



# Sistemas Operativos de Red

## ***“Actividad 10-SSH”***

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**Sección: D02**

## ¿Qué es SSH?

SSH (Secure Shell) es un protocolo de red que permite conectarse de forma remota y segura a otro computador a través de una terminal. A diferencia de métodos antiguos como Telnet, SSH cifra toda la comunicación, protegiendo así los datos y las credenciales del usuario. Se utiliza principalmente para acceder a servidores Linux, ejecutar comandos a distancia y transferir archivos de manera segura, todo desde la consola. Es una herramienta fundamental en la administración de sistemas, desarrollo y automatización en entornos de red.

## Instalación y arranque de SSH

Iniciamos instalando con sudo apt, ssh-server para nuestra primera maquina virtual con ubuntu y ssh-client para nuestra segunda maquina virtual

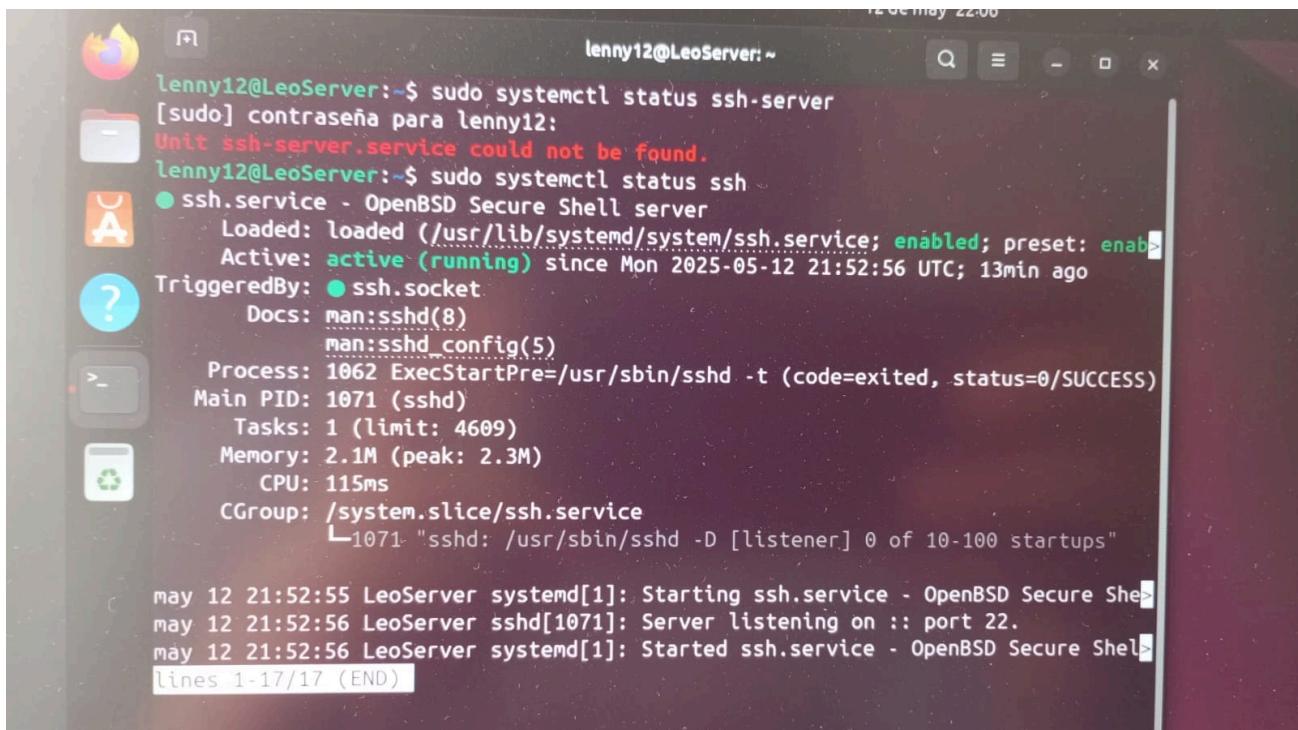
```
lenny12@LeoServer:~$ sudo systemctl enable --now ssh
[sudo] contraseña para lenny12:
Synchronizing state of ssh.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable ssh
Created symlink /etc/systemd/system/sshd.service → /usr/lib/systemd/system/sshd.service.
Created symlink /etc/systemd/system/multi-user.target.wants/sshd.service → /usr/lib/systemd/system/sshd.service.
lenny12@LeoServer:~$ ssh localhost
The authenticity of host 'localhost (::1)' can't be established.
ED25519 key fingerprint is SHA256:0tNlnbyjYmfLWg423JvXS3WpB/D9hQMMPrnYqQ6ZbjA.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'localhost' (ED25519) to the list of known hosts.
lenny12@localhost's password:
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.11.0-24-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

El mantenimiento de seguridad expandido para Applications está desactivado
```

```
ubuntu@ubuntu:~$ sudo apt install ssh-client
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'openssh-client' instead of 'ssh-client'
  openssh-client is already the newest version (1:9.6p1-3ubuntu13.5).
  openssh-client set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
ubuntu@ubuntu:~$ sudo systemctl status ssh-client
```

