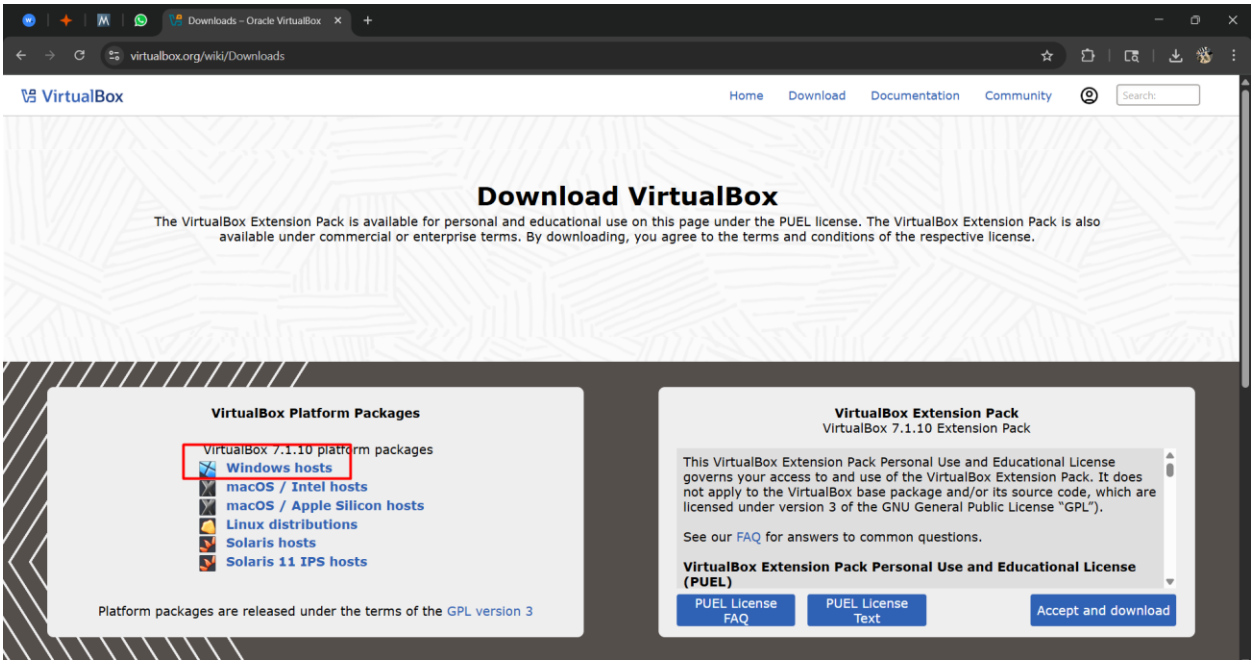
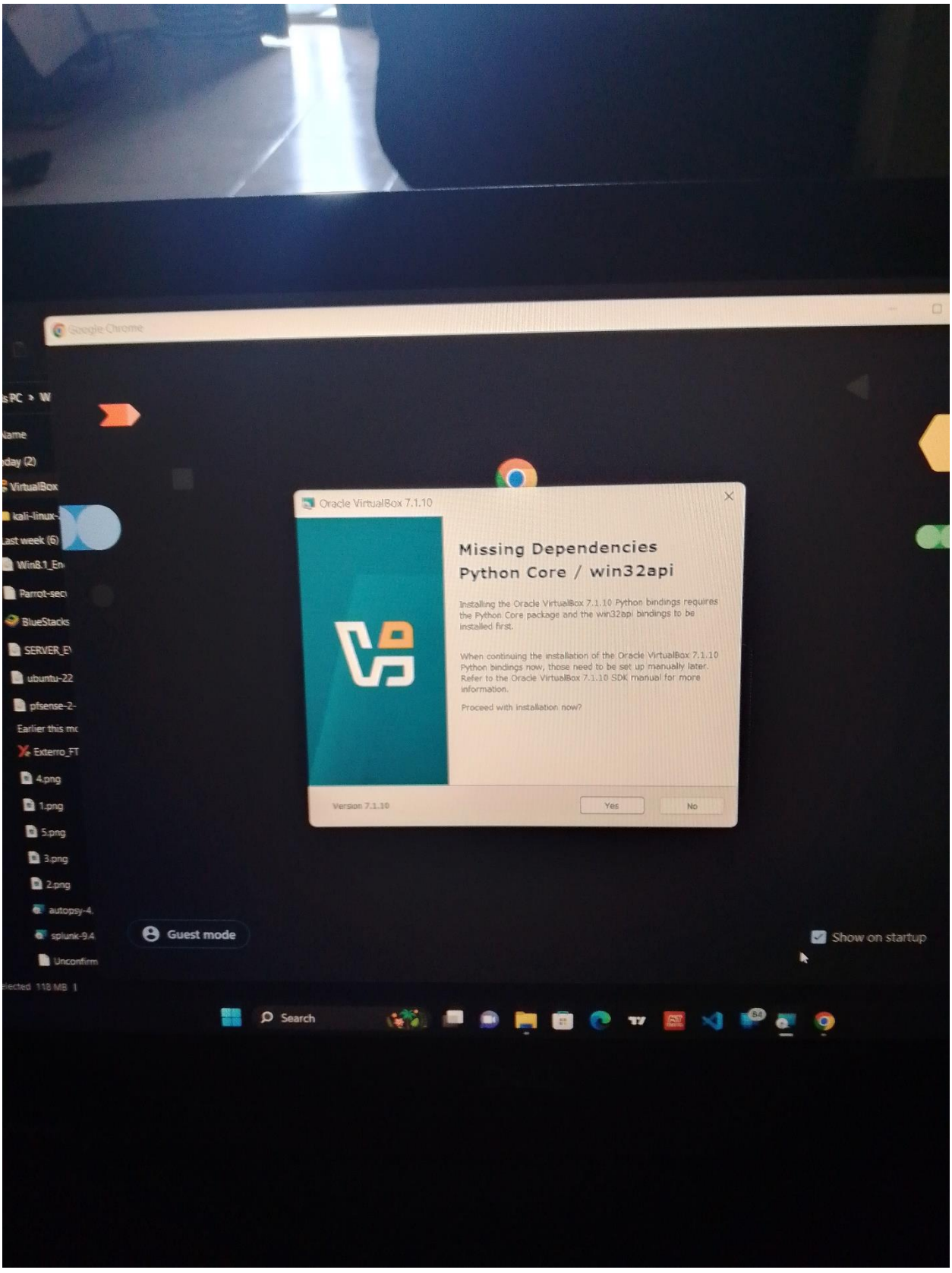
FULLY FUNCTIONAL VIRTUAL CYBERSECURITY LAB SETUP

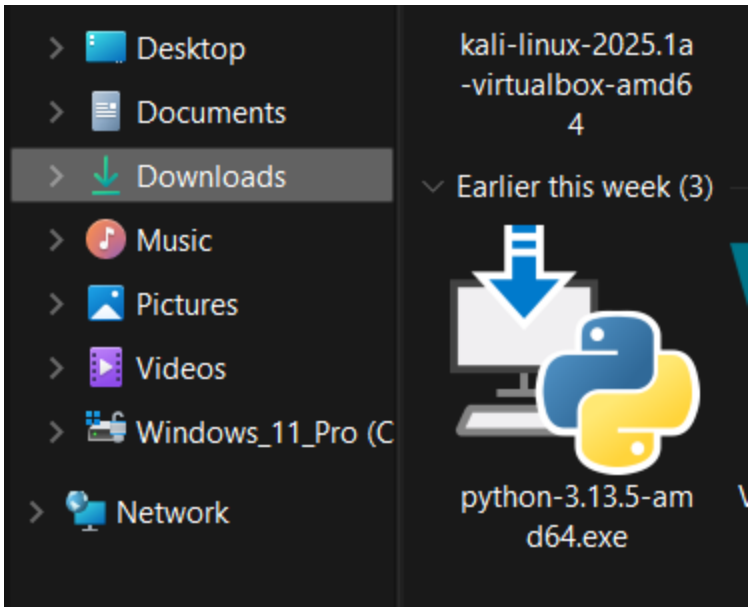
1. MAKING SURE VIRTUALIZATION IS ENABLED

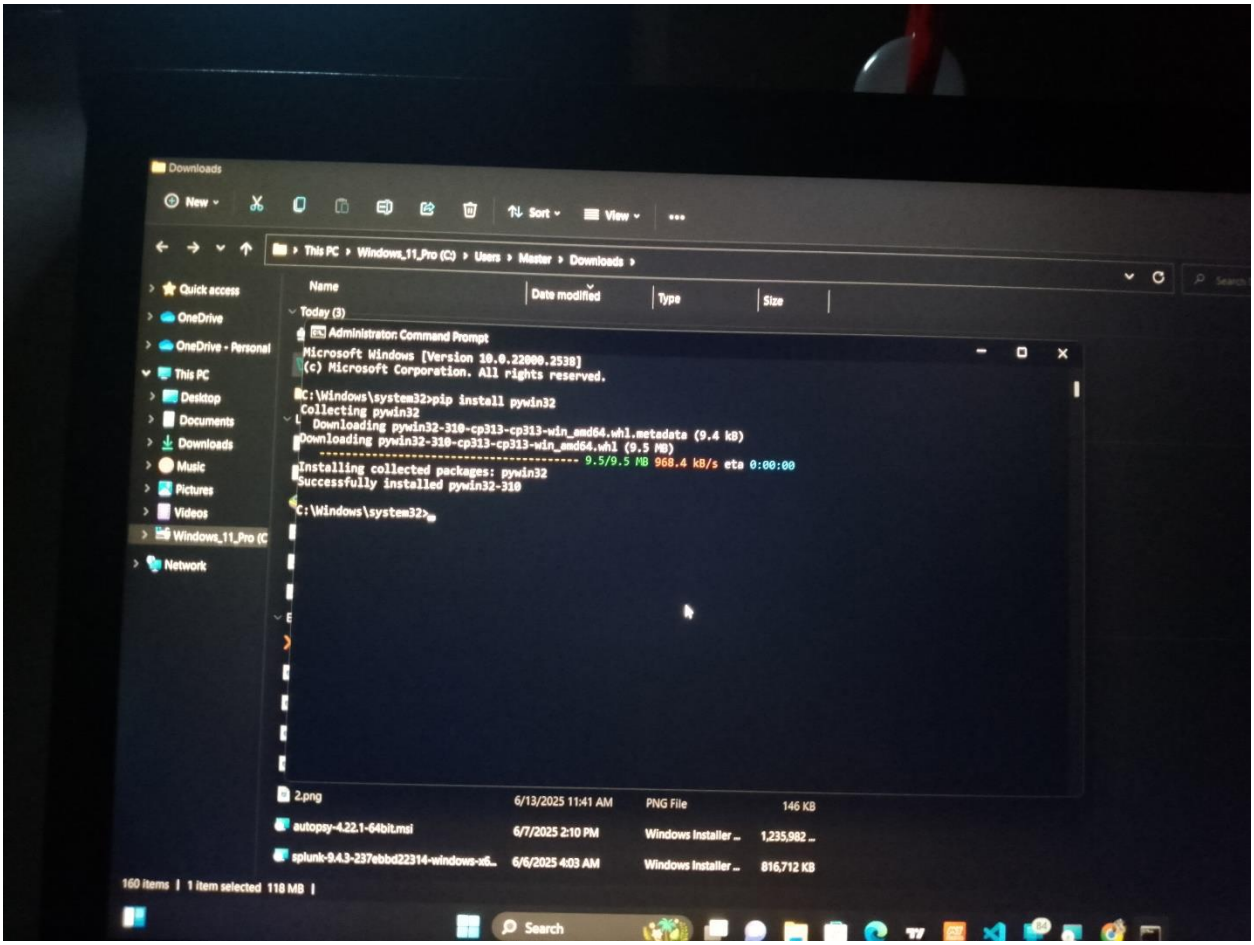
2. DOWNLOADING VIRTUAL BOX AND SETTING IT UP

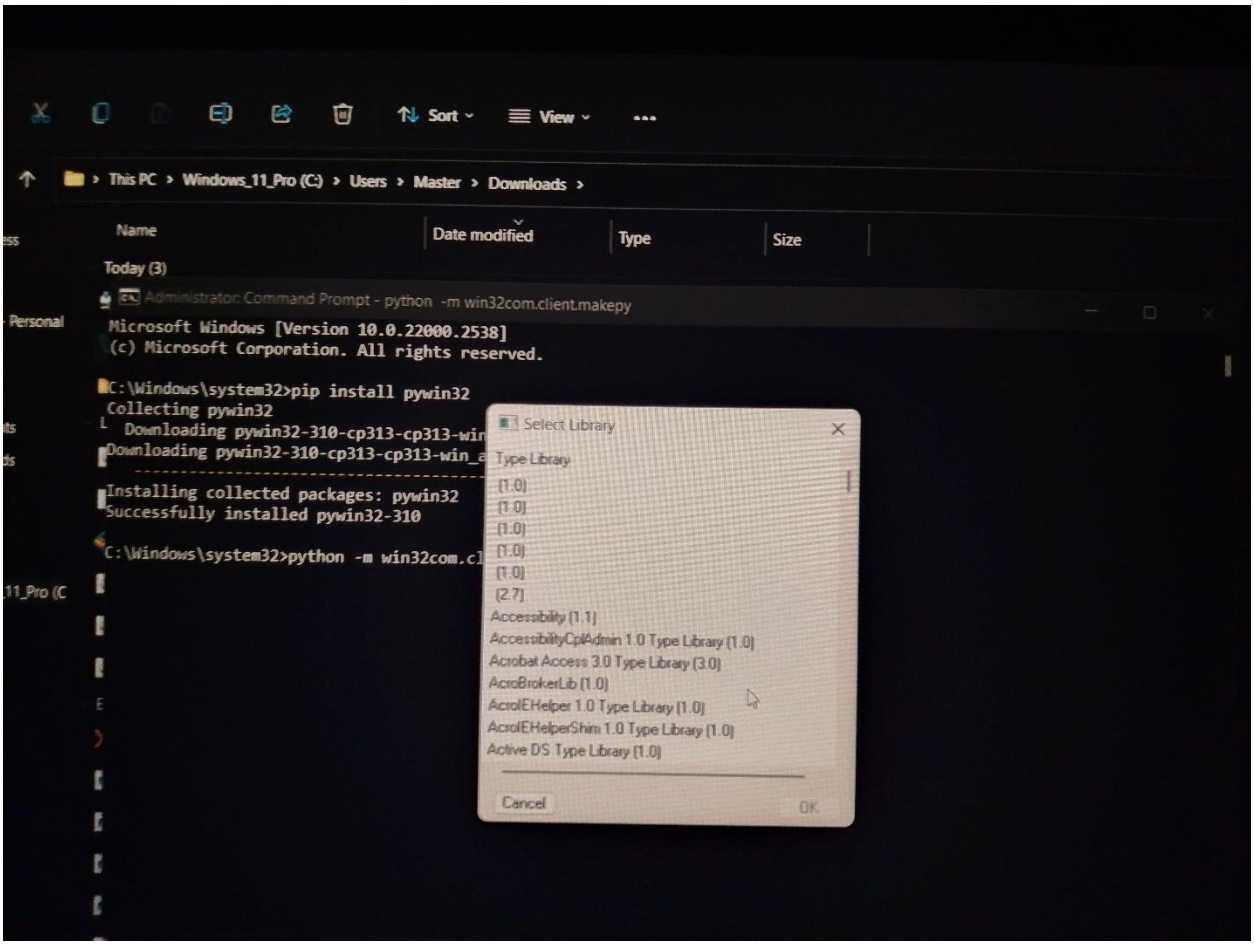


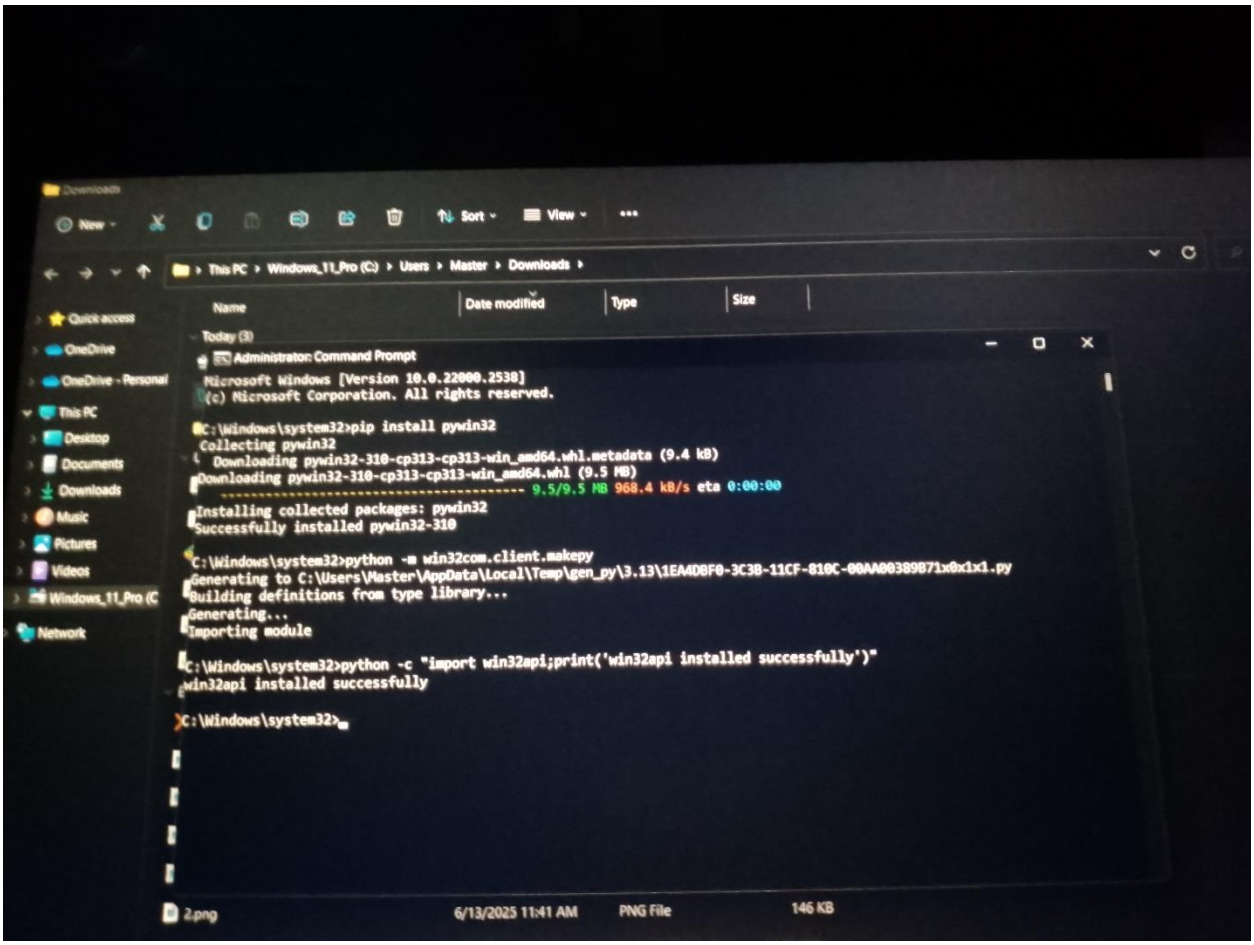
AFTER DOWNLOADING, WHILE I WAS INSTALLING VBOX IT GAVE ME A MESSAGE SAYING MISSINCE DEPENDENCIES PHYTON CORE /WIN32 API, SO I DOWNLOADED PHYTON AND INSTALLED IT ON PC AND ALSO INSTALLED THE WIN32 API THROUGH CMD


Oracle VirtualBox 7.1.10
Missing Dependencies
Python Core / win32api
Installing the Oracle VirtualBox 7.1.10 Python bindings requires the Python Core package and the win32api bindings to be installed first.
When continuing the installation of the Oracle VirtualBox 7.1.10 Python bindings now, those need to be set up manually later. Refer to the Oracle VirtualBox 7.1.10 SDK manual for more information.
Proceed with installation now?
Version 7.1.10
Yes
No
Guest mode
Show on startup
Search

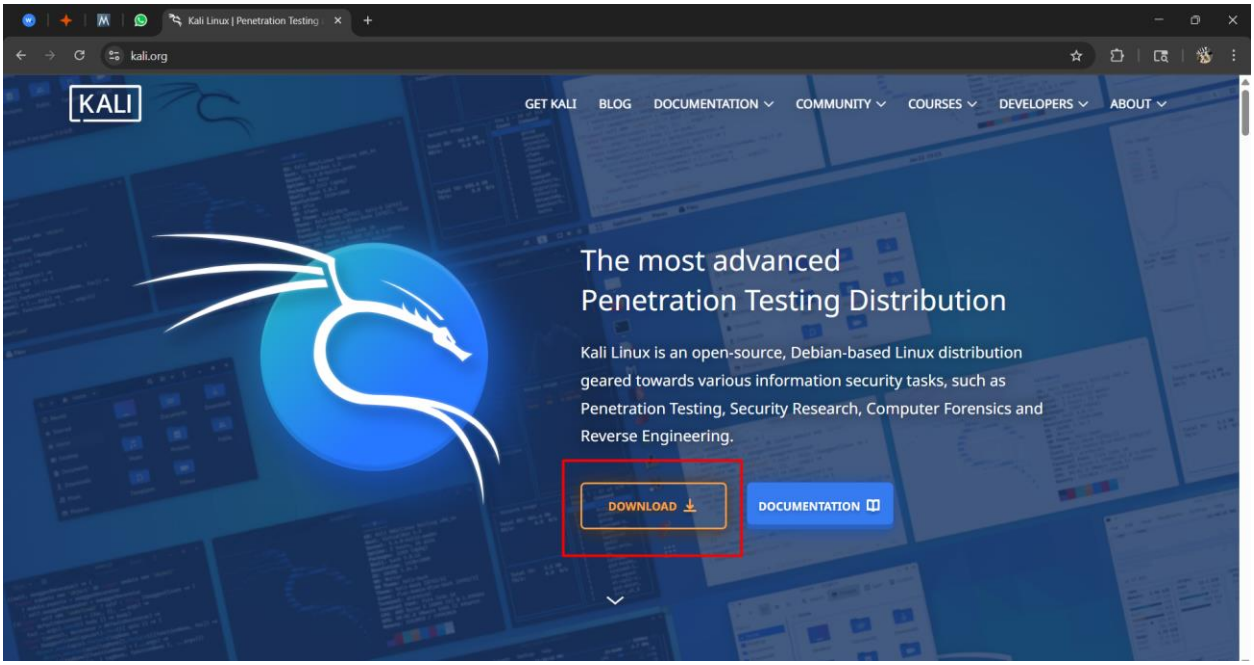

Desktop
Documents
Downloads
Music
Pictures
Videos
Windows_11_Pro (C
Network
kali-linux-2025.1a
-virtualbox-amd6
4
Earlier this week (3)
python-3.13.5-am
d64.exe

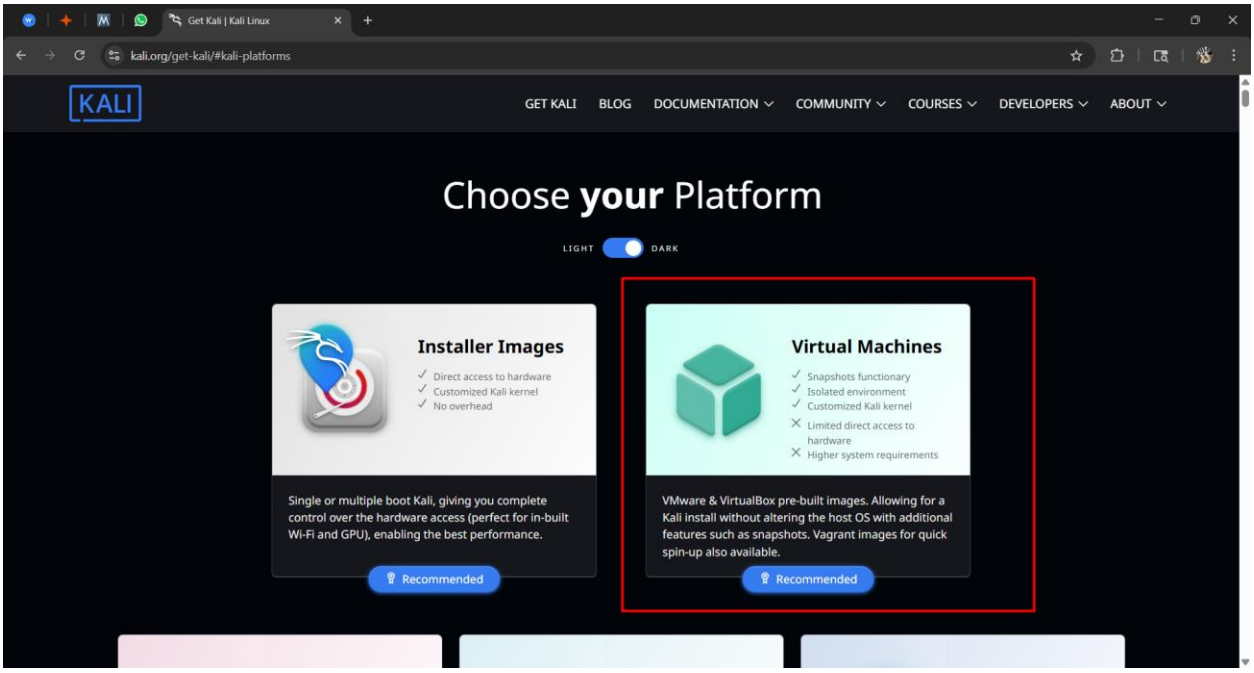

Downloads
New
Sort
View
This PC › Windows_11_Pro (C:) › Users › Master › Downloads ›
Quick access
OneDrive
OneDrive - Personal
This PC
Desktop
Documents
Downloads
Music
Pictures
Videos
Windows_11_Pro (C
Network
Name
Date modified
Type
Size
Today (3)
Administrator: Command Prompt
Microsoft Windows [Version 10.0.22000.2538]
(c) Microsoft Corporation. All rights reserved.
C:\Windows\system32>pip install pywin32
Collecting pywin32
Downloading pywin32-310-cp313-cp313-win_amd64.whl.metadata (9.4 kB)
Downloading pywin32-310-cp313-cp313-win_amd64.whl (9.5 MB)
9.5/9.5 MB 968.4 kB/s eta 0:00:00
Installing collected packages: pywin32
Successfully installed pywin32-310
C:\Windows\system32>
2.png
6/13/2025 11:41 AM
PNG File
146 KB
autopsy-4.22.1-64bit.msi
6/7/2025 2:10 PM
Windows Installer ...
1,235,982 ...
splunk-9.4.3-237ebbd22314-windows-x6...
6/6/2025 4:03 AM
Windows Installer ...
816,712 KB
160 items | 1 item selected 118 MB
Search

