 13:53:08 kali unix_chkpwd[95901]: password check failed for user (kali)
Sep 29 13:53:08 kali sshd-session[95898]: pam_unix(sshd:auth): authentication failure; logname= uid=0 euid=0 tty=ss
Sep 29 13:53:08 kali sshd-session[95898]: pam_winbind(sshd:auth): getting password (0x00000388)
Sep 29 13:53:08 kali sshd-session[95898]: pam_winbind(sshd:auth): pam_get_item returned a password
Sep 29 13:53:08 kali sshd-session[95898]: pam_winbind(sshd:auth): request wbcLogonUser failed: WBC_ERR_WINBIND_NOT_
Sep 29 13:53:08 kali sshd-session[95898]: pam_winbind(sshd:auth): internal module error (retval = PAM_AUTHINFO_UNAV
Sep 29 13:53:10 kali sshd-session[95898]: Failed password for kali from 192.168.0.42 port 28441 ssh2
Sep 29 13:53:13 kali sshd-session[95898]: Connection closed by authenticating user kali 192.168.0.42 port 28441 [pr
Sep 29 13:56:41 kali sshd-session[96076]: Accepted password for kali from 192.168.0.59 port 3000 ssh2
Sep 29 13:56:41 kali sshd-session[96076]: pam_unix(sshd:session): session opened for user kali(uid=1000) by kali(ui
```

last

```
~/Documents/box > last
kali pts/4 ::1 Tue Sep 30 11:42 - 11:42 (00:00)
kali pts/4 192.168.0.41 Tue Sep 30 11:38 - 11:38 (00:00)
kali pts/4 192.168.0.41 Tue Sep 30 11:34 - 11:34 (00:00)
kali pts/4 127.0.0.1 Tue Sep 30 11:27 - 11:27 (00:00)
kali tty7 :0 Tue Sep 30 09:21 - still logged in
lightdm tty7 :0 Tue Sep 30 09:21 - 09:21 (00:00)
csubires pts/3 ::1 Mon Sep 29 14:50 - 14:54 (00:03)
csubires pts/4 ::1 Mon Sep 29 14:47 - 14:48 (00:01)
csubires pts/4 ::1 Mon Sep 29 14:47 - 14:47 (00:00)
root pts/0 Mon Sep 29 14:44 - 14:44 (00:00)
csubires pts/3 ::1 Mon Sep 29 14:42 - 14:47 (00:05)
csubires pts/3 ::1 Mon Sep 29 14:41 - 14:41 (00:00)
csubires pts/3 ::1 Mon Sep 29 14:39 - 14:40 (00:00)
root pts/3 Mon Sep 29 14:39 - 14:39 (00:00)
csubires pts/3 ::1 Mon Sep 29 14:29 - 14:30 (00:01)
csubires pts/3 ::1 Mon Sep 29 14:28 - 14:28 (00:00)
csubires pts/3 ::1 Mon Sep 29 14:24 - 14:24 (00:00)
```

```
~/Documents/box > lastlog2 --user kali --time 10
Username Port From Latest
kali ssh ::1 Tue Sep 30 11:42:01 +0200 2025
```