## Comprobación de arranque del servidor SSH



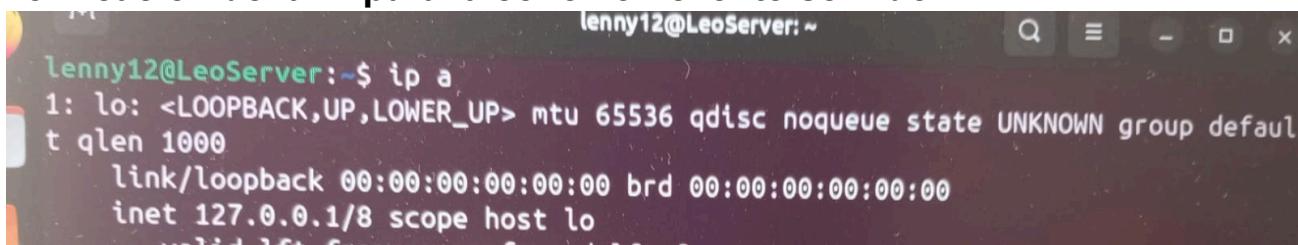
```
lenny12@LeoServer:~$ sudo systemctl status ssh-server
[sudo] contraseña para lenny12:
Unit ssh-server.service could not be found.

lenny12@LeoServer:~$ sudo systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; enabled; preset: enabled)
   Active: active (running) since Mon 2025-05-12 21:52:56 UTC; 13min ago
     TriggeredBy: ● ssh.socket
   Docs: man:sshd(8)
          man:sshd_config(5)
     Process: 1062 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
    Main PID: 1071 (sshd)
      Tasks: 1 (limit: 4609)
     Memory: 2.1M (peak: 2.3M)
        CPU: 115ms
       CGroup: /system.slice/ssh.service
               └─1071 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

may 12 21:52:55 LeoServer systemd[1]: Starting ssh.service - OpenBSD Secure Shell...
may 12 21:52:56 LeoServer sshd[1071]: Server listening on :: port 22.
may 12 21:52:56 LeoServer systemd[1]: Started ssh.service - OpenBSD Secure Shell.
```

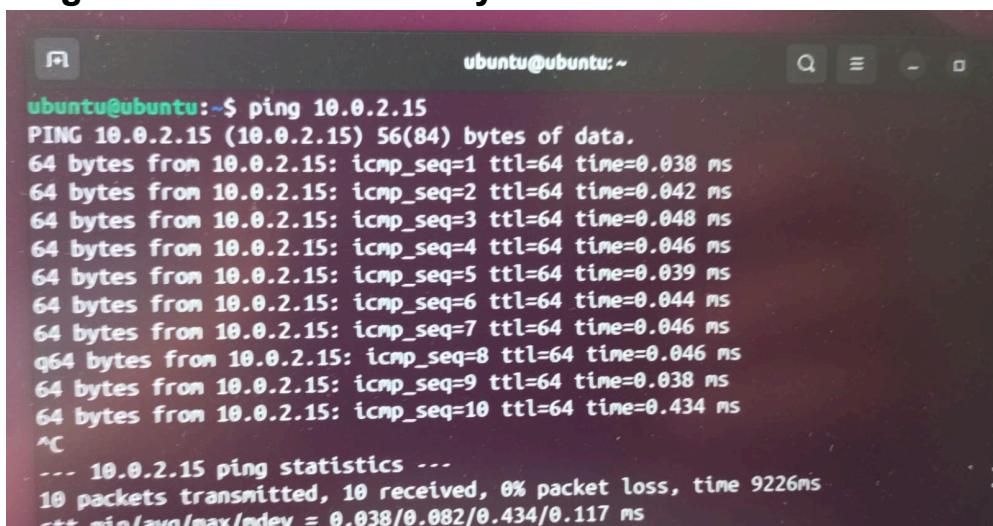
lines 1-17/17 (END)

## Verificación de la IP para la conexión cliente-servidor



```
lenny12@LeoServer:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default
    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
```

## Ping de Cliente a Servidor y conexión



```
ubuntu@ubuntu:~$ ping 10.0.2.15
PING 10.0.2.15 (10.0.2.15) 56(84) bytes of data.
64 bytes from 10.0.2.15: icmp_seq=1 ttl=64 time=0.038 ms
64 bytes from 10.0.2.15: icmp_seq=2 ttl=64 time=0.042 ms
64 bytes from 10.0.2.15: icmp_seq=3 ttl=64 time=0.048 ms
64 bytes from 10.0.2.15: icmp_seq=4 ttl=64 time=0.046 ms
64 bytes from 10.0.2.15: icmp_seq=5 ttl=64 time=0.039 ms
64 bytes from 10.0.2.15: icmp_seq=6 ttl=64 time=0.044 ms
64 bytes from 10.0.2.15: icmp_seq=7 ttl=64 time=0.046 ms
q64 bytes from 10.0.2.15: icmp_seq=8 ttl=64 time=0.046 ms
64 bytes from 10.0.2.15: icmp_seq=9 ttl=64 time=0.038 ms
64 bytes from 10.0.2.15: icmp_seq=10 ttl=64 time=0.434 ms
^C
--- 10.0.2.15 ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9226ms
rtt min/avg/max/mdev = 0.038/0.082/0.434/0.117 ms
```

ubuntu@ubuntu:~\$ ssh lenny12@10.0.2.15

## Arranque de juego del servidor desde el cliente