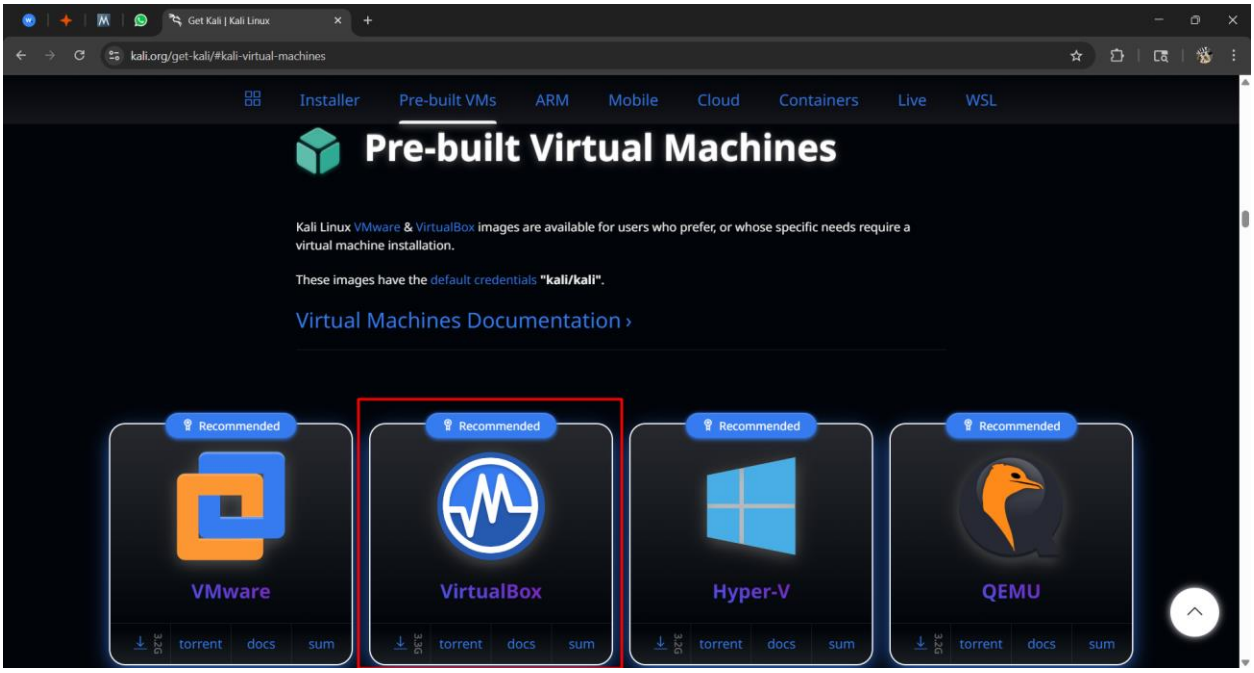

Sort
View
This PC › Windows_11_Pro (C:) › Users › Master › Downloads ›
Name
Date modified
Type
Size
Today (3)
Administrator: Command Prompt - python -m win32com.client.makepy
Microsoft Windows [Version 10.0.22000.2538]
(c) Microsoft Corporation. All rights reserved.
C:\Windows\system32>pip install pywin32
Collecting pywin32
Downloading pywin32-310-cp313-cp313-win
Downloading pywin32-310-cp313-cp313-win_a
Installing collected packages: pywin32
Successfully installed pywin32-310
C:\Windows\system32>python -m win32com.cl
Select Library
Type Library
(1.0)
(1.0)
(1.0)
(1.0)
(1.0)
(2.7)
Accessibility (1.1)
AccessibilityCplAdmin 1.0 Type Library (1.0)
Acrobat Access 3.0 Type Library (3.0)
AcroBrokerLib (1.0)
AcroIEHelper 1.0 Type Library (1.0)
AcroIEHelperShim 1.0 Type Library (1.0)
Active DS Type Library (1.0)
Cancel
OK

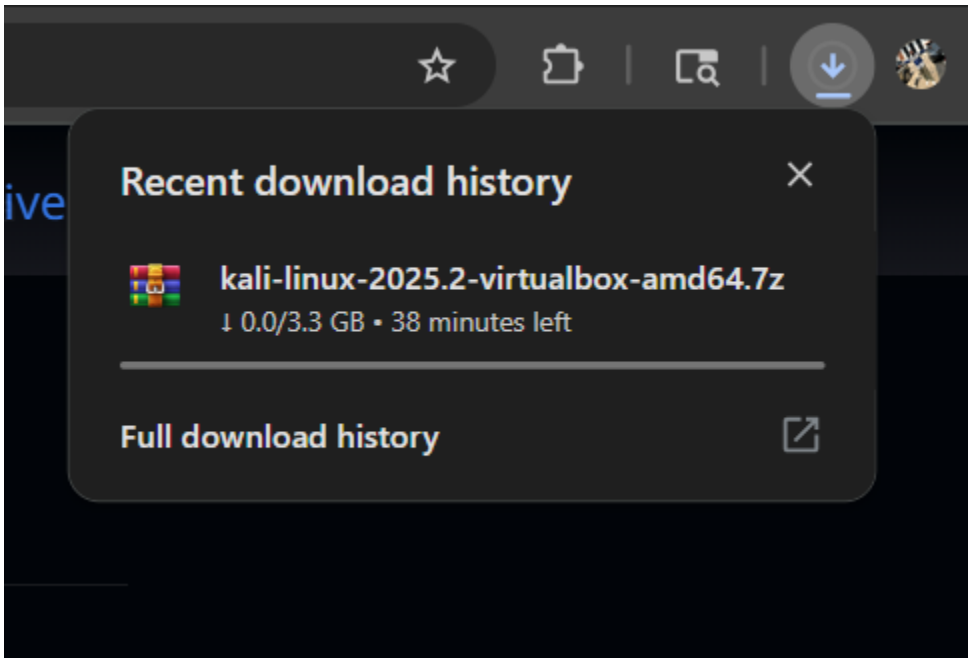


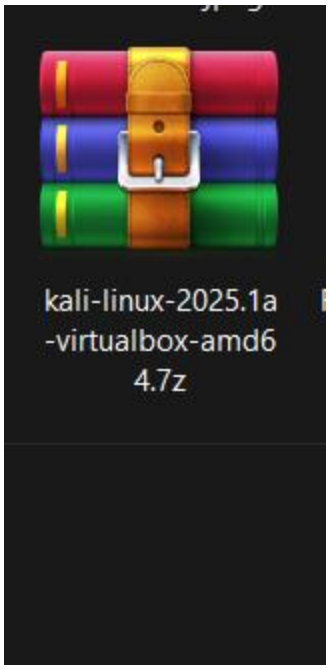
3. DOWNLOADING OF KALI LINUX OS AND SETTING IT UP (VIRTUALBOX METHOD)

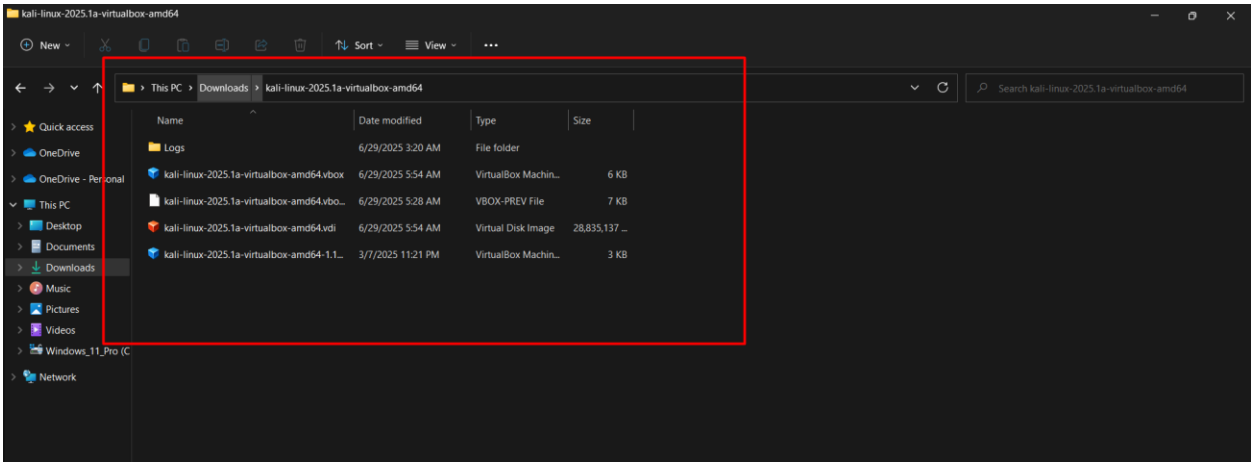

Kali Linux | Penetration Testing
kali.org
KALI
GET KALI
BLOG
DOCUMENTATION
COMMUNITY
COURSES
DEVELOPERS
ABOUT
The most advanced
Penetration Testing Distribution
Kali Linux is an open-source, Debian-based Linux distribution geared towards various information security tasks, such as Penetration Testing, Security Research, Computer Forensics and Reverse Engineering.
DOWNLOAD
DOCUMENTATION

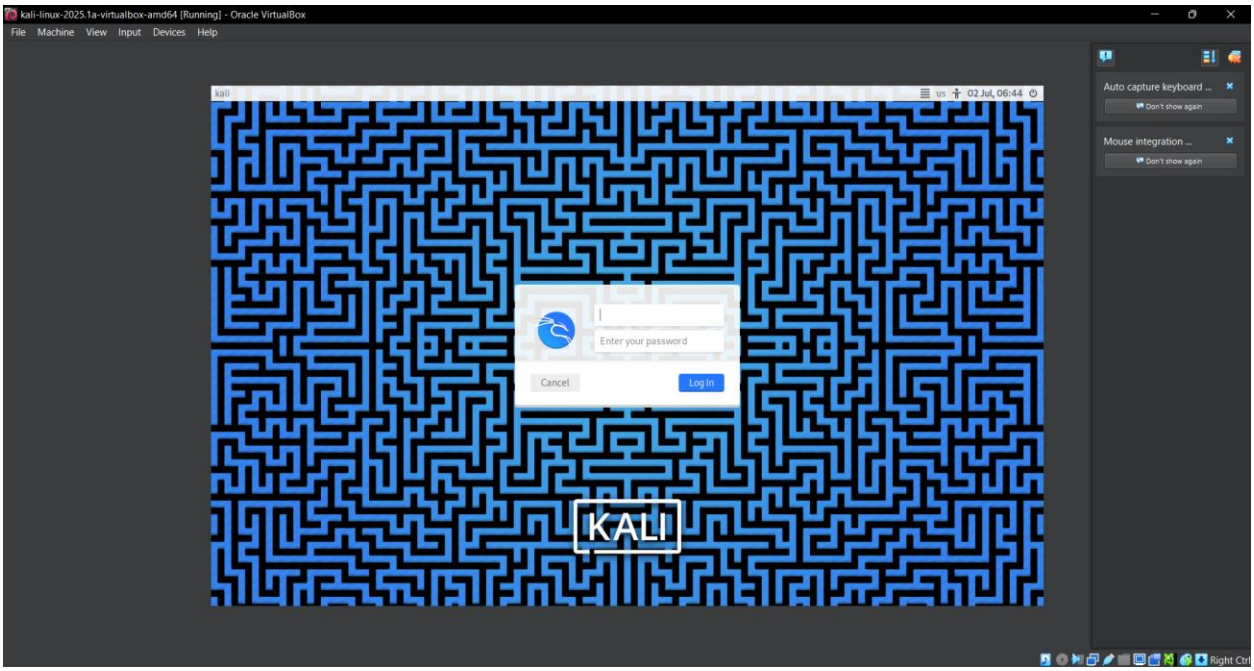

Get Kali | Kali Linux
kali.org/get-kali/#kali-platforms
KALI
GET KALI
BLOG
DOCUMENTATION
COMMUNITY
COURSES
DEVELOPERS
ABOUT
Choose your Platform
LIGHT
DARK
Installer Images
Direct access to hardware
Customized Kali kernel
No overhead
Single or multiple boot Kali, giving you complete control over the hardware access (perfect for in-built Wi-Fi and GPU), enabling the best performance.
Recommended
Virtual Machines
Snapshots functionary
Isolated environment
Customized Kali kernel
Limited direct access to hardware
Higher system requirements
VMware & VirtualBox pre-built images. Allowing for a Kali install without altering the host OS with additional features such as snapshots. Vagrant images for quick spin-up also available.
Recommended

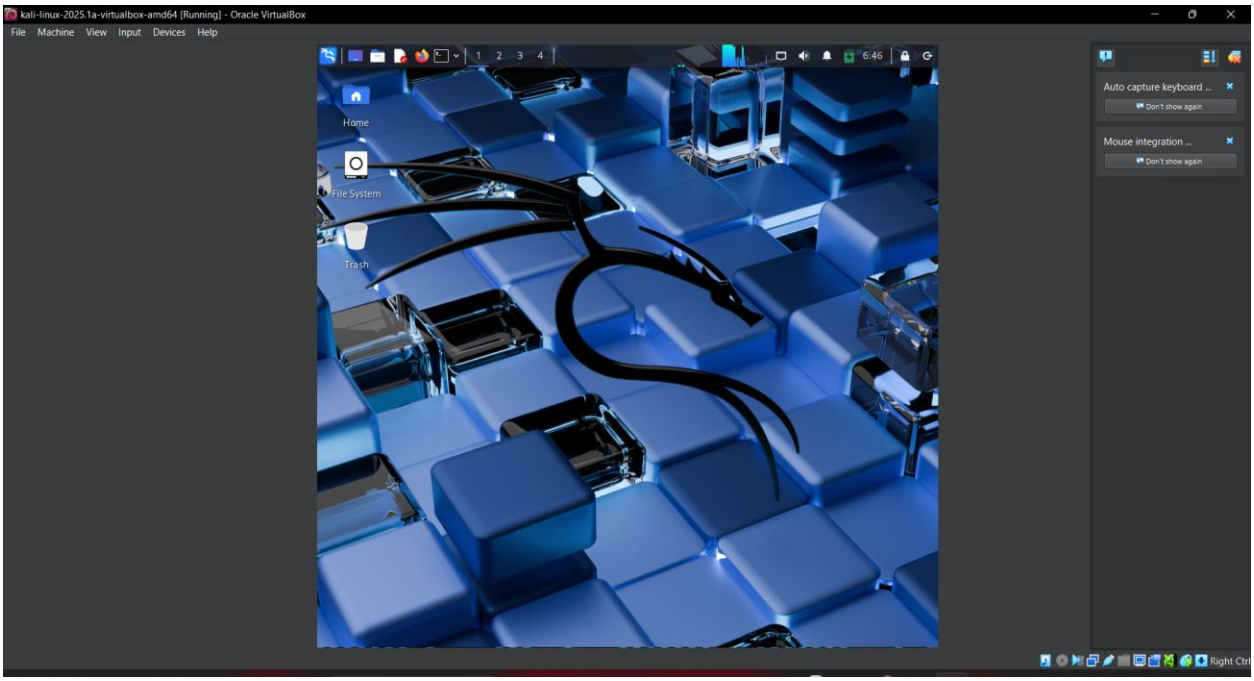

Get Kali | Kali Linux
kali.org/get-kali/#kali-virtual-machines
Installer
Pre-built VMs
ARM
Mobile
Cloud
Containers
Live
WSL
Pre-built Virtual Machines
Kali Linux VMware & VirtualBox images are available for users who prefer, or whose specific needs require a virtual machine installation.
These images have the default credentials "kali/kali".
Virtual Machines Documentation ›
Recommended
VMware
torrent
docs
sum
Recommended
VirtualBox
torrent
docs
sum
Recommended
Hyper-V
torrent
docs
sum
Recommended
QEMU
torrent
docs
sum


Recent download history
kali-linux-2025.2-virtualbox-amd64.7z
0.0/3.3 GB • 38 minutes left
Full download history

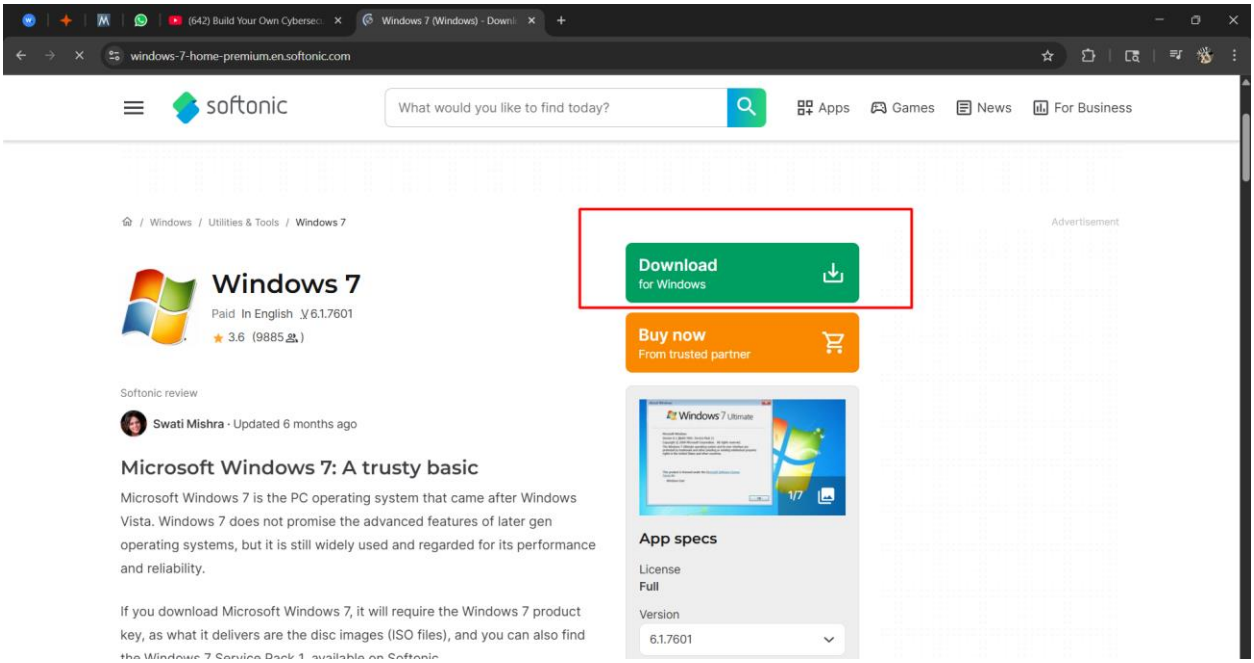

kali-linux-2025.1a
-virtualbox-amd6
4.7z

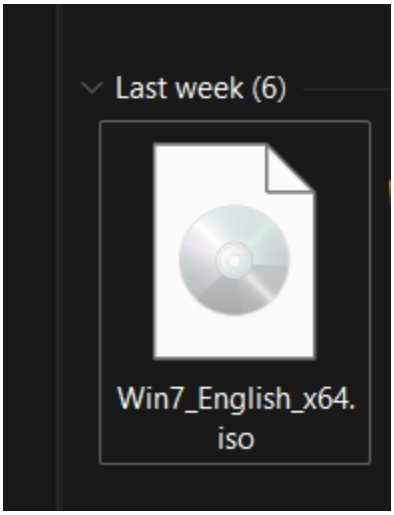

kali-linux-2025.1a-virtualbox-amd64
New
Sort
View
This PC
Downloads
kali-linux-2025.1a-virtualbox-amd64
Search kali-linux-2025.1a-virtualbox-amd64
Quick access
OneDrive
OneDrive - Personal
This PC
Desktop
Documents
Downloads
Music
Pictures
Videos
Windows_11_Pro (C
Network
Name
Date modified
Type
Size
Logs
6/29/2025 3:20 AM
File folder
kali-linux-2025.1a-virtualbox-amd64.vbox
6/29/2025 5:54 AM
VirtualBox Machin...
6 KB
kali-linux-2025.1a-virtualbox-amd64.vbo...
6/29/2025 5:28 AM
VBOX-PREV File
7 KB
kali-linux-2025.1a-virtualbox-amd64.vdi
6/29/2025 5:54 AM
Virtual Disk Image
28,835,137 ...
kali-linux-2025.1a-virtualbox-amd64-1.1...
3/7/2025 11:21 PM
VirtualBox Machin...
3 KB

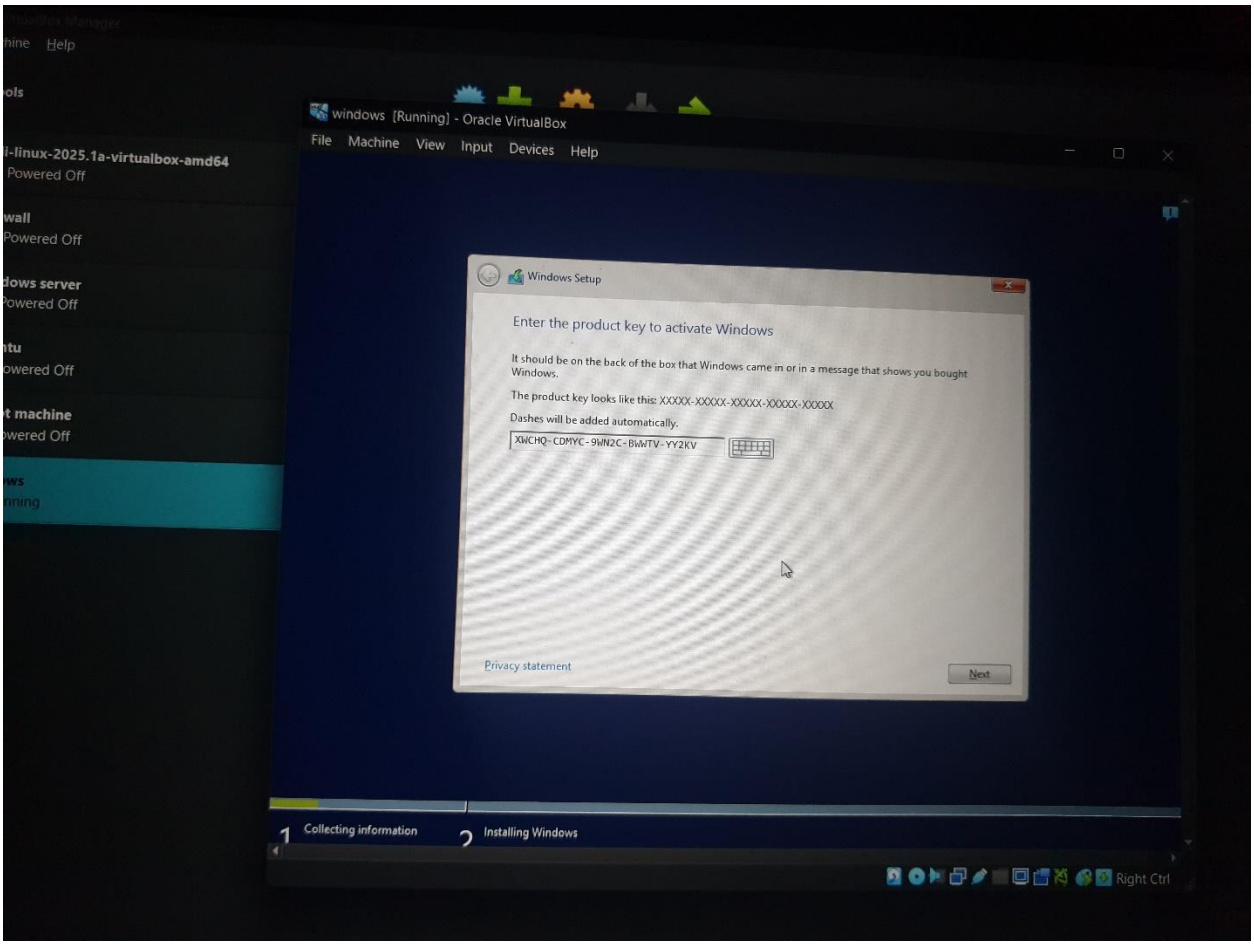


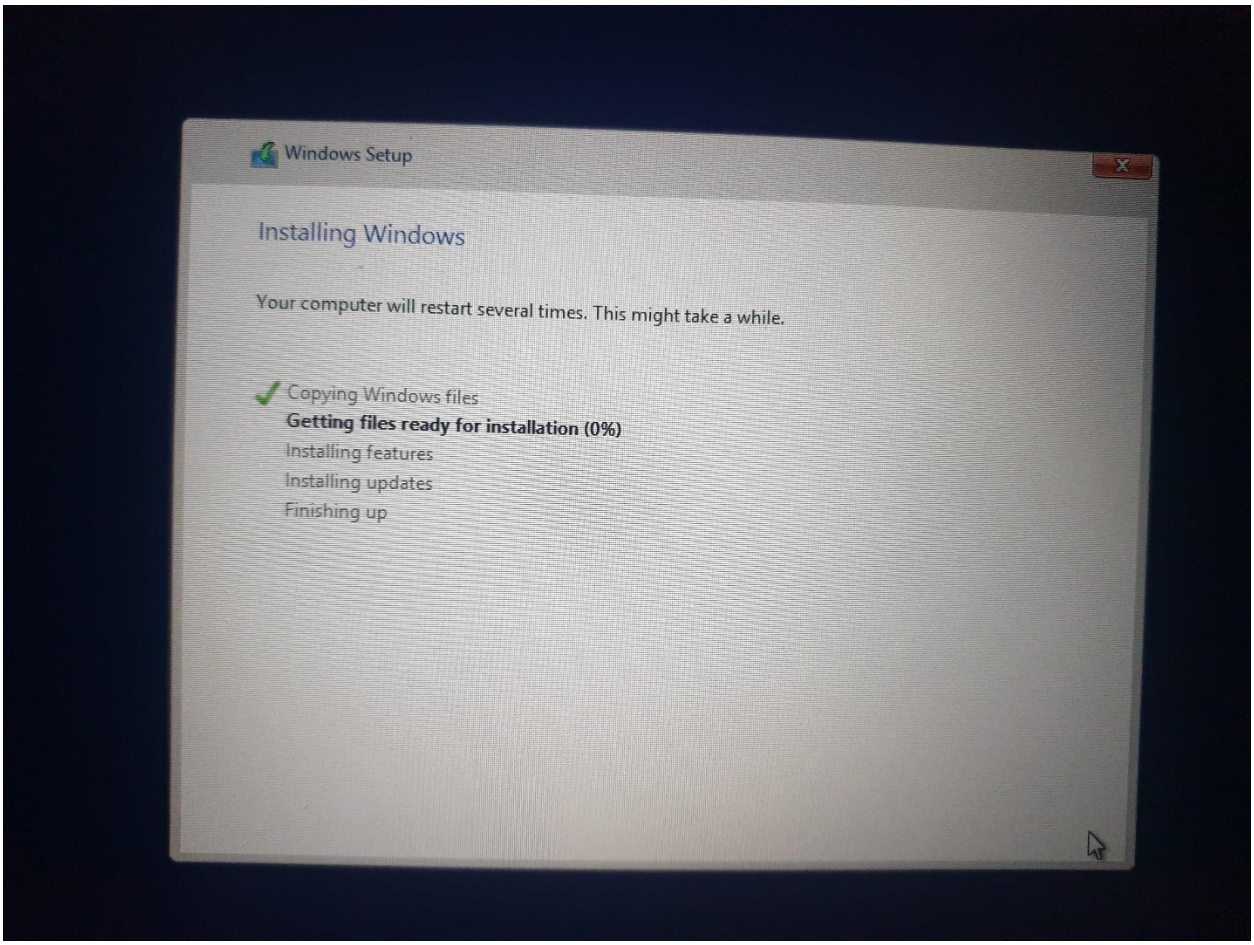


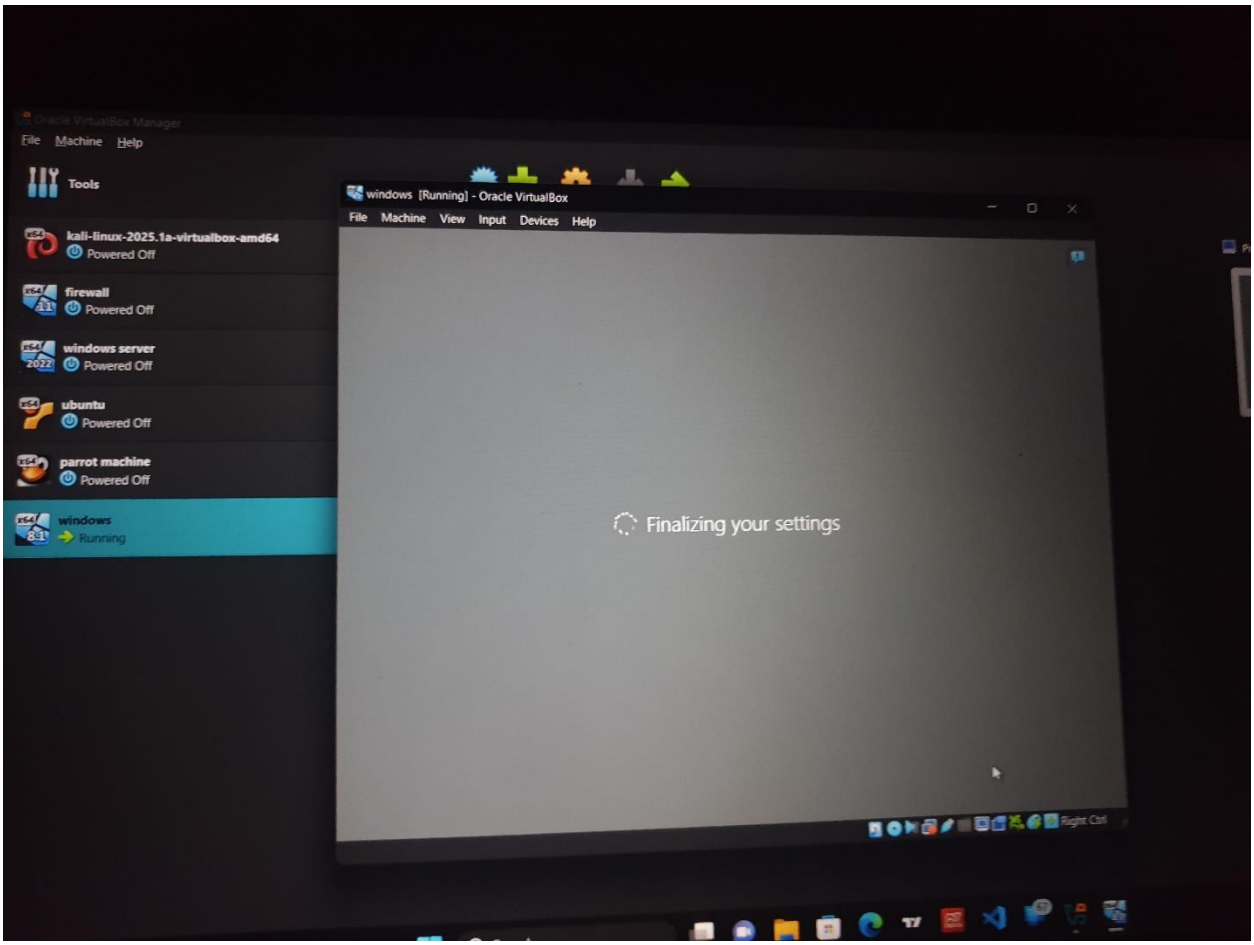
4. Downloading Windows 7 and setting it up

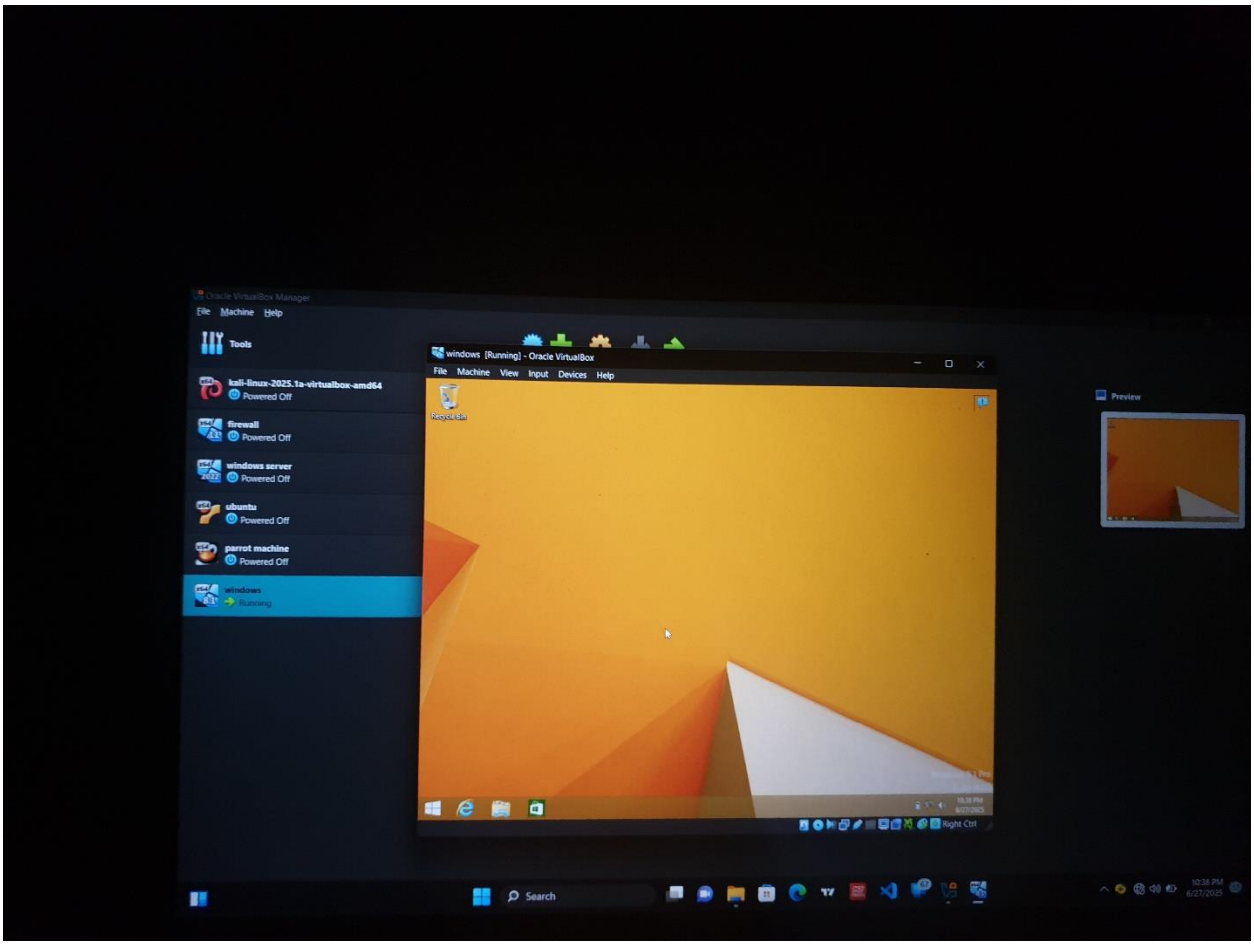

windows-7-home-premium.en.softonic.com
softonic
What would you like to find today?
Apps
Games
News
For Business
Windows / Utilities & Tools / Windows 7
Windows 7
Paid In English V 6.1.7601
3.6 (9885)
Softonic review
Swati Mishra · Updated 6 months ago
Microsoft Windows 7: A trusty basic
Microsoft Windows 7 is the PC operating system that came after Windows Vista. Windows 7 does not promise the advanced features of later gen operating systems, but it is still widely used and regarded for its performance and reliability.
If you download Microsoft Windows 7, it will require the Windows 7 product key, as what it delivers are the disc images (ISO files), and you can also find
Advertisement
Download
for Windows
Buy now
From trusted partner
App specs
License
Full
Version
6.1.7601


Last week (6)
Win7_English_x64.
iso


Help
Powered Off
Powered Off
Powered Off
Powered Off
Powered Off
windows [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Windows Setup
Enter the product key to activate Windows
It should be on the back of the box that Windows came in or in a message that shows you bought Windows.
The product key looks like this: XXXXX-XXXXX-XXXXX-XXXXX-XXXXX
Dashes will be added automatically.
XWCHQ-CDMYC-9WN2C-BWWTV-YY2KV
Privacy statement
Next
1 Collecting information
2 Installing Windows
Right Ctrl

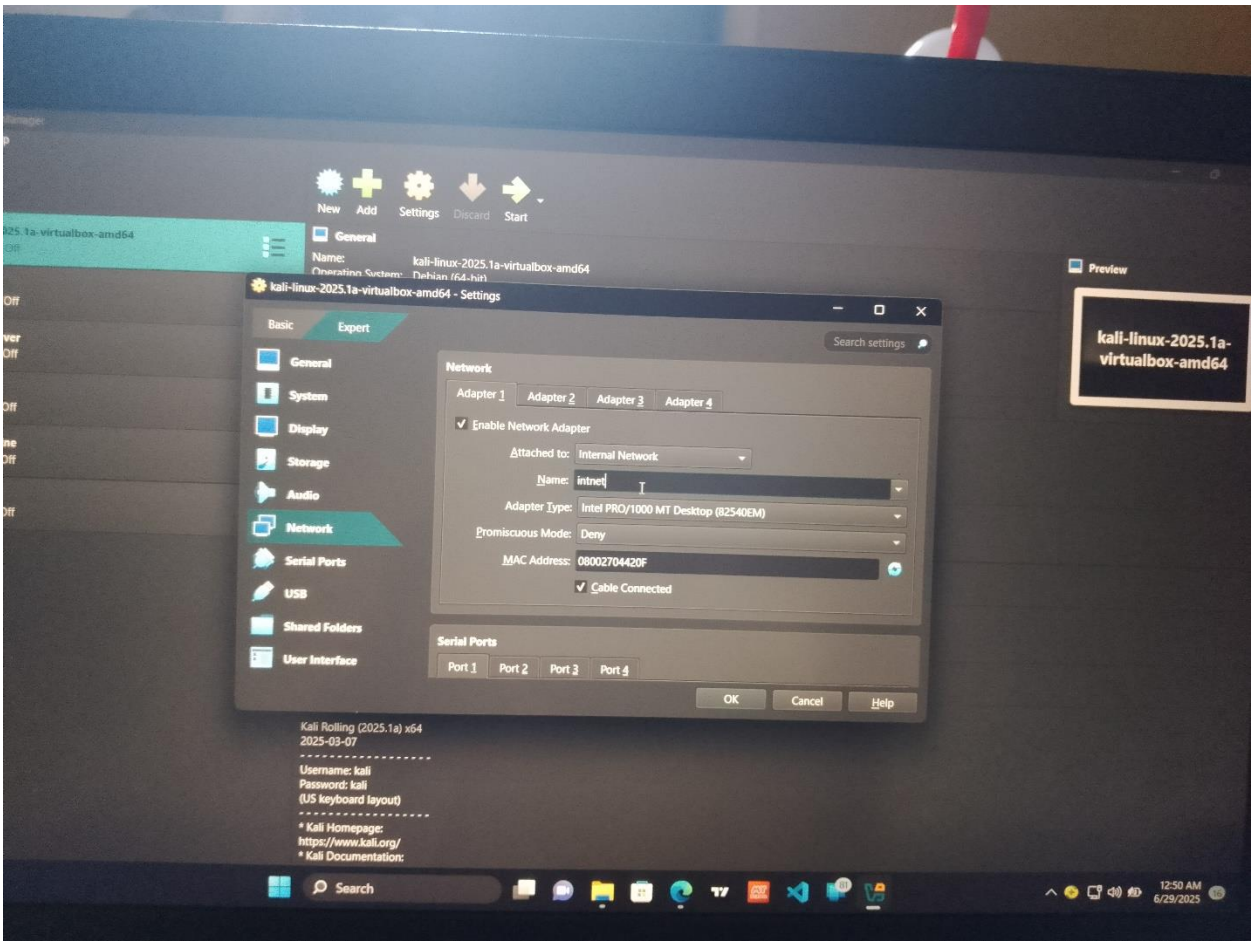

Windows Setup
Installing Windows
Your computer will restart several times. This might take a while.
Copying Windows files
Getting files ready for installation (0%)
Installing features
Installing updates
Finishing up

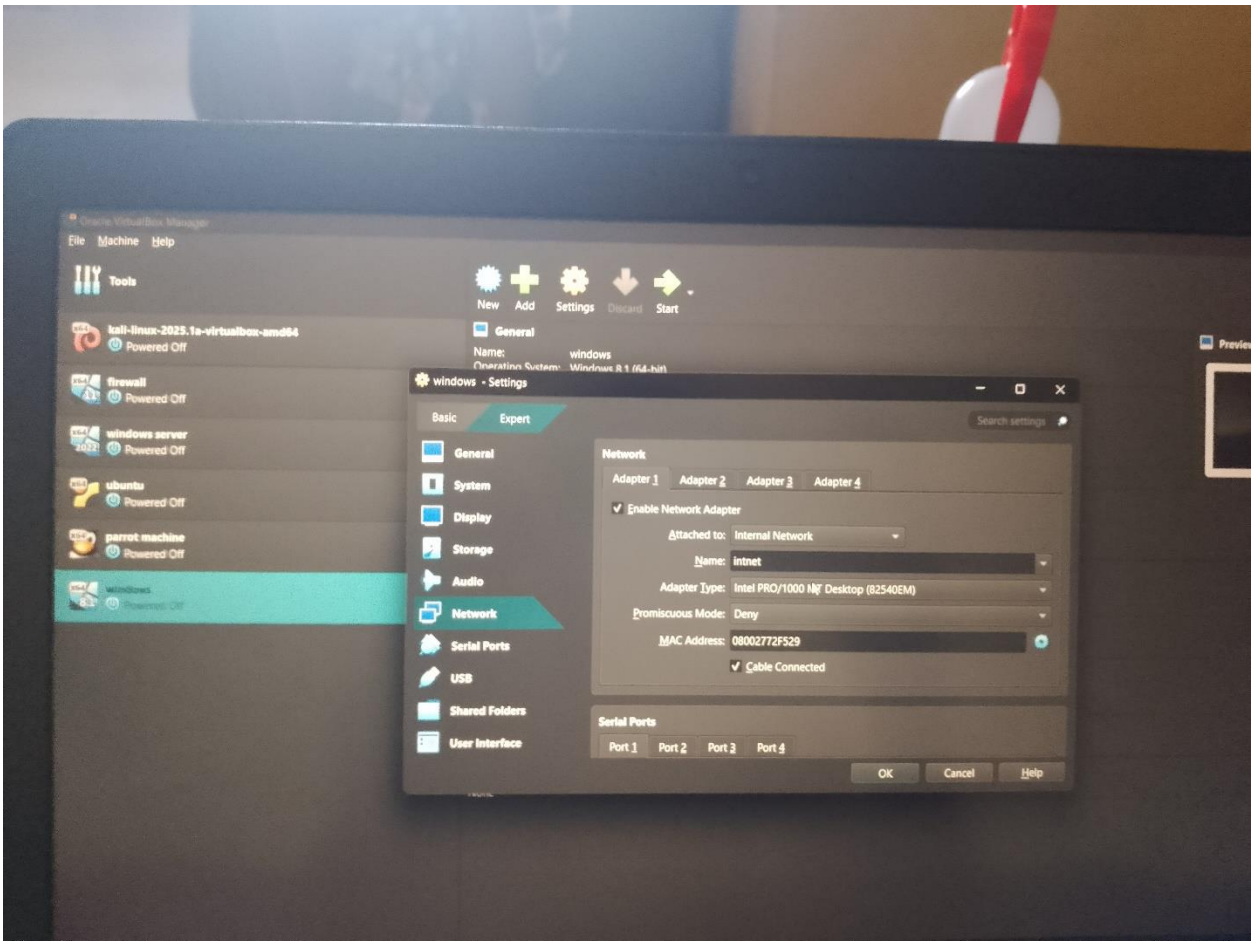

Oracle VirtualBox Manager
File Machine Help
Tools
kali-linux-2025.1a-virtualbox-amd64
Powered Off
firewall
Powered Off
windows server
Powered Off
ubuntu
Powered Off
parrot machine
Powered Off
windows
Running
windows [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Finalizing your settings
Right Ctrl



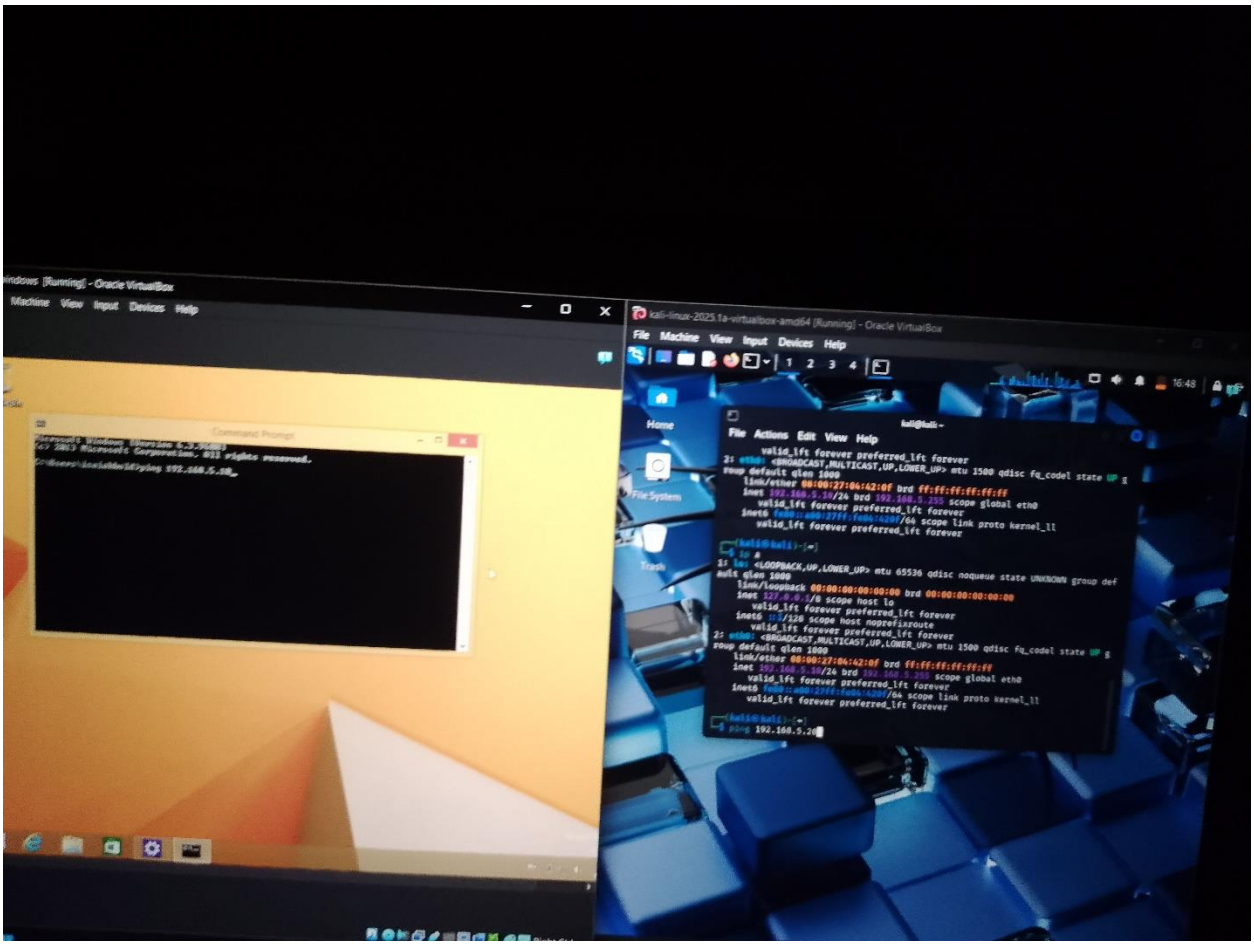
5. ESTABLISH INTERNAL VIRTUAL NETWORKING BETWEEN VMS

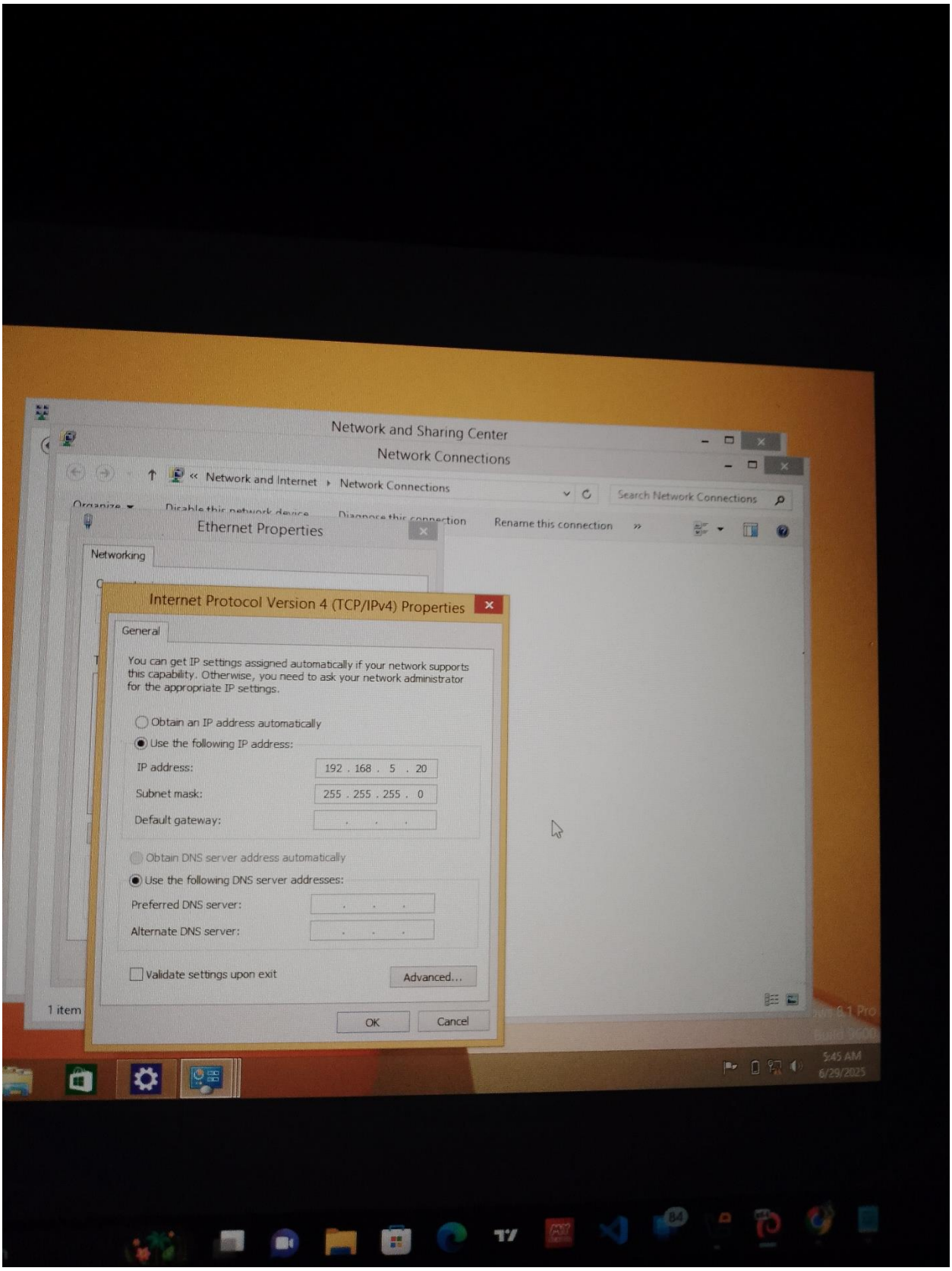
AFTER MAKING SURE BOTH VMS ARE PROPERLY INSTALLED AND SET UP, I SET BOTH VMS NETWORK TO INTERNAL NETWORK IN EACH VMS NETWORK SETTING


New
Add
Settings
Discard
Start
General
Name: kali-linux-2025.1a-virtualbox-amd64
Preview
kali-linux-2025.1a-virtualbox-amd64
kali-linux-2025.1a-virtualbox-amd64 - Settings
Basic
Expert
Search settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Network
Adapter 1
Adapter 2
Adapter 3
Adapter 4
Enable Network Adapter
Attached to: Internal Network
Name: intnet
Adapter Type: Intel PRO/1000 MT Desktop (82540EM)
Promiscuous Mode: Deny
MAC Address: 08002704420F
Cable Connected
Serial Ports
Port 1
Port 2
Port 3
Port 4
OK
Cancel
Help
Kali Rolling (2025.1a) x64
2025-03-07
Username: kali
Password: kali
(US keyboard layout)
* Kali Homepage:
https://www.kali.org/
* Kali Documentation:
Search
12:50 AM
6/29/2025

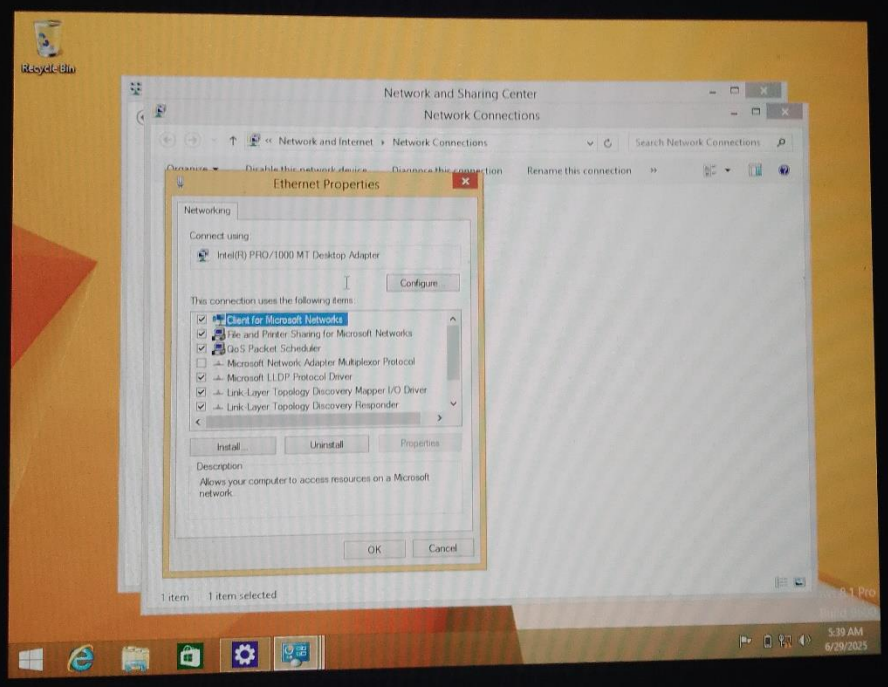


AFTER THAT, I ASSIGN IP ADDRESS TO KALI AND WINDOW MOREOVER ALSO MAKING SURE THEY ARE ON THE SAME SUBNET NETWORK AND ALSO VERIFY CONNECTIVITY BETWEEN THEM PING TEST, SHARED DIRECTORIES, AND SERVICE ENUMERATION.

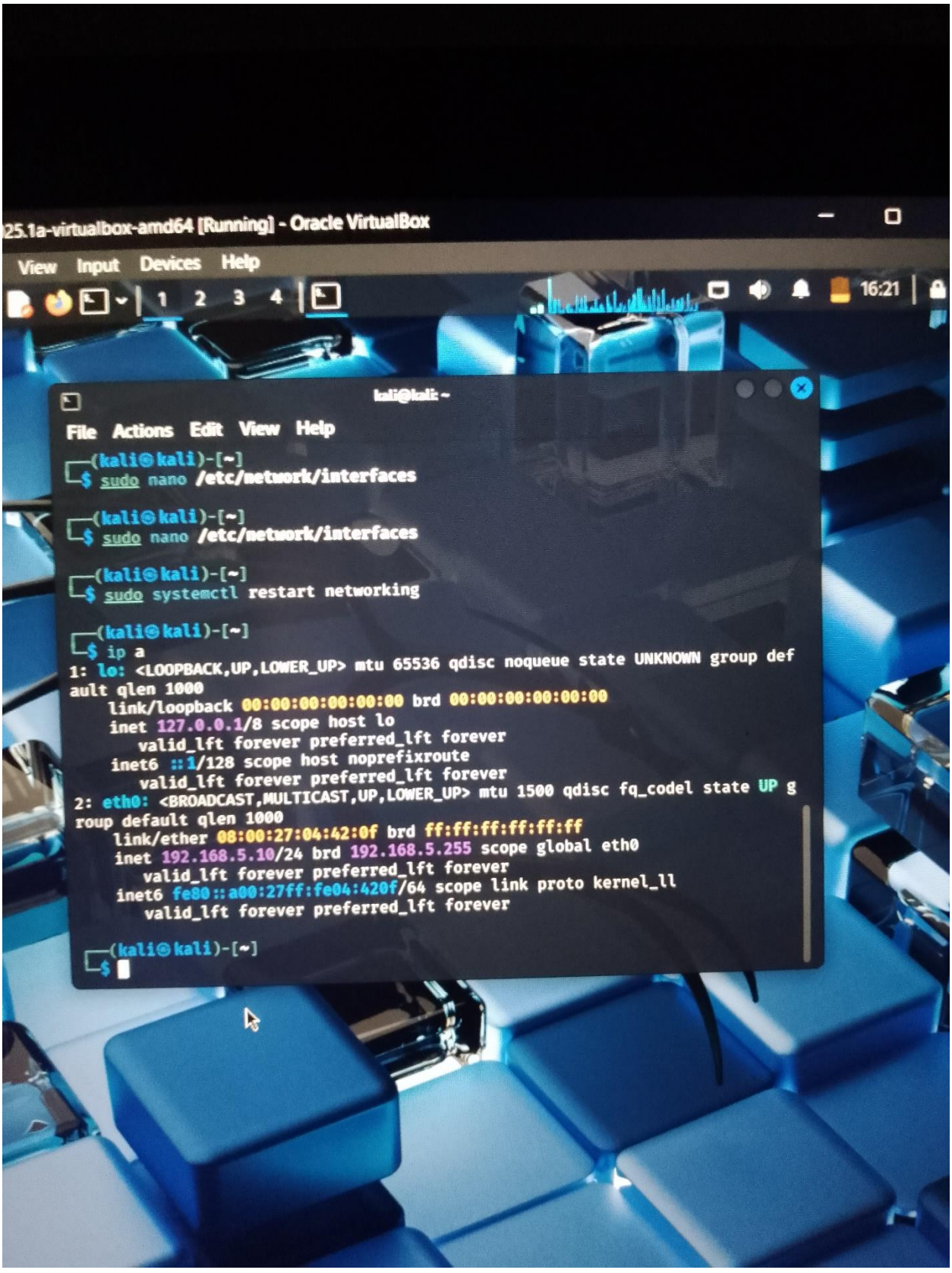

Machine View Input Devices Help
Command Prompt
kali-linux-2025.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Home
File System
Trash
File Actions Edit View Help
ping 192.168.5.20

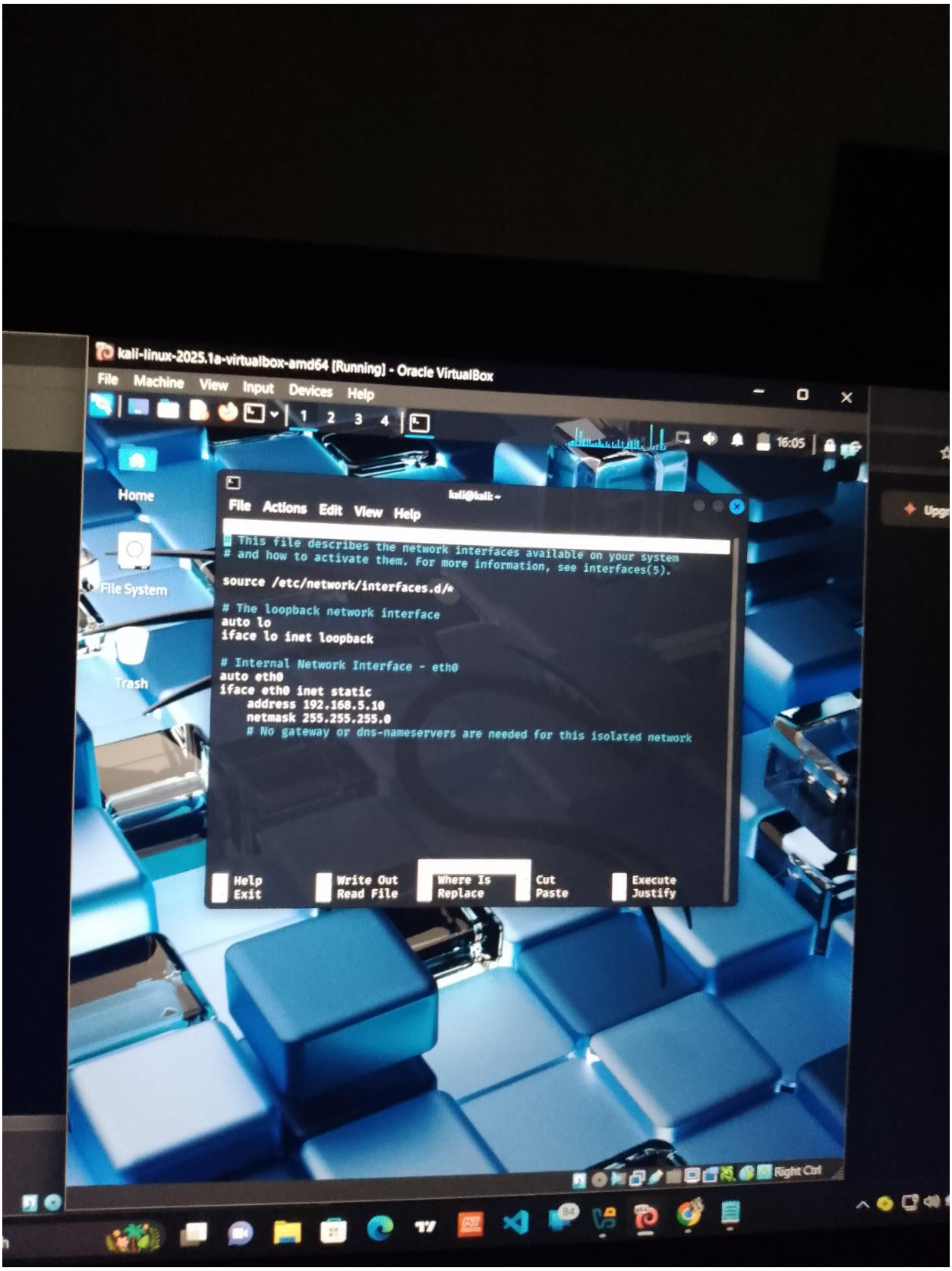

Network and Sharing Center
Network Connections
Network and Internet ▸ Network Connections
Search Network Connections
Rename this connection
Ethernet Properties
Networking
Internet Protocol Version 4 (TCP/IPv4) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 5 . 20
Subnet mask: 255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel
1 item
5:45 AM
6/29/2025

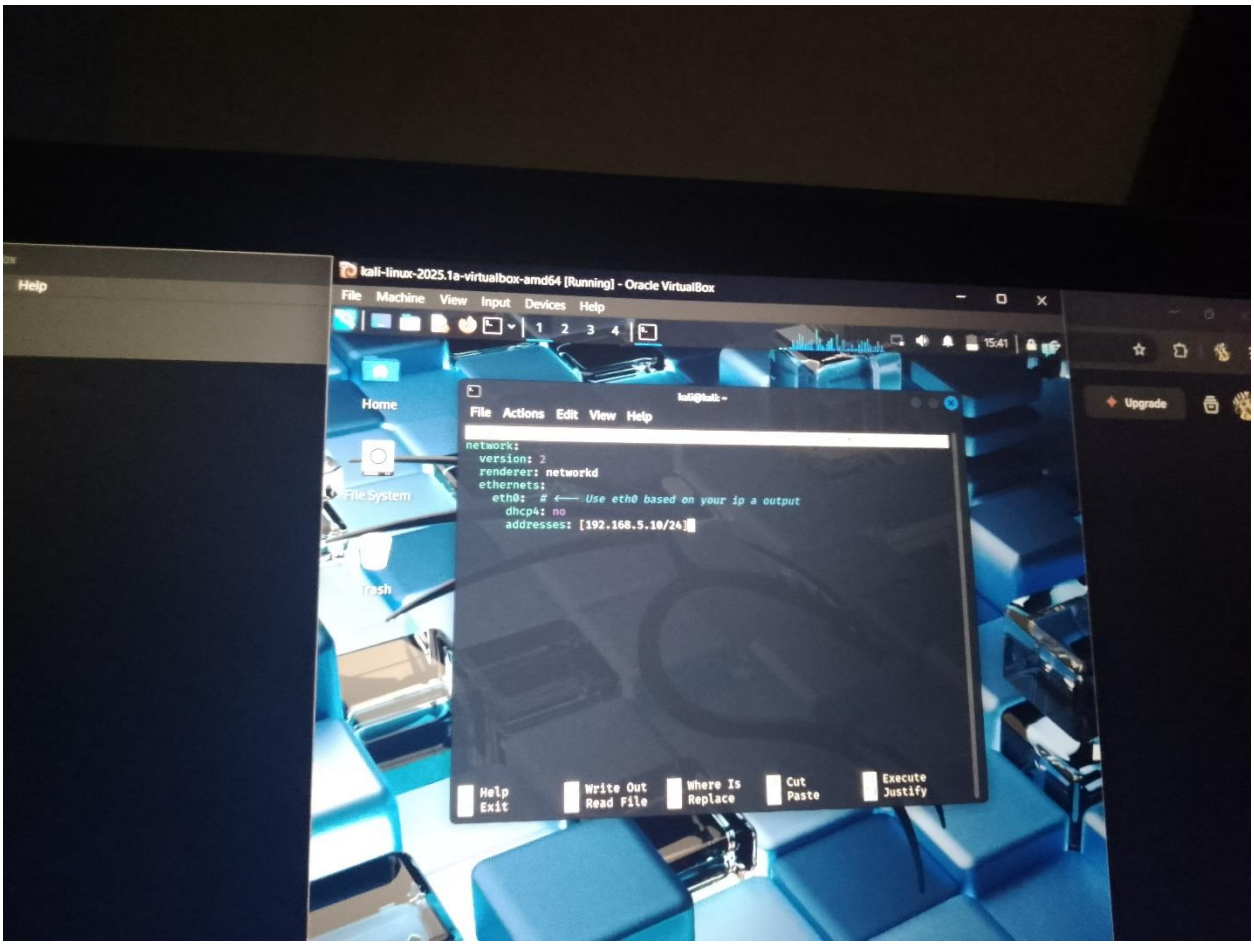
tualBox
Devices Help

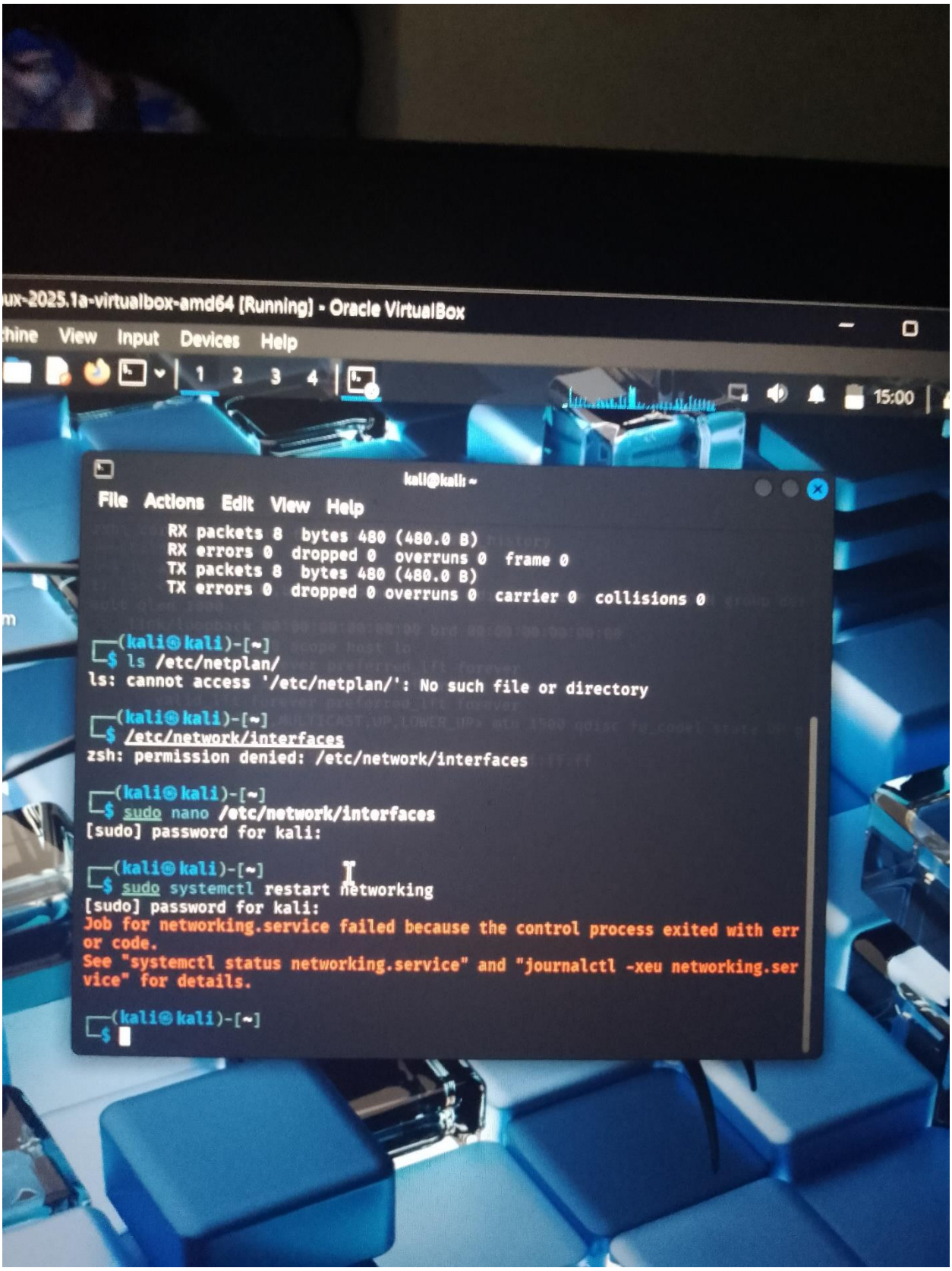


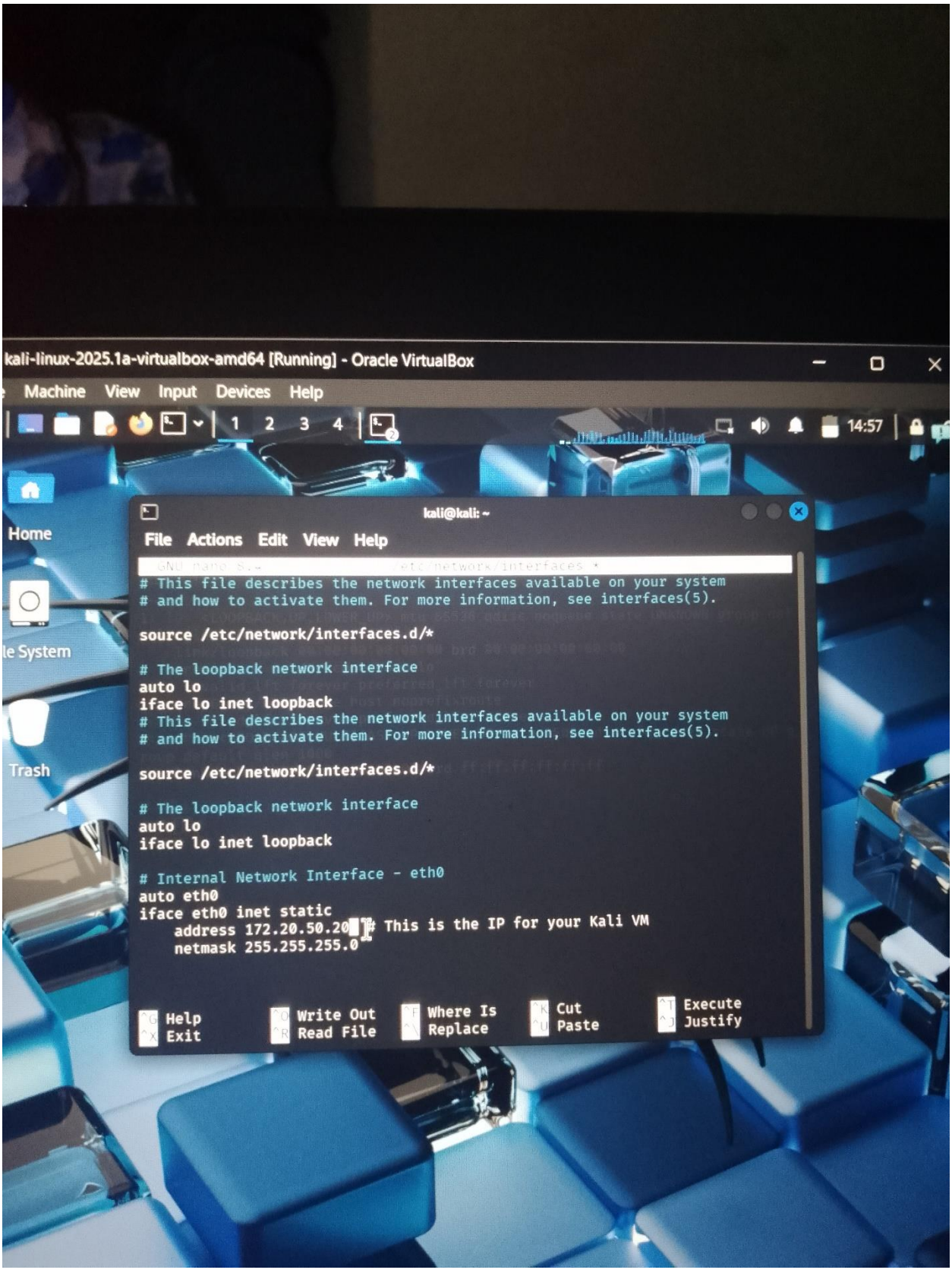
Search

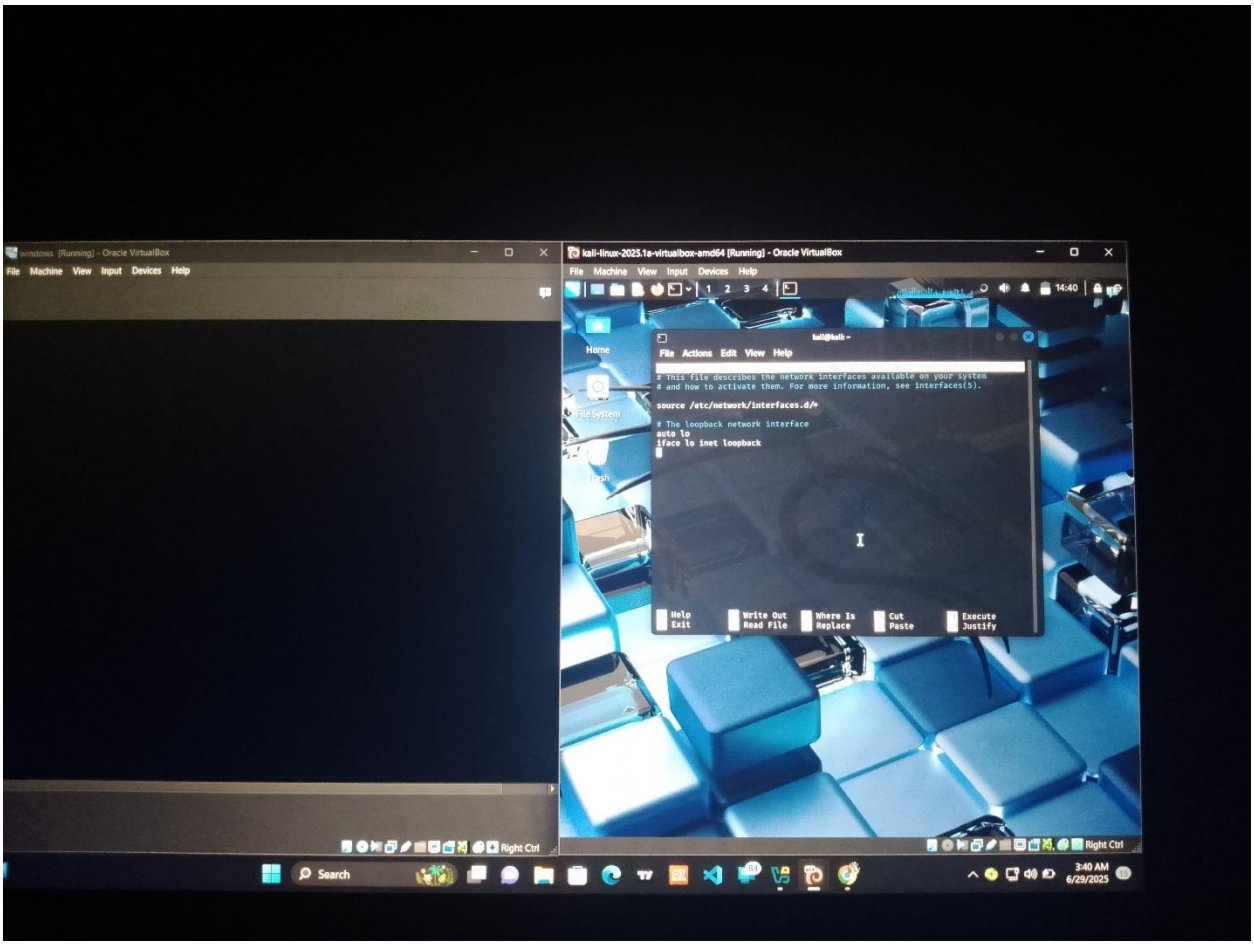

25.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
View Input Devices Help
1 2 3 4
16:21
kali@kali: ~
File Actions Edit View Help
(kali㉿kali)-[~]
$ sudo nano /etc/network/interfaces
(kali㉿kali)-[~]
$ sudo nano /etc/network/interfaces
(kali㉿kali)-[~]
$ sudo systemctl restart networking
(kali㉿kali)-[~]
$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
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
inet6 ::1/128 scope host noprefixroute
valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
link/ether 08:00:27:04:42:0f brd ff:ff:ff:ff:ff:ff
inet 192.168.5.10/24 brd 192.168.5.255 scope global eth0
valid_lft forever preferred_lft forever
inet6 fe80::a00:27ff:fe04:420f/64 scope link proto kernel_ll
valid_lft forever preferred_lft forever
(kali㉿kali)-[~]
$

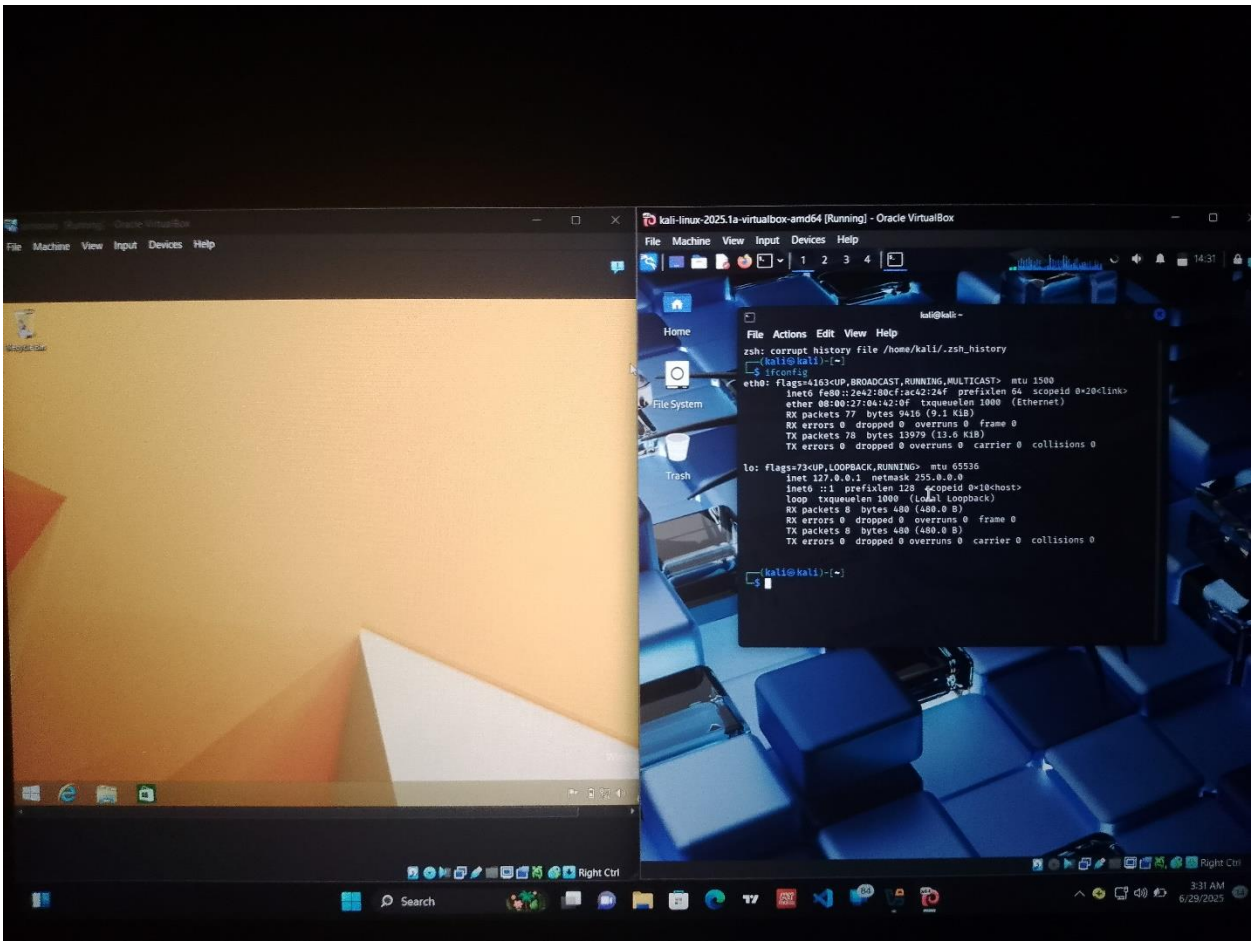

kali-linux-2025.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
1 2 3 4
16:05
Home
File System
Trash
kali@kali: ~
File Actions Edit View Help
This file describes the network interfaces available on your system
and how to activate them. For more information, see interfaces(5).
source /etc/network/interfaces.d/*
The loopback network interface
auto lo
iface lo inet loopback
Internal Network Interface - eth0
auto eth0
iface eth0 inet static
address 192.168.5.10
netmask 255.255.255.0
No gateway or dns-nameservers are needed for this isolated network
Help
Exit
Write Out
Read File
Where Is
Replace
Cut
Paste
Execute
Justify
Right Ctrl

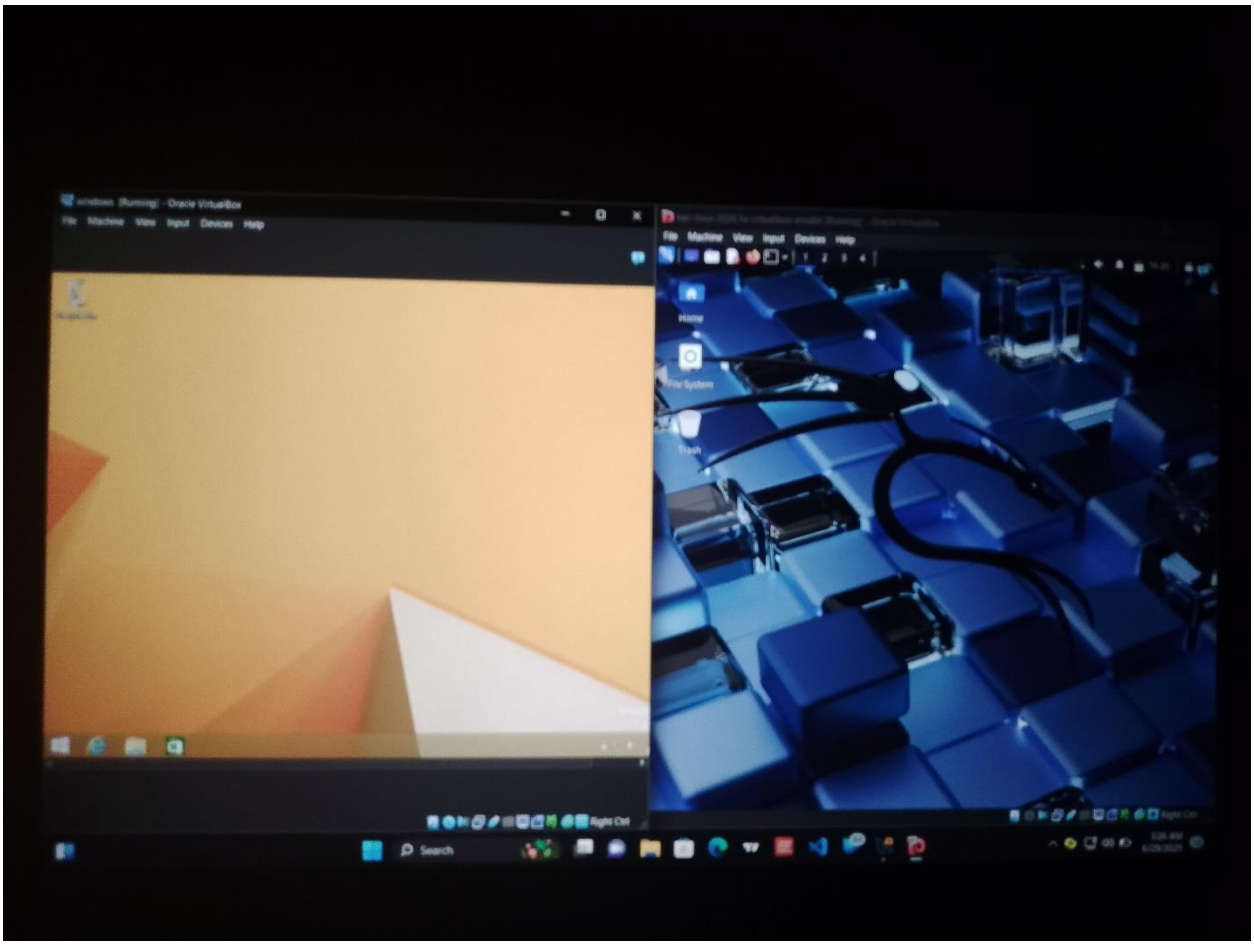

Help
kali-linux-2025.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
1 2 3 4
15:41
Home
File System
Trash
kali@kali: ~
File Actions Edit View Help
network:
version: 2
renderer: networkd
ethernets:
eth0: # <— Use eth0 based on your ip a output
dhcp4: no
addresses: [192.168.5.10/24]
Help Exit
Write Out Read File
Where Is Replace
Cut Paste
Execute Justify
Upgrade

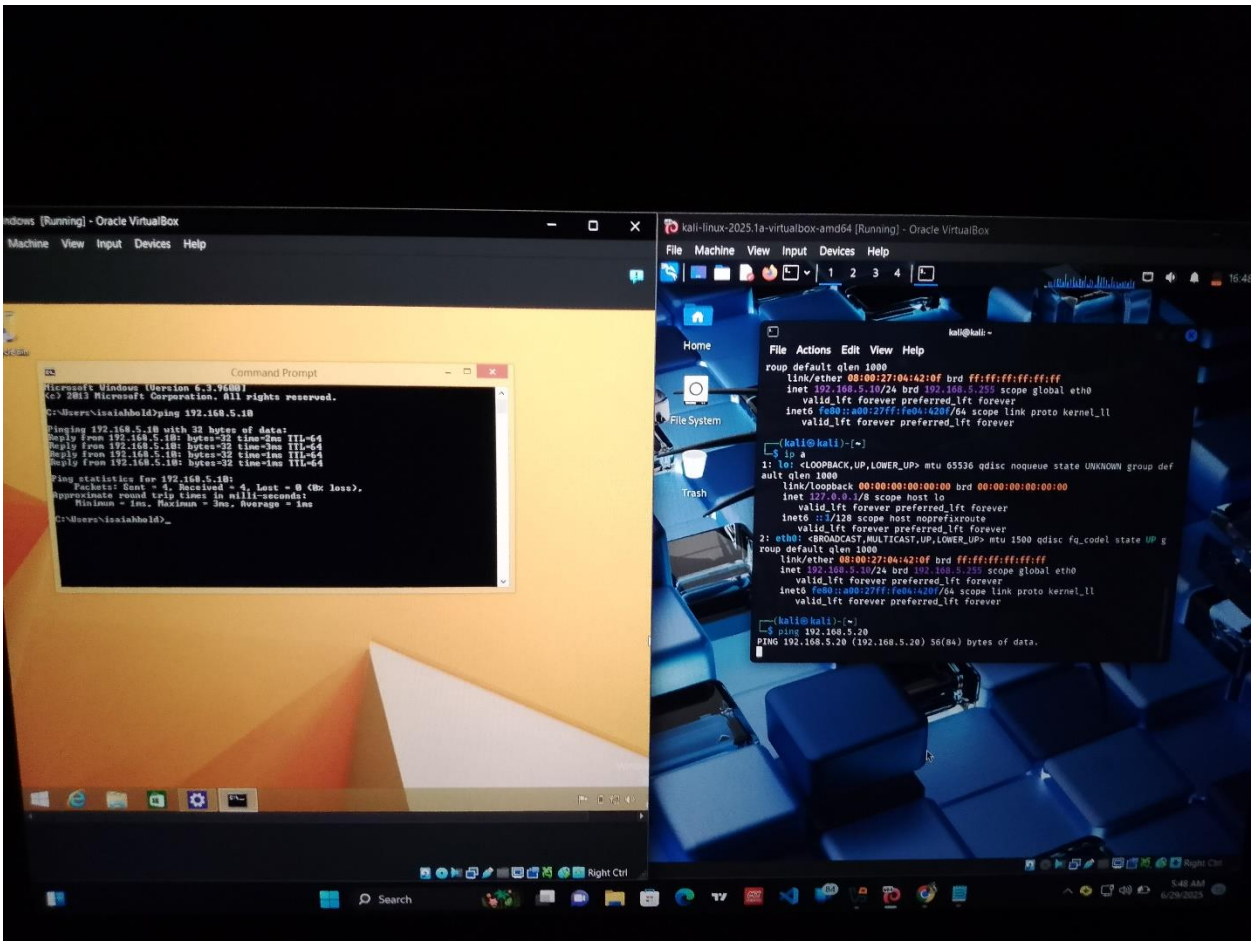

ux-2025.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
hine View Input Devices Help
1 2 3 4
15:00
kali@kali: ~
File Actions Edit View Help
RX packets 8 bytes 480 (480.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 8 bytes 480 (480.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
(kali㉿kali)-[~]
$ ls /etc/netplan/
ls: cannot access '/etc/netplan/': No such file or directory
(kali㉿kali)-[~]
$ /etc/network/interfaces
zsh: permission denied: /etc/network/interfaces
(kali㉿kali)-[~]
$ sudo nano /etc/network/interfaces
[sudo] password for kali:
(kali㉿kali)-[~]
$ sudo systemctl restart networking
[sudo] password for kali:
Job for networking.service failed because the control process exited with err
or code.
See "systemctl status networking.service" and "journalctl -xeu networking.ser
vice" for details.
(kali㉿kali)-[~]
$


kali-linux-2025.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
Machine View Input Devices Help
1 2 3 4
14:57
Home
Trash
kali@kali: ~
File Actions Edit View Help
GNU nano 8.4 /etc/network/interfaces *
This file describes the network interfaces available on your system
and how to activate them. For more information, see interfaces(5).
source /etc/network/interfaces.d/*
The loopback network interface
auto lo
iface lo inet loopback
This file describes the network interfaces available on your system
and how to activate them. For more information, see interfaces(5).
source /etc/network/interfaces.d/*
The loopback network interface
auto lo
iface lo inet loopback
Internal Network Interface - eth0
auto eth0
iface eth0 inet static
address 172.20.50.20 # This is the IP for your Kali VM
netmask 255.255.255.0
^G Help
^X Exit
^O Write Out
^R Read File
^F Where Is
^\ Replace
^K Cut
^U Paste
^T Execute
^J Justify


Windows [Running] - Oracle VirtualBox
File Machine View Input Devices Help
kali-linux-2025.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Home
File System
Trash
kali@kali: ~
File Actions Edit View Help
This file describes the network interfaces available on your system
and how to activate them. For more information, see interfaces(5).
source /etc/network/interfaces.d/*
The loopback network interface
auto lo
iface lo inet loopback
Help Exit
Write Out Read File
Where Is Replace
Cut Paste
Execute Justify
Right Ctrl
Search
3:40 AM
6/29/2025

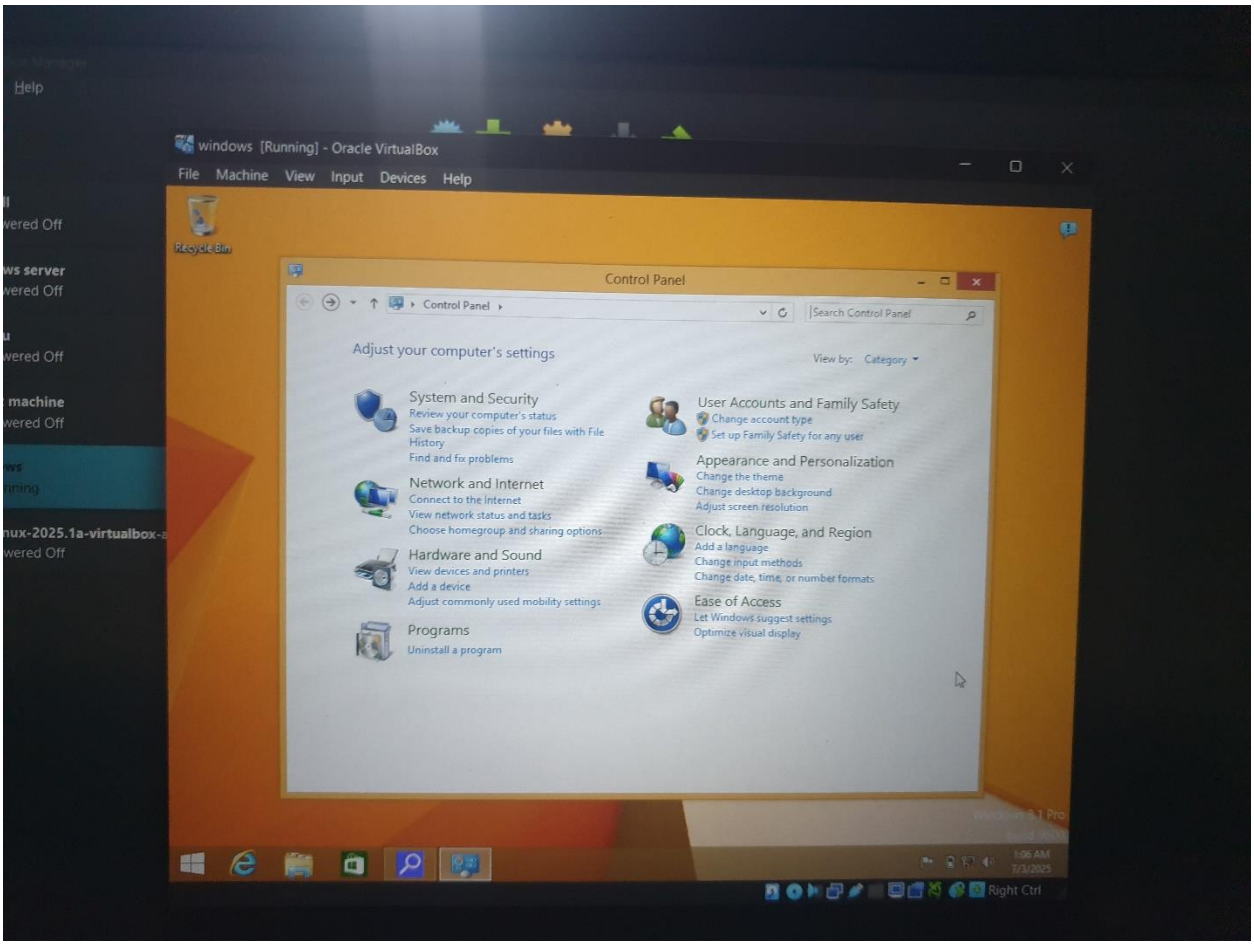

File Machine View Input Devices Help
kali-linux-2025.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Home
File System
Trash
kali@kali: ~
File Actions Edit View Help
zsh: corrupt history file /home/kali/.zsh_history
(kali㉿kali)-[~]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet6 fe80::2e42:80cf:ac42:24f prefixlen 64 scopeid 0x20<link>
ether 08:00:27:04:42:0f txqueuelen 1000 (Ethernet)
RX packets 77 bytes 9416 (9.1 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 78 bytes 13979 (13.6 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 8 bytes 480 (480.0 B)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 8 bytes 480 (480.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
(kali㉿kali)-[~]
$
Right Ctrl
Search
3:31 AM
6/29/2025

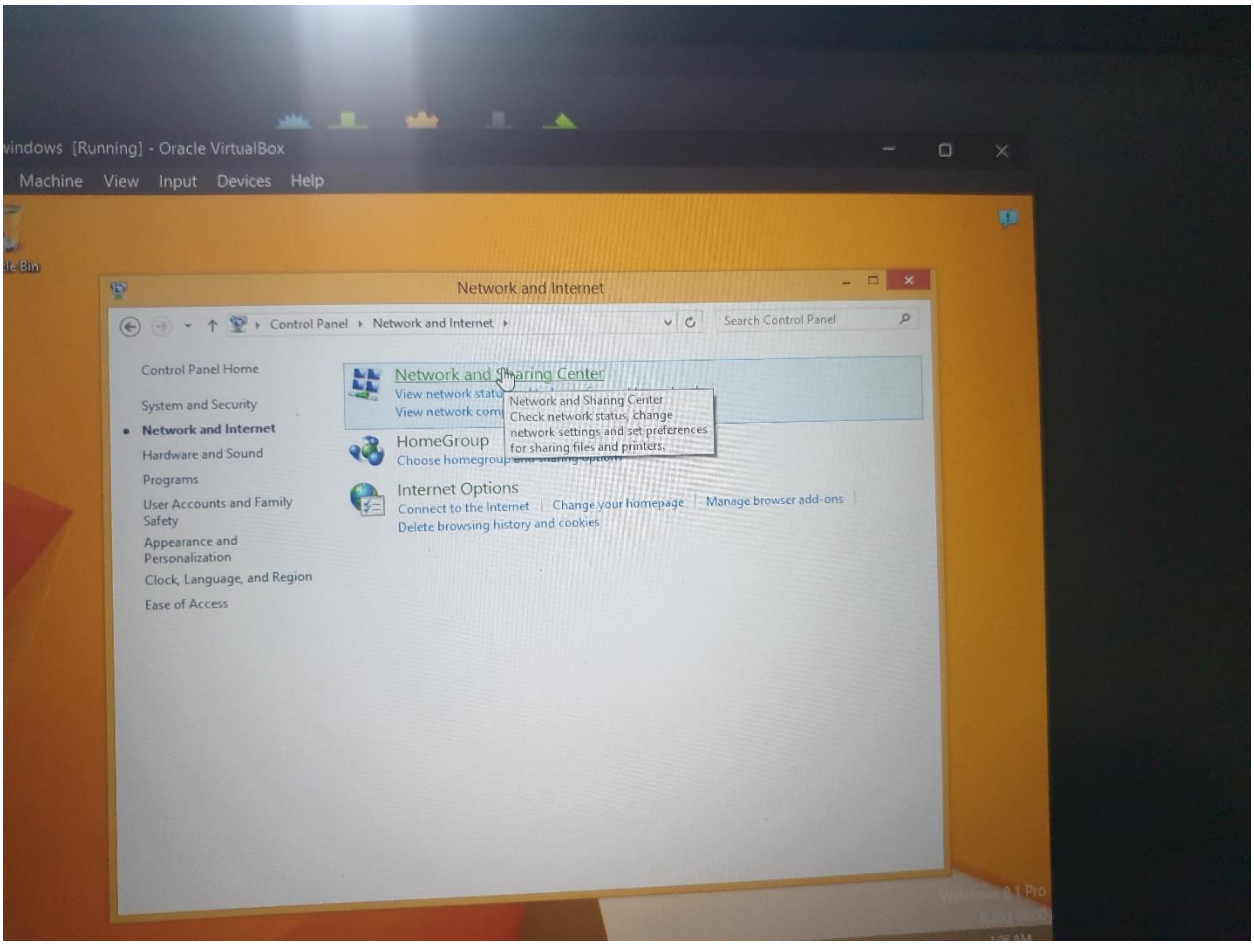

File Machine View Input Devices Help
Home
File System
Trash
Search

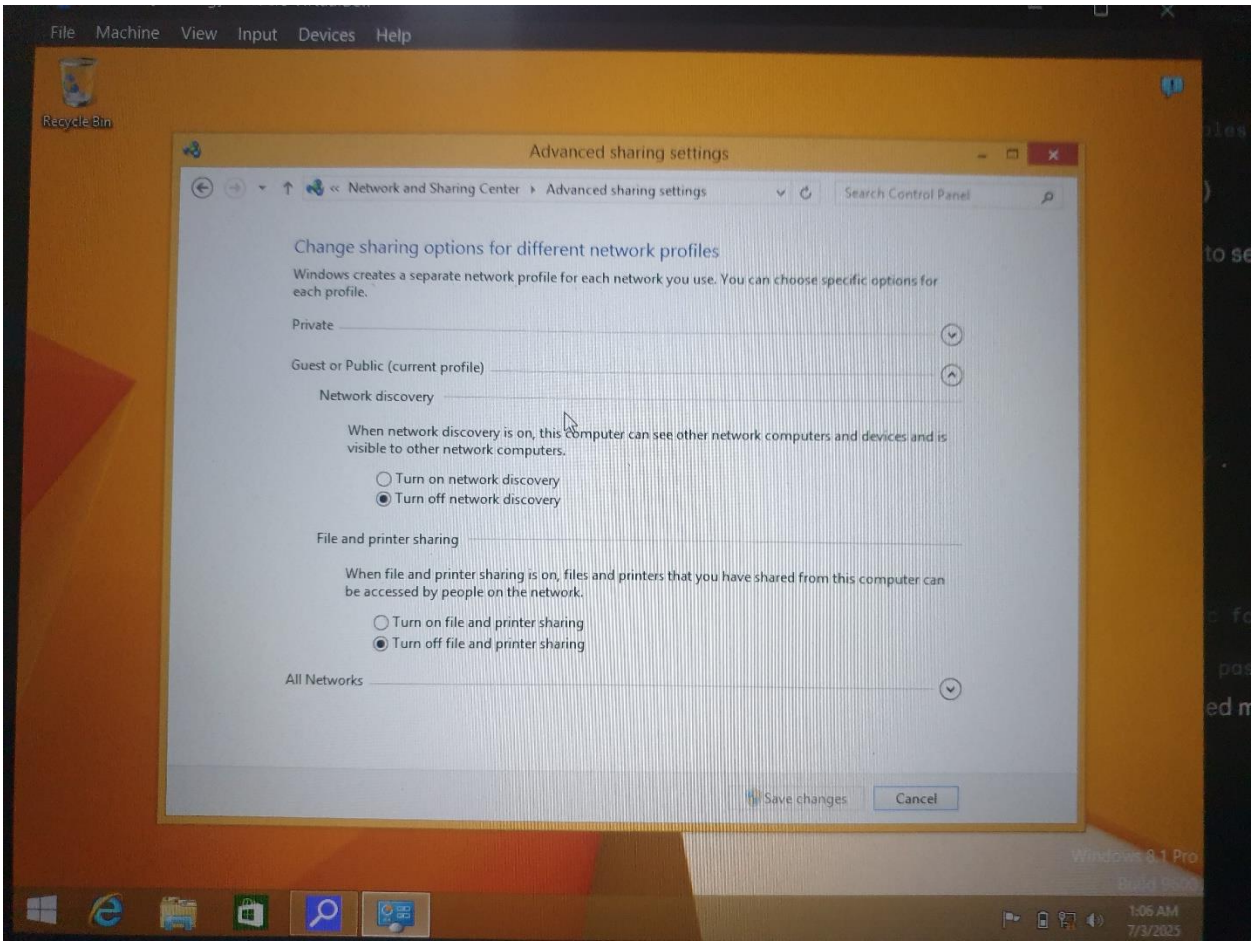


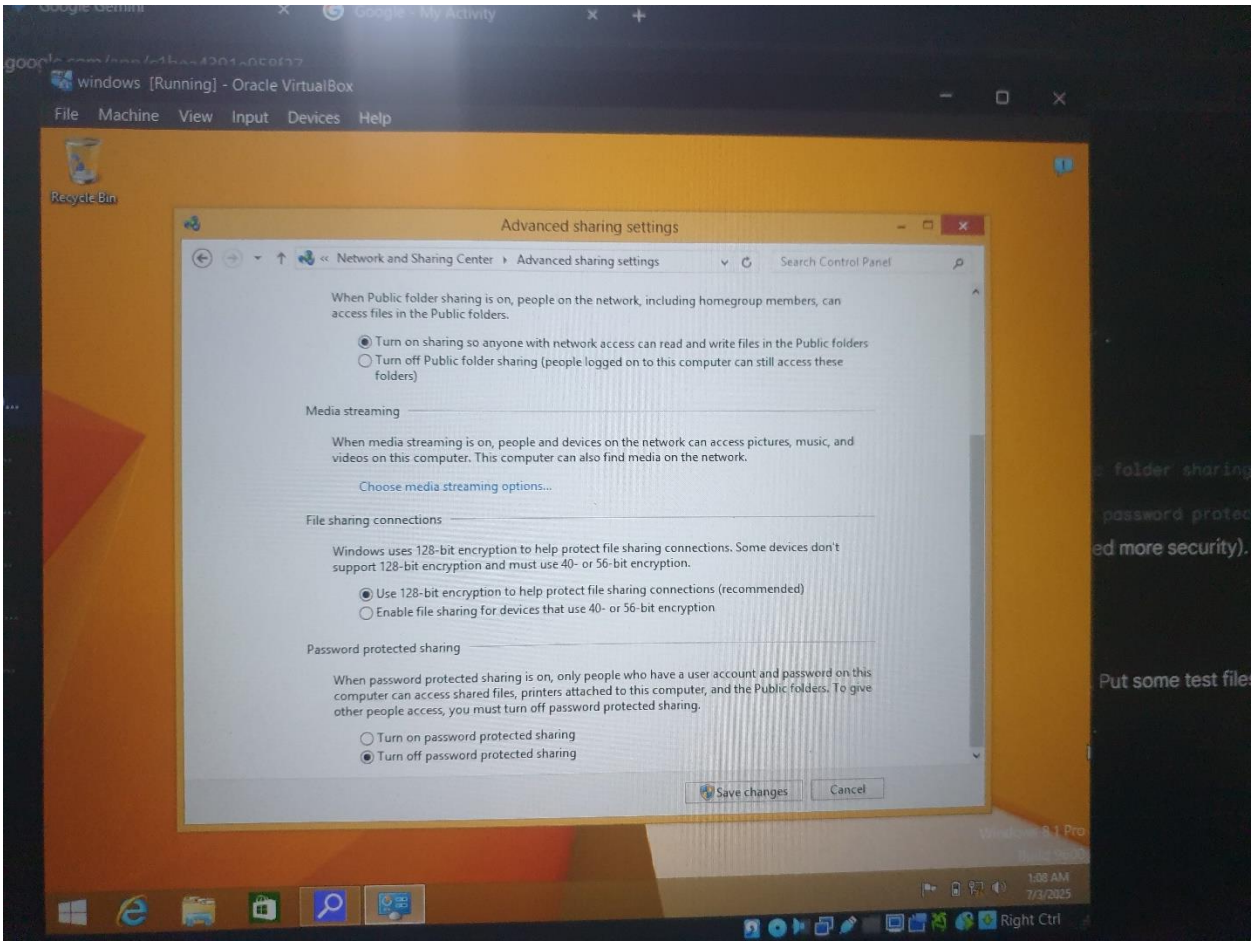
SHARED DIRECTORIES

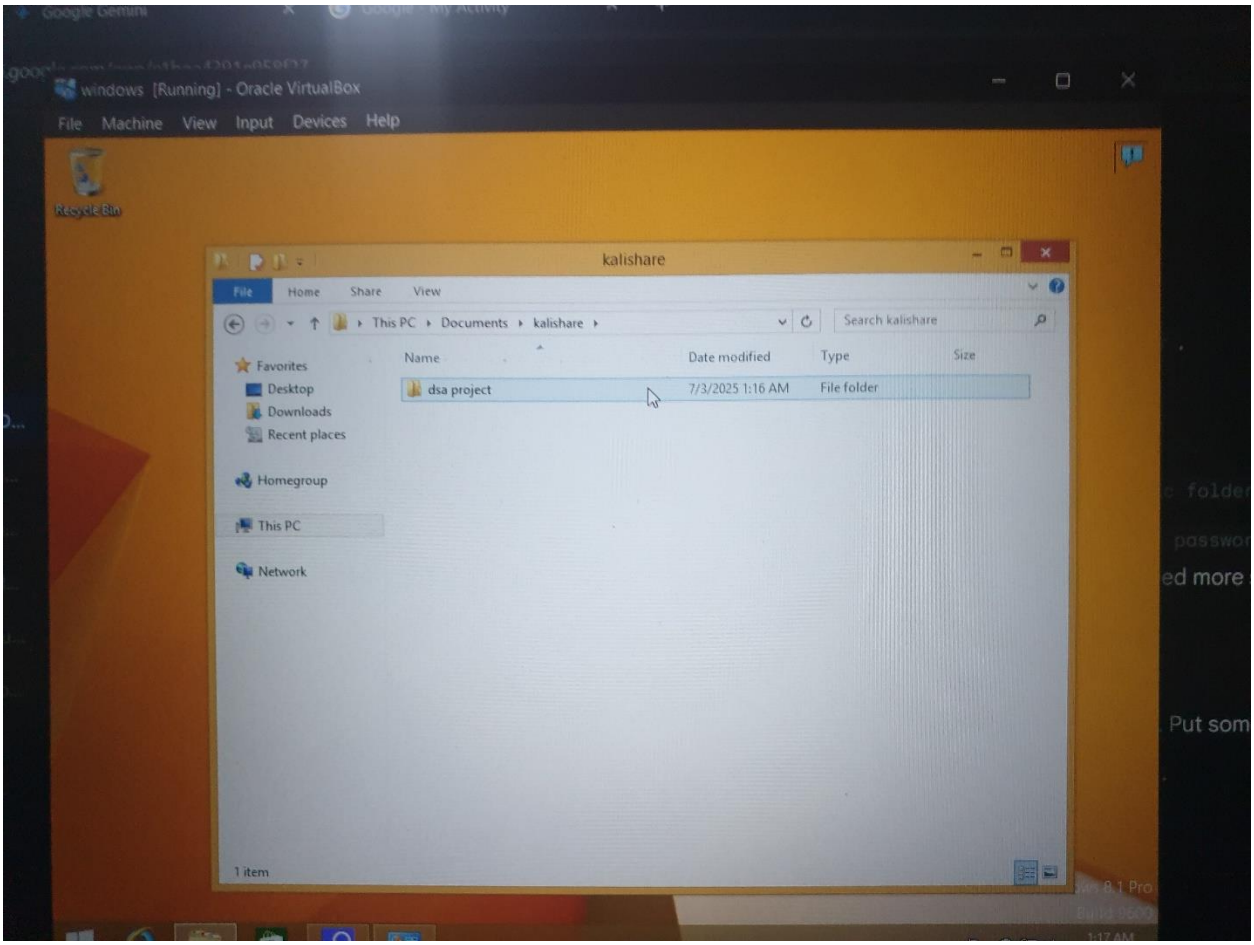
SHARED DIRECTORIES IS BEING CARRIED OUT BETWEEN BOTH VMS ALONG THE LINE I ENCOUNTERED SOME DIFFICULTIES LIKE NOT NAMING THE SHARED NAME FOLDER PROPERLY WHICH KEPT GIVING ME PERMISSION DENIED FOR ABOUT 4 ATTEMPT UNTIL I SUCCESSFULLY EXCUTE IT

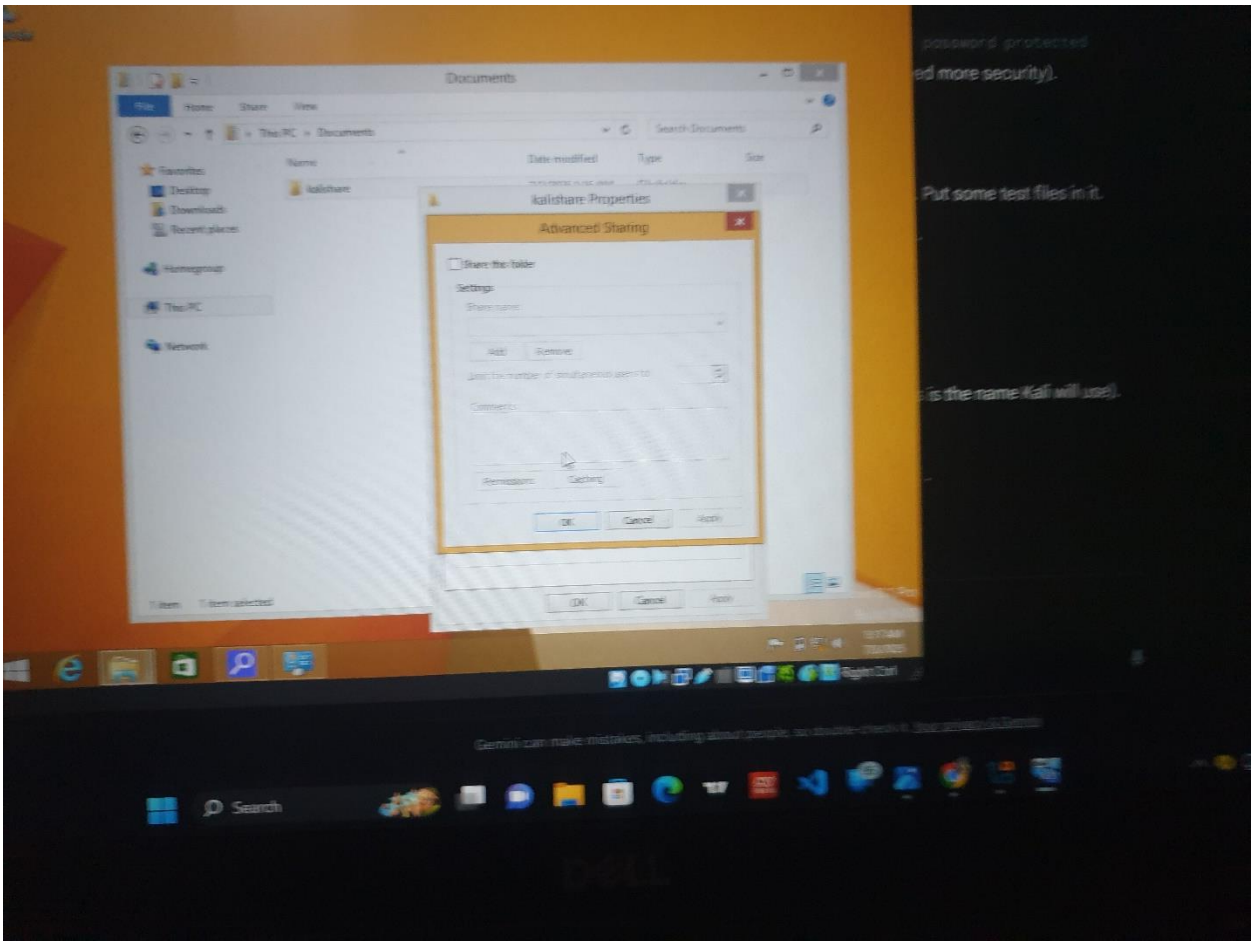

Help
wered Off
ws server
wered Off
wered Off
machine
wered Off
wered Off
windows [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Recycle Bin
Control Panel
Control Panel
Search Control Panel
Adjust your computer's settings
View by: Category
System and Security
Review your computer's status
Save backup copies of your files with File History
Find and fix problems
Network and Internet
Connect to the Internet
View network status and tasks
Choose homegroup and sharing options
Hardware and Sound
View devices and printers
Add a device
Adjust commonly used mobility settings
Programs
Uninstall a program
User Accounts and Family Safety
Change account type
Set up Family Safety for any user
Appearance and Personalization
Change the theme
Change desktop background
Adjust screen resolution
Clock, Language, and Region
Add a language
Change input methods
Change date, time, or number formats
Ease of Access
Let Windows suggest settings
Optimize visual display
Right Ctrl

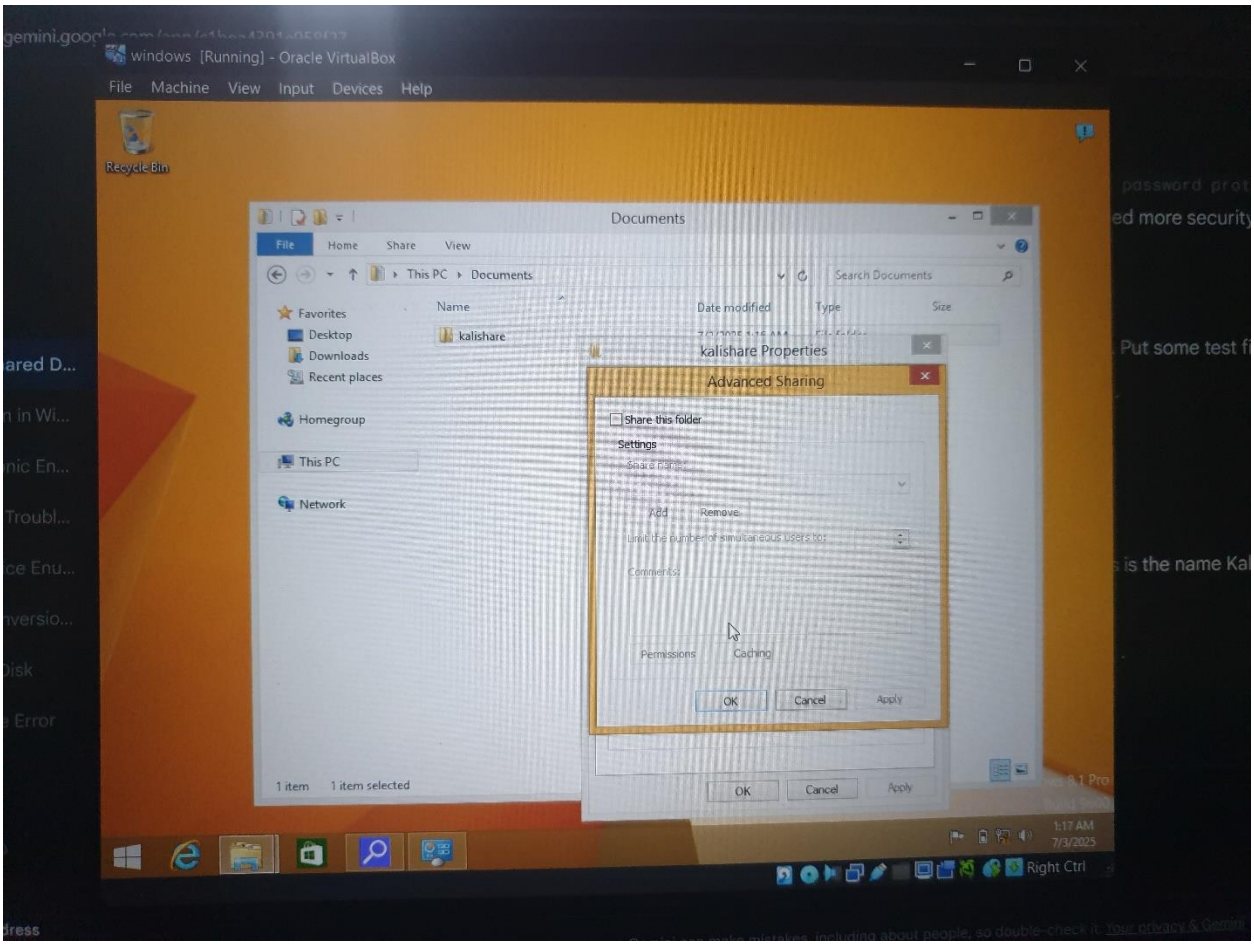

indows [Running] - Oracle VirtualBox
Machine View Input Devices Help
Network and Internet
Control Panel ▸ Network and Internet ▸
Search Control Panel
Control Panel Home
System and Security
Network and Internet
Hardware and Sound
Programs
User Accounts and Family Safety
Appearance and Personalization
Clock, Language, and Region
Ease of Access
Network and Sharing Center
Network and Sharing Center
Check network status, change network settings and set preferences for sharing files and printers.
HomeGroup
Internet Options
Connect to the Internet
Change your homepage
Manage browser add-ons
Delete browsing history and cookies

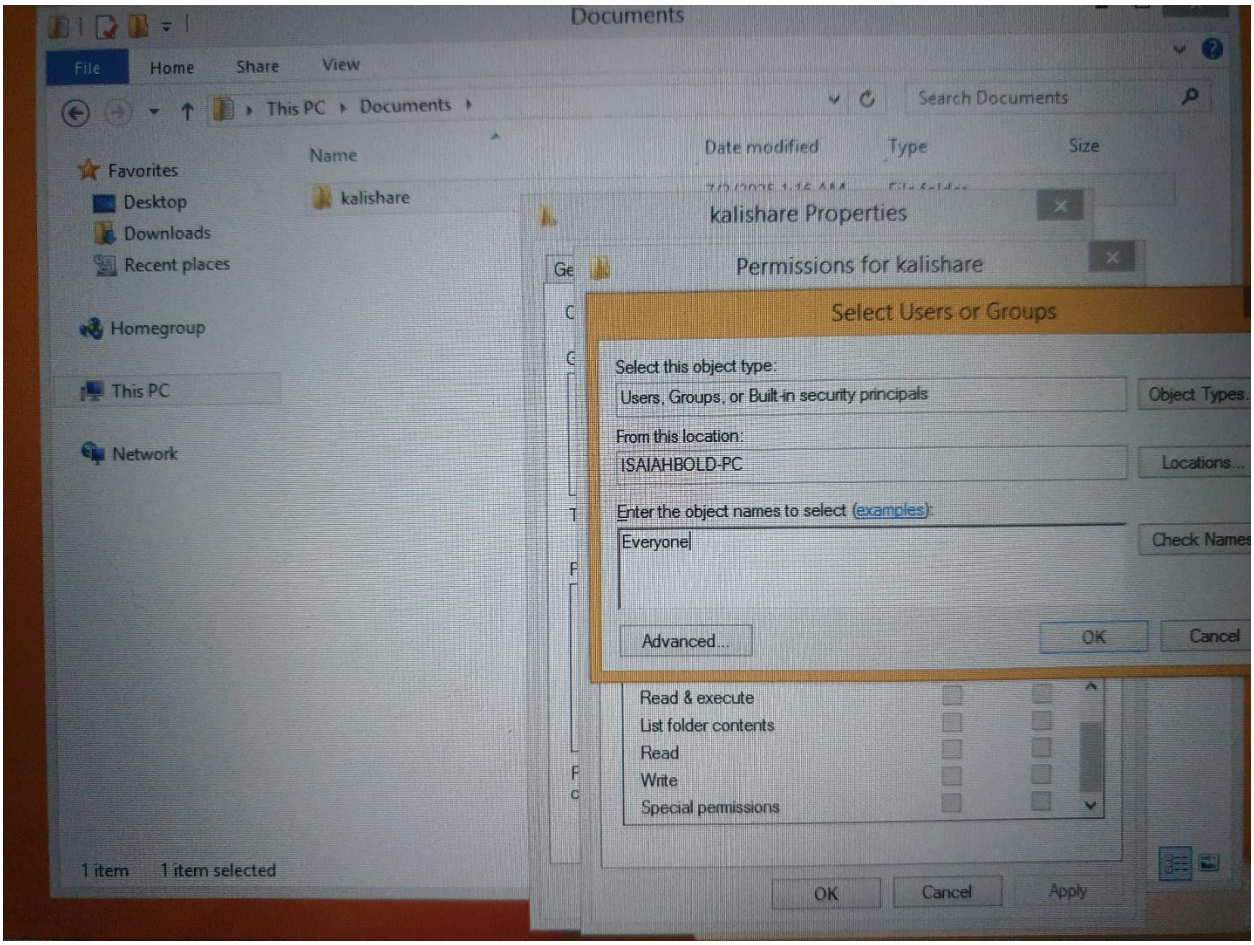

File Machine View Input Devices Help
Recycle Bin
Advanced sharing settings
« Network and Sharing Center › Advanced sharing settings
Search Control Panel
Change sharing options for different network profiles
Windows creates a separate network profile for each network you use. You can choose specific options for each profile.
Private
Guest or Public (current profile)
Network discovery
When network discovery is on, this computer can see other network computers and devices and is visible to other network computers.
Turn on network discovery
Turn off network discovery
File and printer sharing
When file and printer sharing is on, files and printers that you have shared from this computer can be accessed by people on the network.
Turn on file and printer sharing
Turn off file and printer sharing
All Networks
Save changes
Cancel
Windows 8.1 Pro
1:06 AM
7/3/2025

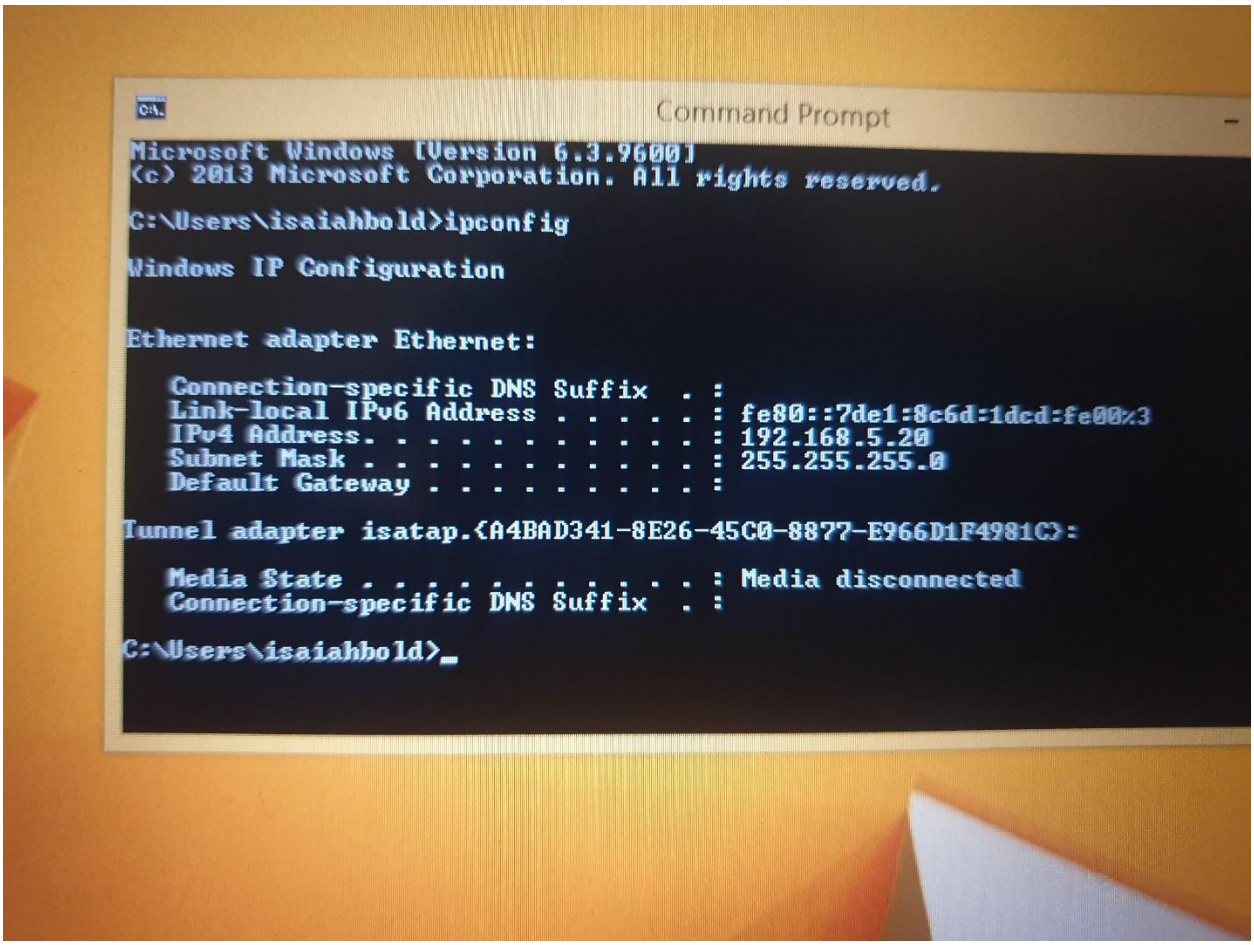

windows [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Recycle Bin
Advanced sharing settings
Network and Sharing Center › Advanced sharing settings
Search Control Panel
When Public folder sharing is on, people on the network, including homegroup members, can access files in the Public folders.
Turn on sharing so anyone with network access can read and write files in the Public folders
Turn off Public folder sharing (people logged on to this computer can still access these folders)
Media streaming
When media streaming is on, people and devices on the network can access pictures, music, and videos on this computer. This computer can also find media on the network.
Choose media streaming options...
File sharing connections
Windows uses 128-bit encryption to help protect file sharing connections. Some devices don't support 128-bit encryption and must use 40- or 56-bit encryption.
Use 128-bit encryption to help protect file sharing connections (recommended)
Enable file sharing for devices that use 40- or 56-bit encryption
Password protected sharing
When password protected sharing is on, only people who have a user account and password on this computer can access shared files, printers attached to this computer, and the Public folders. To give other people access, you must turn off password protected sharing.
Turn on password protected sharing
Turn off password protected sharing
Save changes
Cancel
Right Ctrl

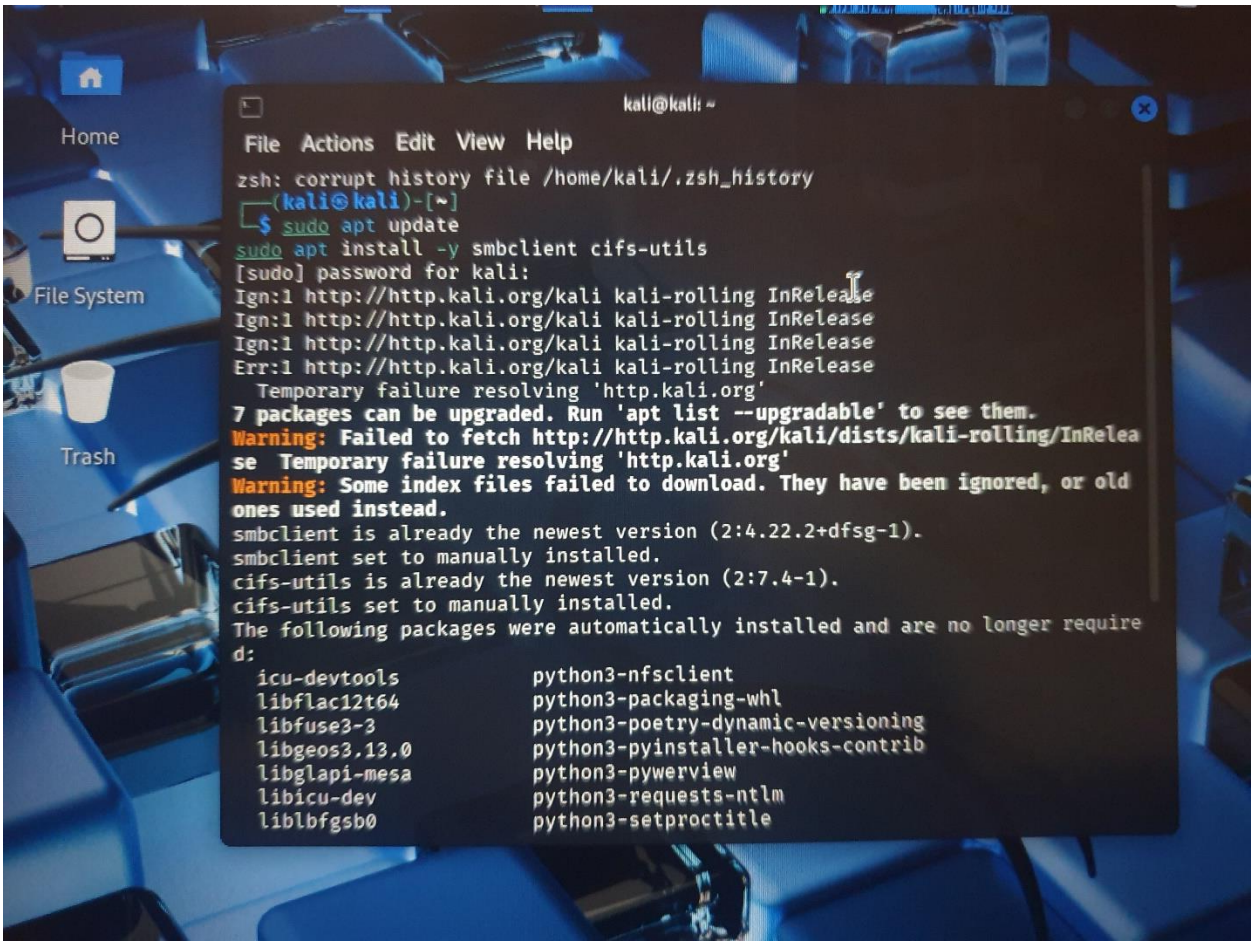

windows [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Recycle Bin
kalishare
File Home Share View
This PC ▸ Documents ▸ kalishare ▸
Search kalishare
Favorites
Desktop
Downloads
Recent places
Homegroup
This PC
Network
Name
Date modified
Type
Size
dsa project
7/3/2025 1:16 AM
File folder
1 item

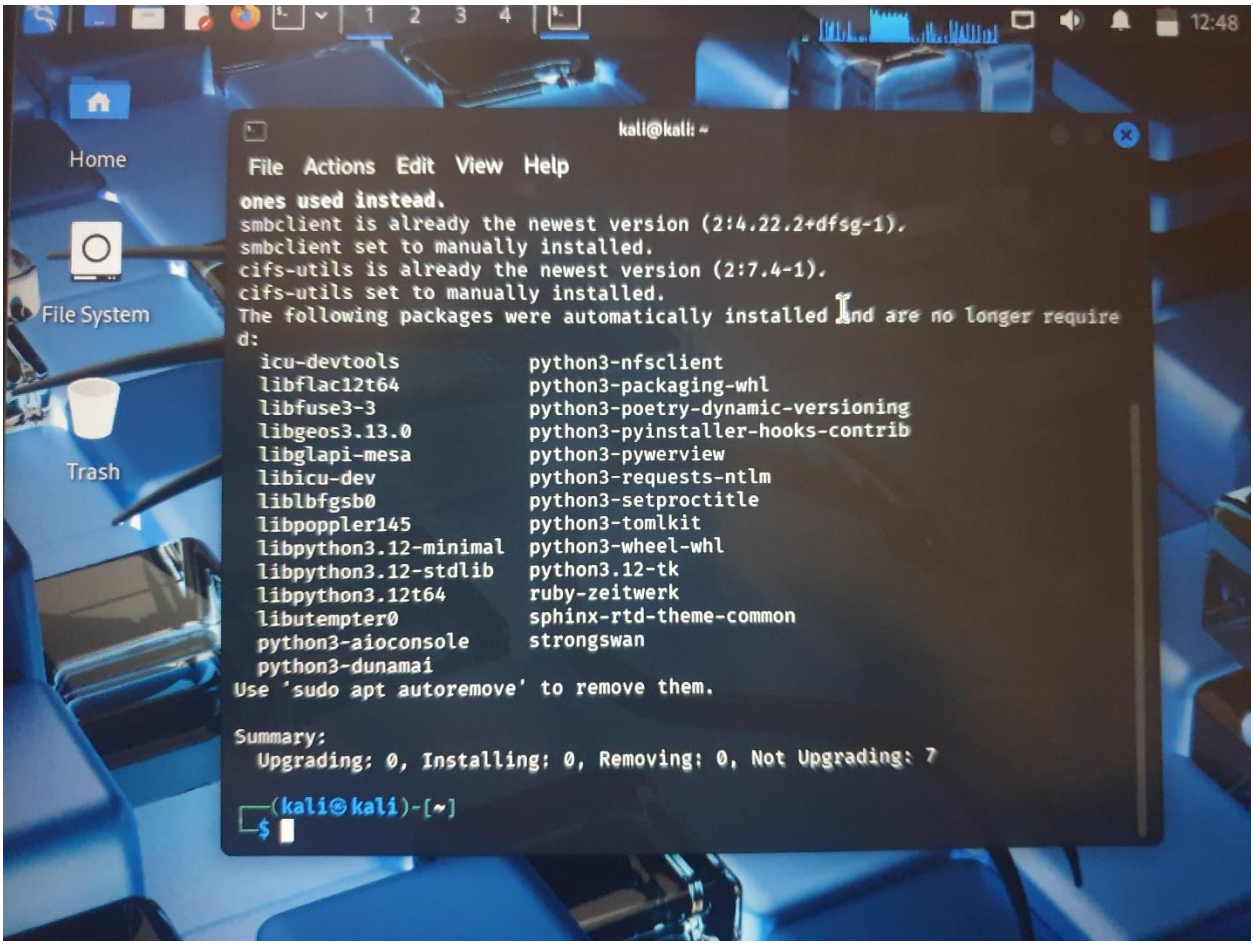

Documents
kalishare Properties
Advanced Sharing
Share this folder
Settings
Share name
Add
Remove
Limit the number of simultaneous users to
Comments
Permissions
Caching
OK
Cancel
Apply
Search
password protected
ed more security).
Put some test files in it.
is the name Kali will use).

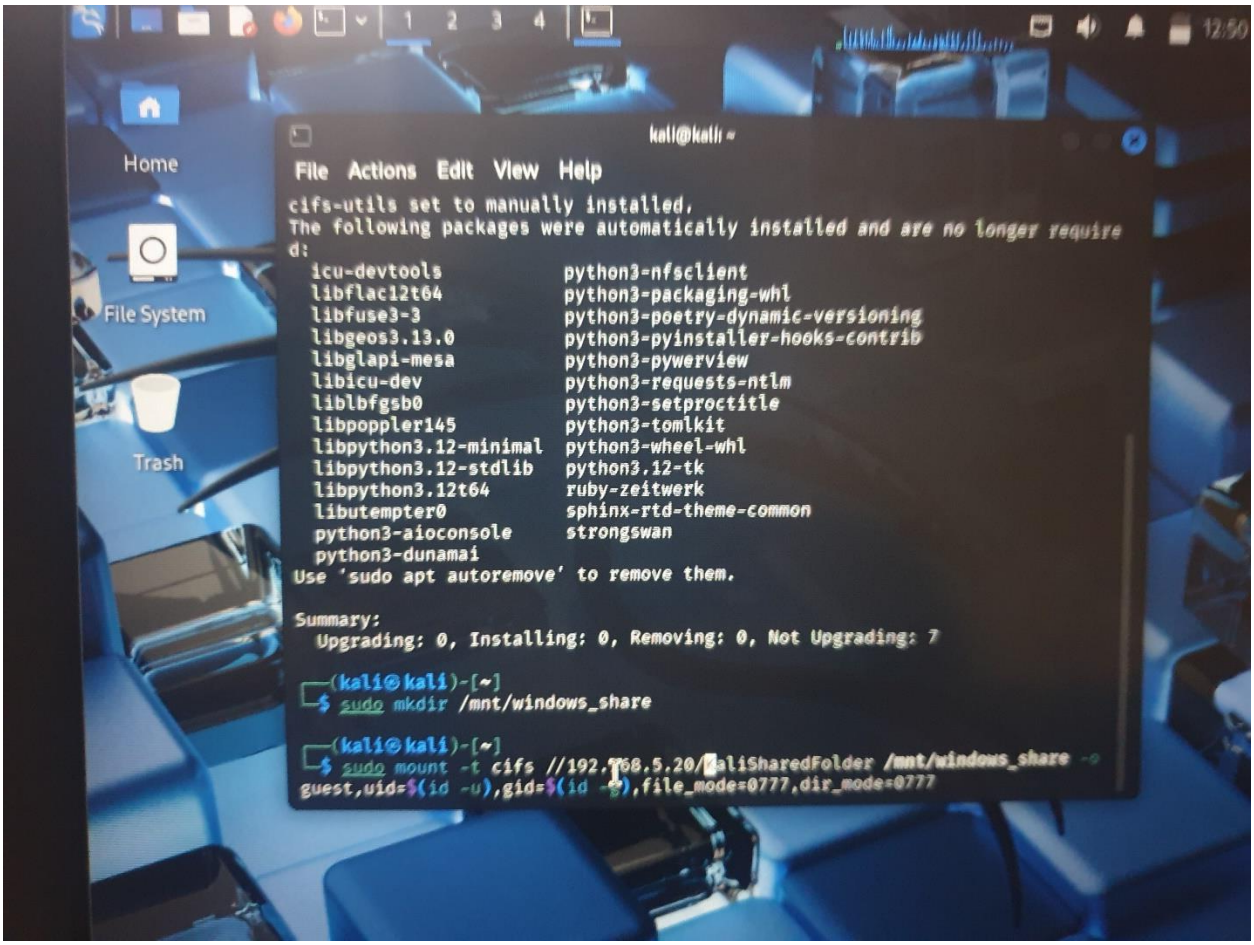

windows [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Recycle Bin
Documents
File Home Share View
This PC ▸ Documents
Search Documents
Favorites
Desktop
Downloads
Recent places
Homegroup
This PC
Network
Name
Date modified
Type
Size
kalishare
kalishare Properties
Advanced Sharing
Share this folder
Settings
Add
Remove
Comments:
Permissions
Caching
OK
Cancel
Apply
1 item
1 item selected
1:17 AM
7/3/2025
Right Ctrl

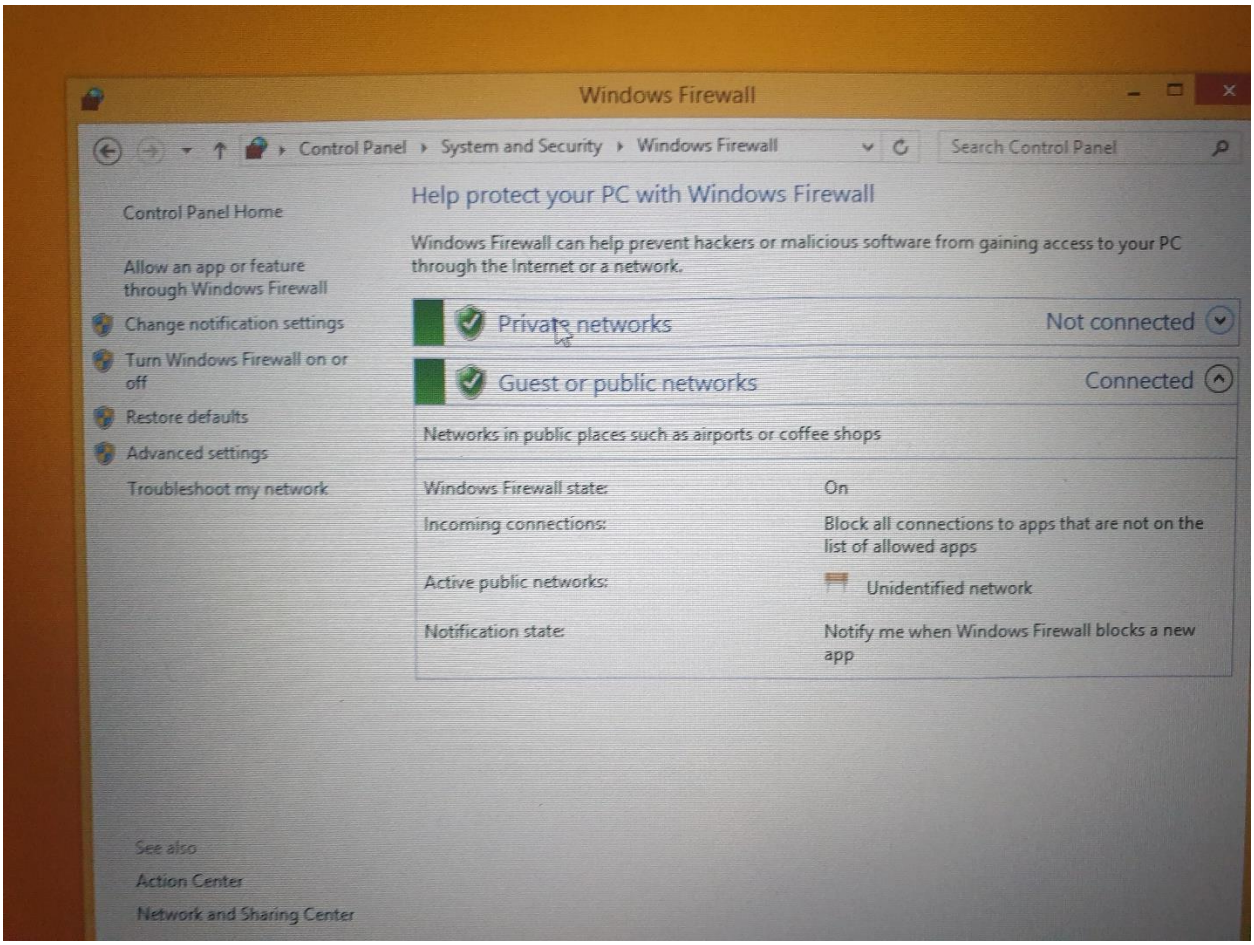

Documents
File
Home
Share
View
This PC
Documents
Search Documents
Favorites
Desktop
Downloads
Recent places
Homegroup
This PC
Network
Name
kalishare
Date modified
Type
Size
kalishare Properties
Permissions for kalishare
Select Users or Groups
Select this object type:
Users, Groups, or Built-in security principals
Object Types...
From this location:
ISAIAHBOLD-PC
Locations...
Enter the object names to select (examples):
Everyone
Check Names
Advanced...
OK
Cancel
Read & execute
List folder contents
Read
Write
Special permissions
1 item
1 item selected
OK
Cancel
Apply

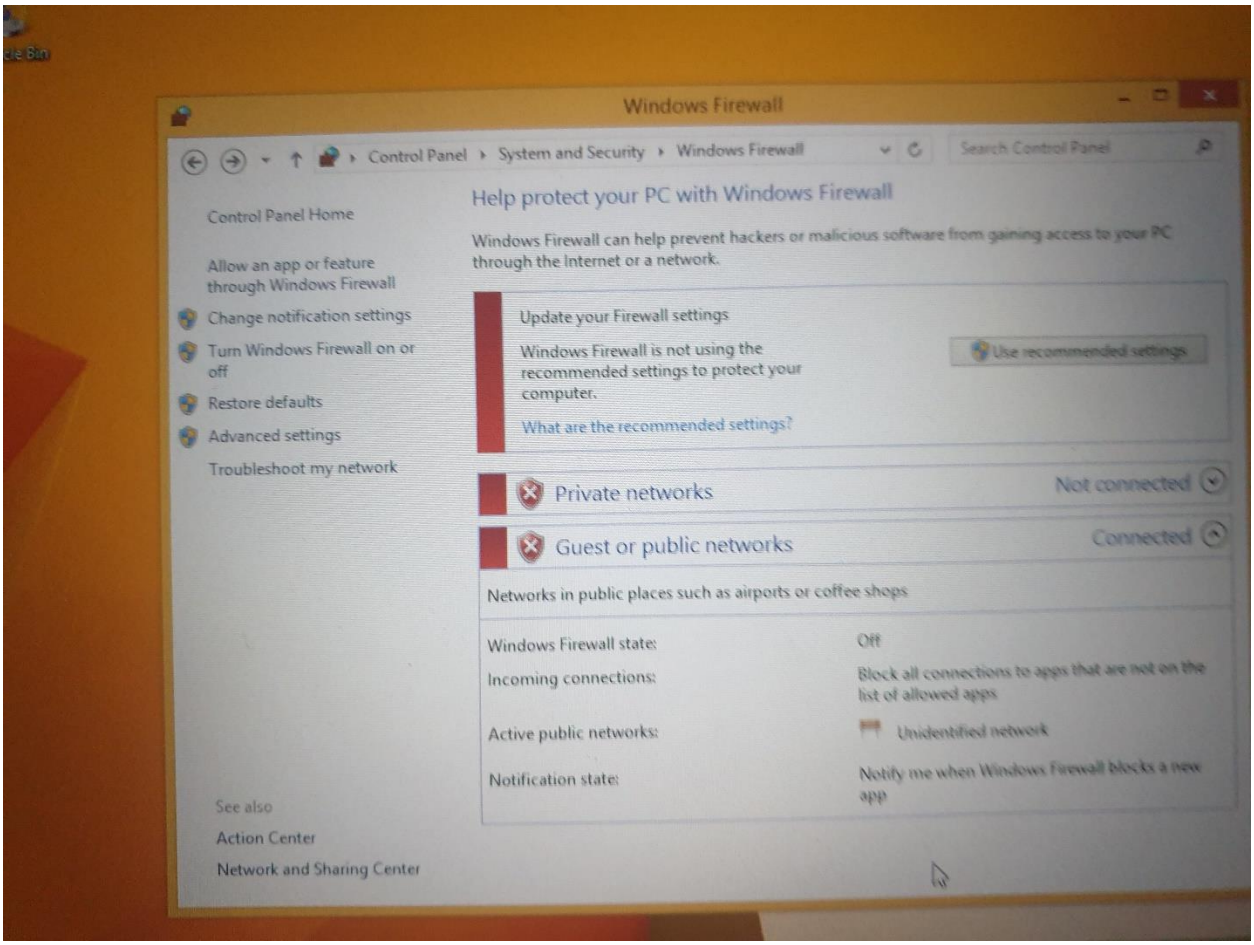

Command Prompt
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.
C:\Users\isaiahbold>ipconfig
Windows IP Configuration
Ethernet adapter Ethernet:
Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::7de1:8c6d:1dcd:fe00%3
IPv4 Address. . . . . : 192.168.5.20
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :
Tunnel adapter isatap.{A4BAD341-8E26-45C0-8877-E966D1F4981C}:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
C:\Users\isaiahbold>


Home
File System
Trash
kali@kali: ~
File Actions Edit View Help
zsh: corrupt history file /home/kali/.zsh_history
┌──(kali㉿kali)-[~]
└─$ sudo apt update
sudo apt install -y smbclient cifs-utils
[sudo] password for kali:
Ign:1 http://http.kali.org/kali kali-rolling InRelease
Ign:1 http://http.kali.org/kali kali-rolling InRelease
Ign:1 http://http.kali.org/kali kali-rolling InRelease
Err:1 http://http.kali.org/kali kali-rolling InRelease
Temporary failure resolving 'http.kali.org'
7 packages can be upgraded. Run 'apt list --upgradable' to see them.
Warning: Failed to fetch http://http.kali.org/kali/dists/kali-rolling/InRelease Temporary failure resolving 'http.kali.org'
Warning: Some index files failed to download. They have been ignored, or old ones used instead.
smbclient is already the newest version (2:4.22.2+dfsg-1).
smbclient set to manually installed.
cifs-utils is already the newest version (2:7.4-1).
cifs-utils set to manually installed.
The following packages were automatically installed and are no longer required:
icu-devtools
libflac12t64
libfuse3-3
libgeos3.13.0
libglapi-mesa
libicu-dev
liblbfgsb0
python3-nfsclient
python3-packaging-whl
python3-poetry-dynamic-versioning
python3-pyinstaller-hooks-contrib
python3-pywerview
python3-requests-ntlm
python3-setproctitle

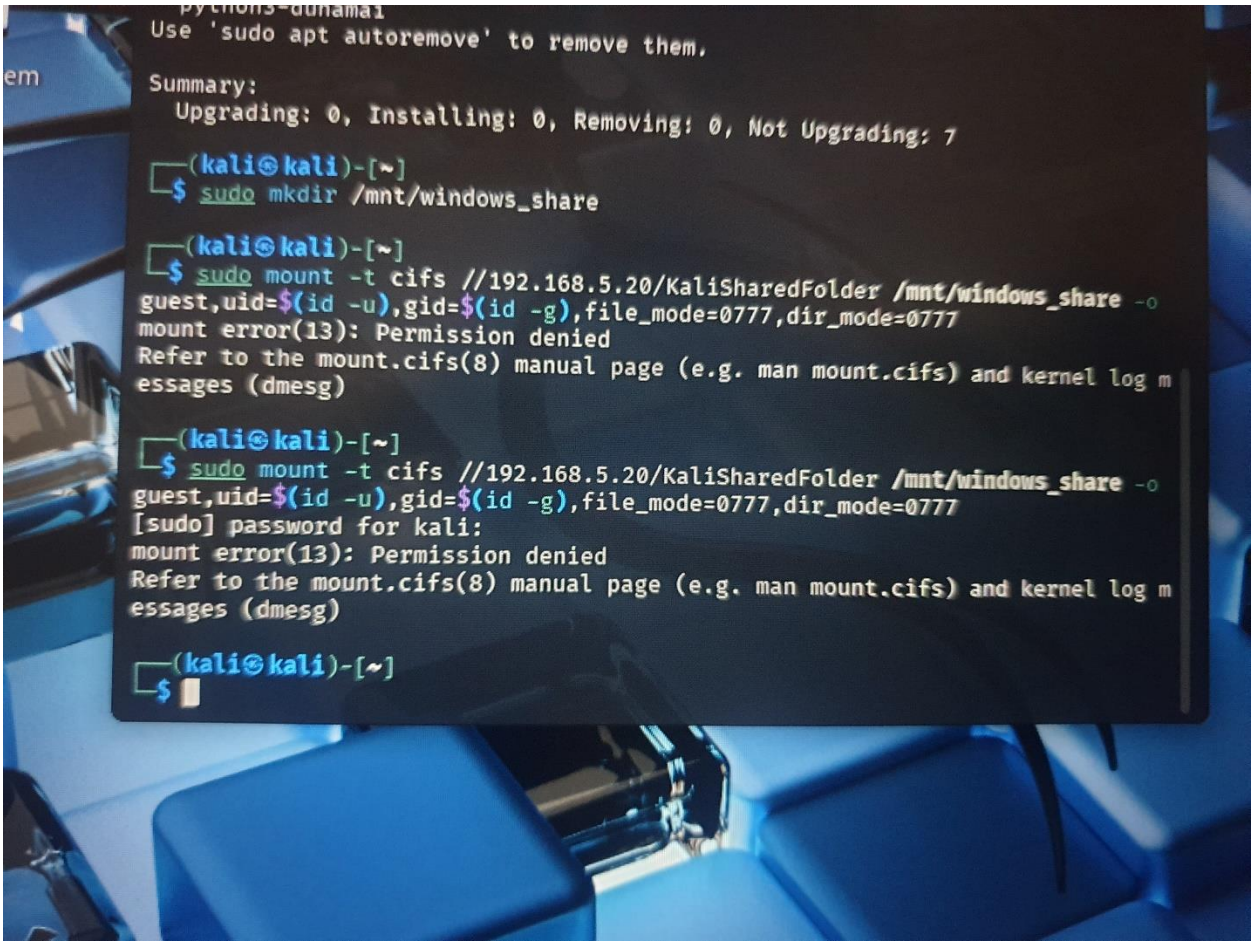

1 2 3 4
12:48
Home
File System
Trash
kali@kali: ~
File Actions Edit View Help
ones used instead.
smbclient is already the newest version (2:4.22.2+dfsg-1).
smbclient set to manually installed.
cifs-utils is already the newest version (2:7.4-1).
cifs-utils set to manually installed.
The following packages were automatically installed and are no longer required:
icu-devtools
libflac12t64
libfuse3-3
libgeos3.13.0
libglapi-mesa
libicu-dev
liblbfgsb0
libpoppler145
libpython3.12-minimal
libpython3.12-stdlib
libpython3.12t64
libutempter0
python3-aioconsole
python3-dunamai
python3-nfsclient
python3-packaging-whl
python3-poetry-dynamic-versioning
python3-pyinstaller-hooks-contrib
python3-pywerview
python3-requests-ntlm
python3-setproctitle
python3-tomlkit
python3-wheel-whl
python3.12-tk
ruby-zeitwerk
sphinx-rtd-theme-common
strongswan
Use 'sudo apt autoremove' to remove them.
Summary:
Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 7
(kali㉿kali)-[~]
$

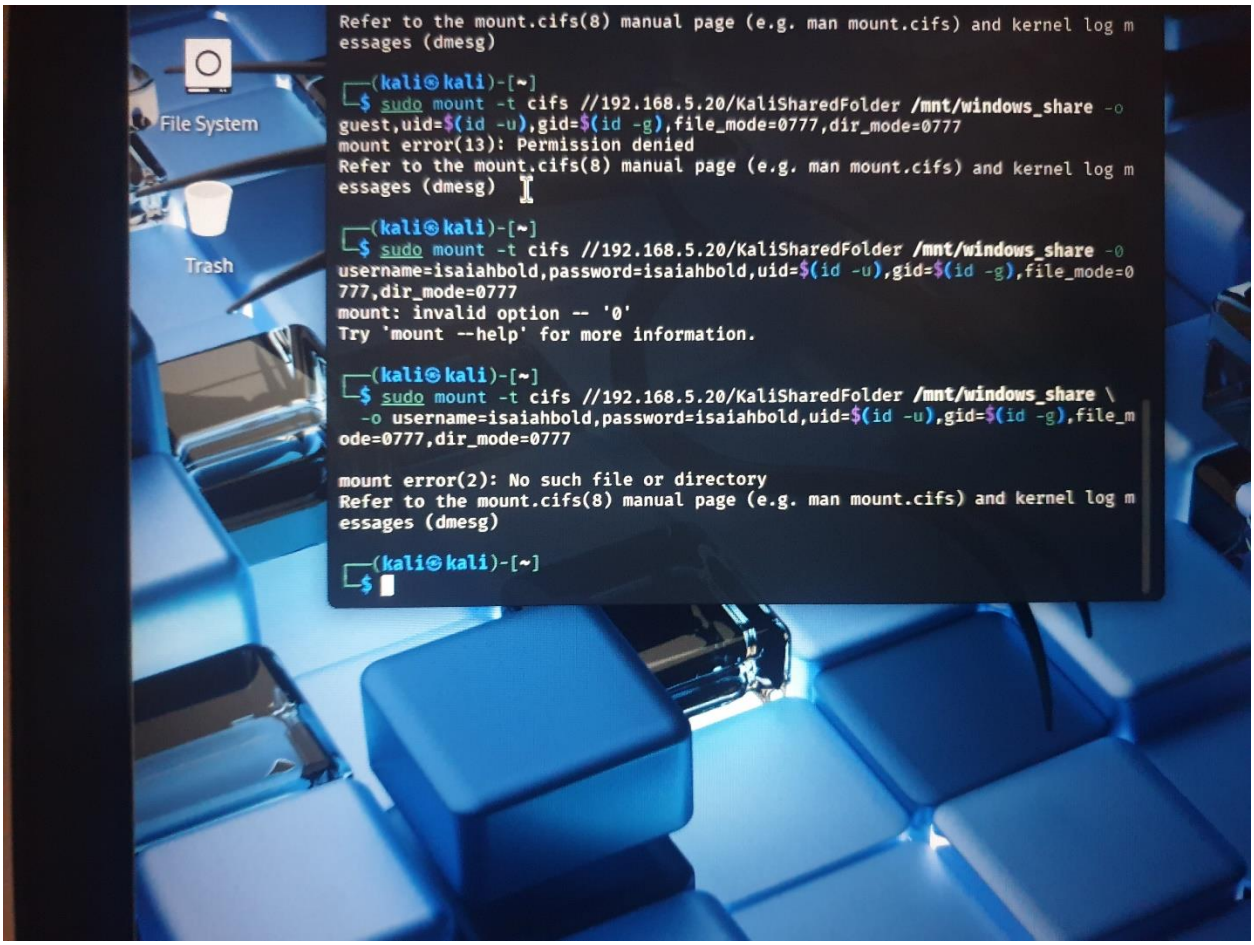

Home
File System
Trash
kali@kali: ~
File Actions Edit View Help
cifs-utils set to manually installed.
The following packages were automatically installed and are no longer required:
icu-devtools
libflac12t64
libfuse3-3
libgeos3.13.0
libglapi-mesa
libicu-dev
liblbfgsb0
libpoppler145
libpython3.12-minimal
libpython3.12-stdlib
libpython3.12t64
libutempter0
python3-aioconsole
python3-dunamai
python3-nfsclient
python3-packaging-whl
python3-poetry-dynamic-versioning
python3-pyinstaller-hooks-contrib
python3-pywerview
python3-requests-ntlm
python3-setproctitle
python3-tomlkit
python3-wheel-whl
python3.12-tk
ruby-zeitwerk
sphinx-rtd-theme-common
strongswan
Use 'sudo apt autoremove' to remove them.
Summary:
Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 7
(kali㉿kali)-[~]
$ sudo mkdir /mnt/windows_share
(kali㉿kali)-[~]
$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share -o guest,uid=$(id -u),gid=$(id -g),file_mode=0777,dir_mode=0777


Windows Firewall
Control Panel › System and Security › Windows Firewall
Search Control Panel
Control Panel Home
Allow an app or feature through Windows Firewall
Change notification settings
Turn Windows Firewall on or off
Restore defaults
Advanced settings
Troubleshoot my network
Help protect your PC with Windows Firewall
Windows Firewall can help prevent hackers or malicious software from gaining access to your PC through the Internet or a network.
Private networks
Not connected
Guest or public networks
Connected
Networks in public places such as airports or coffee shops
Windows Firewall state:
On
Incoming connections:
Block all connections to apps that are not on the list of allowed apps
Active public networks:
Unidentified network
Notification state:
Notify me when Windows Firewall blocks a new app
See also
Action Center
Network and Sharing Center

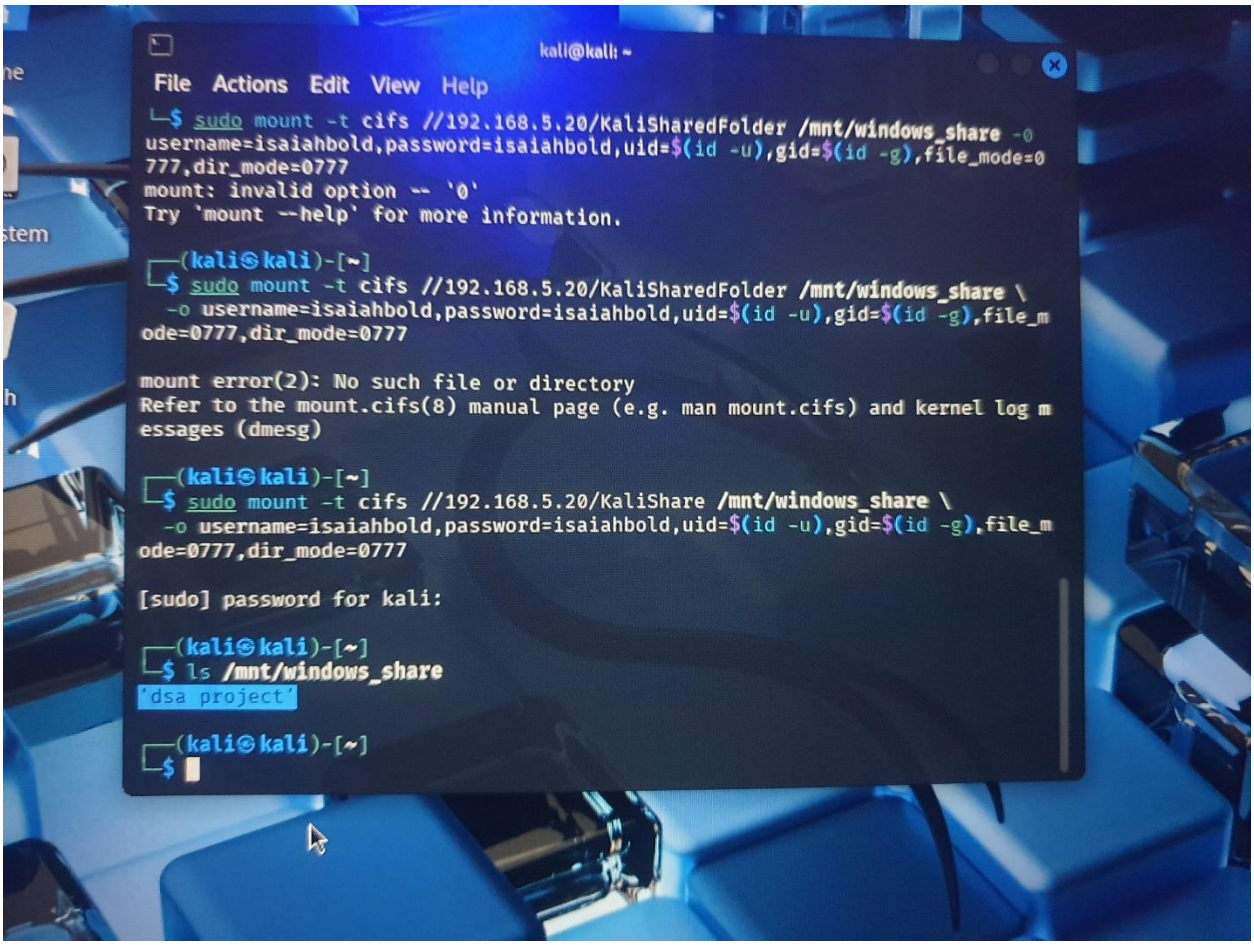

Windows Firewall
Control Panel › System and Security › Windows Firewall
Search Control Panel
Control Panel Home
Allow an app or feature through Windows Firewall
Change notification settings
Turn Windows Firewall on or off
Restore defaults
Advanced settings
Troubleshoot my network
Help protect your PC with Windows Firewall
Windows Firewall can help prevent hackers or malicious software from gaining access to your PC through the Internet or a network.
Update your Firewall settings
Windows Firewall is not using the recommended settings to protect your computer.
What are the recommended settings?
Use recommended settings
Private networks
Not connected
Guest or public networks
Connected
Networks in public places such as airports or coffee shops
Windows Firewall state:
Off
Incoming connections:
Block all connections to apps that are not on the list of allowed apps
Active public networks:
Unidentified network
Notification state:
Notify me when Windows Firewall blocks a new app
See also
Action Center
Network and Sharing Center

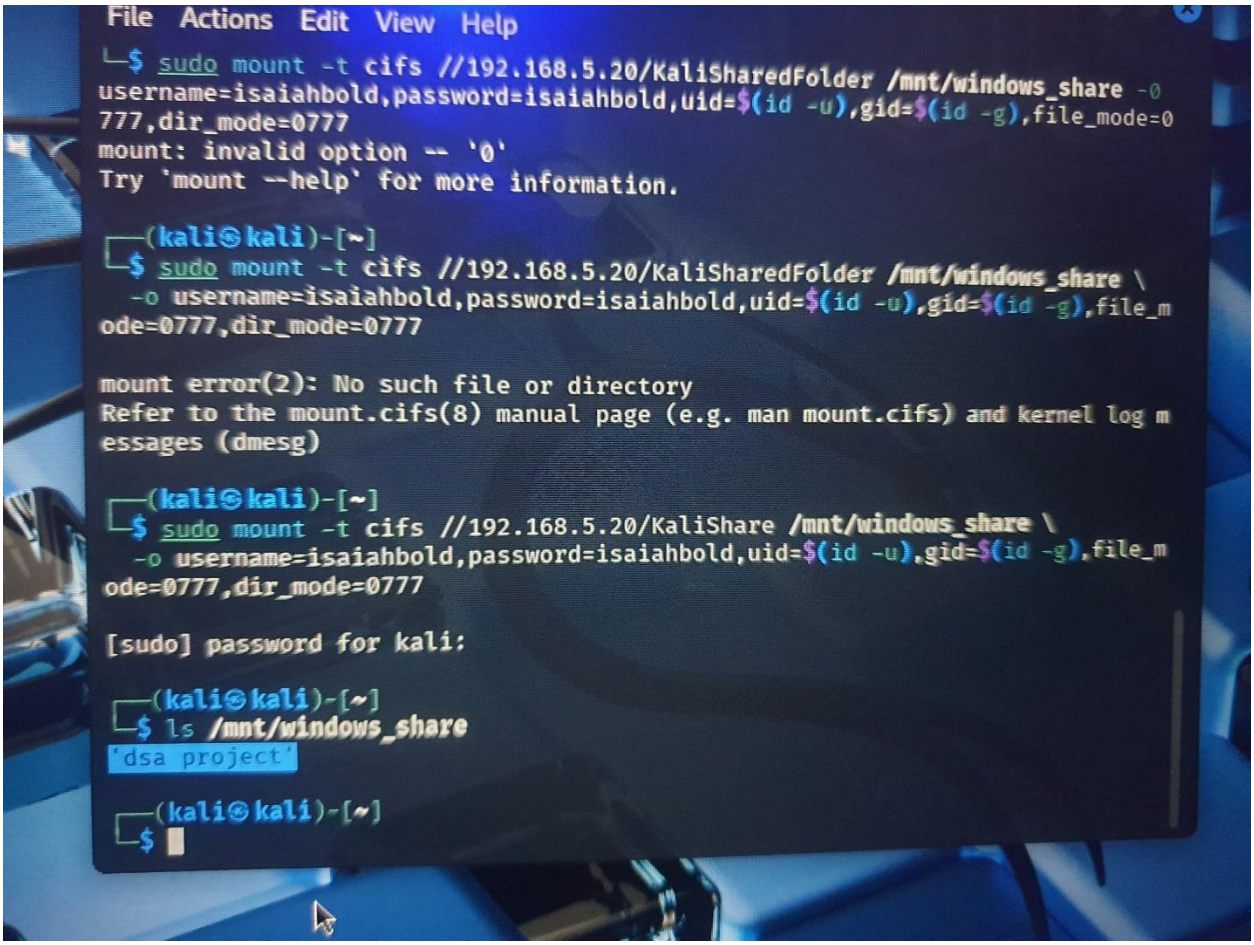

essages (dmesg)
(kali㉿kali)-[~]
$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share -o guest,uid=$(id -u),gid=$(id -g),file_mode=0777,dir_mode=0777
[sudo] password for kali:
mount error(13): Permission denied
Refer to the mount.cifs(8) manual page (e.g. man mount.cifs) and kernel log messages (dmesg)
(kali㉿kali)-[~]
$

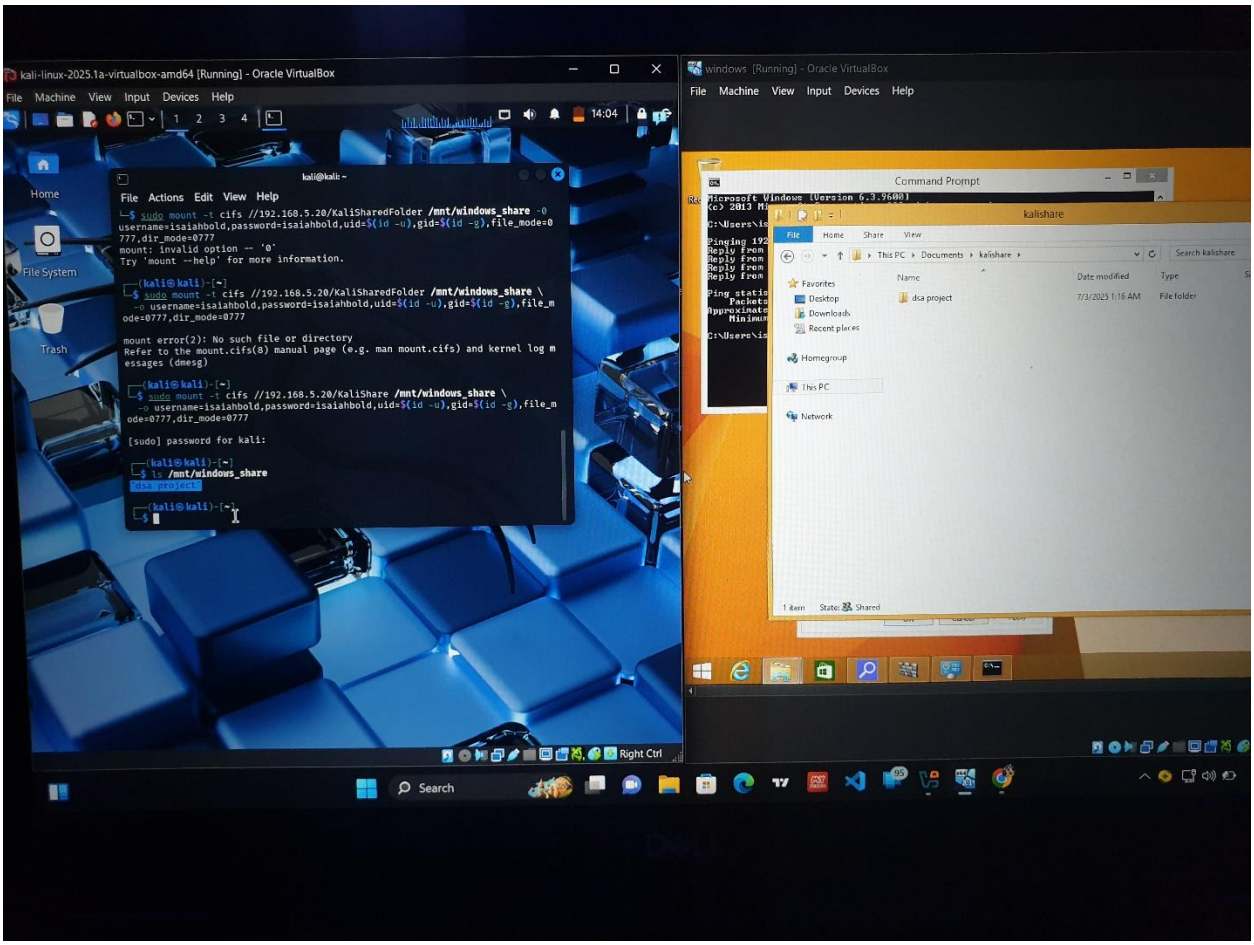

python3-dunamai
Use 'sudo apt autoremove' to remove them.
Summary:
Upgrading: 0, Installing: 0, Removing: 0, Not Upgrading: 7
(kali㉿kali)-[~]
$ sudo mkdir /mnt/windows_share
(kali㉿kali)-[~]
$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share -o guest,uid=$(id -u),gid=$(id -g),file_mode=0777,dir_mode=0777
mount error(13): Permission denied
Refer to the mount.cifs(8) manual page (e.g. man mount.cifs) and kernel log messages (dmesg)
(kali㉿kali)-[~]
$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share -o guest,uid=$(id -u),gid=$(id -g),file_mode=0777,dir_mode=0777
[sudo] password for kali:
mount error(13): Permission denied
Refer to the mount.cifs(8) manual page (e.g. man mount.cifs) and kernel log messages (dmesg)
(kali㉿kali)-[~]
$


File System
Trash
Refer to the mount.cifs(8) manual page (e.g. man mount.cifs) and kernel log m
essages (dmesg)
(kali㉿kali)-[~]
$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share -o
guest,uid=$(id -u),gid=$(id -g),file_mode=0777,dir_mode=0777
mount error(13): Permission denied
Refer to the mount.cifs(8) manual page (e.g. man mount.cifs) and kernel log m
essages (dmesg)
(kali㉿kali)-[~]
$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share -0
username=isaiahbold,password=isaiahbold,uid=$(id -u),gid=$(id -g),file_mode=0
777,dir_mode=0777
mount: invalid option -- '0'
Try 'mount --help' for more information.
(kali㉿kali)-[~]
$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share \
-o username=isaiahbold,password=isaiahbold,uid=$(id -u),gid=$(id -g),file_m
ode=0777,dir_mode=0777
mount error(2): No such file or directory
Refer to the mount.cifs(8) manual page (e.g. man mount.cifs) and kernel log m
essages (dmesg)
(kali㉿kali)-[~]
$


Home
File System
Trash
kali@kali: ~
File Actions Edit View Help
Refer to the mount.cifs(8) manual page (e.g. man mount.cifs) and kernel log m
essages (dmesg)
(kali㉿kali)-[~]
$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share -o
username=isaiahbold,password=isaiahbold,uid=$(id -u),gid=$(id -g),file_mode=0
777,dir_mode=0777
mount: invalid option -- '0'
Try 'mount --help' for more information.
(kali㉿kali)-[~]
$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share \
-o username=isaiahbold,password=isaiahbold,uid=$(id -u),gid=$(id -g),file_m
ode=0777,dir_mode=0777
mount error(2): No such file or directory
Refer to the mount.cifs(8) manual page (e.g. man mount.cifs) and kernel log m
essages (dmesg)
(kali㉿kali)-[~]
$ sudo mount -t cifs //192.168.5.20/KaliShare /mnt/windows_share \
-o username=isaiahbold,password=isaiahbold,uid=$(id -u),gid=$(id -g),file_m
ode=0777,dir_mode=0777
[sudo] password for kali:
(kali㉿kali)-[~]
$


kali@kali: ~
File Actions Edit View Help
└─$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share -o username=isaiahbold,password=isaiahbold,uid=$(id -u),gid=$(id -g),file_mode=0777,dir_mode=0777
mount: invalid option -- '0'
Try 'mount --help' for more information.
┌──(kali㉿kali)-[~]
└─$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share \
-o username=isaiahbold,password=isaiahbold,uid=$(id -u),gid=$(id -g),file_mode=0777,dir_mode=0777
mount error(2): No such file or directory
Refer to the mount.cifs(8) manual page (e.g. man mount.cifs) and kernel log messages (dmesg)
┌──(kali㉿kali)-[~]
└─$ sudo mount -t cifs //192.168.5.20/KaliShare /mnt/windows_share \
-o username=isaiahbold,password=isaiahbold,uid=$(id -u),gid=$(id -g),file_mode=0777,dir_mode=0777
[sudo] password for kali:
┌──(kali㉿kali)-[~]
└─$ ls /mnt/windows_share
'dsa project'
┌──(kali㉿kali)-[~]
└─$

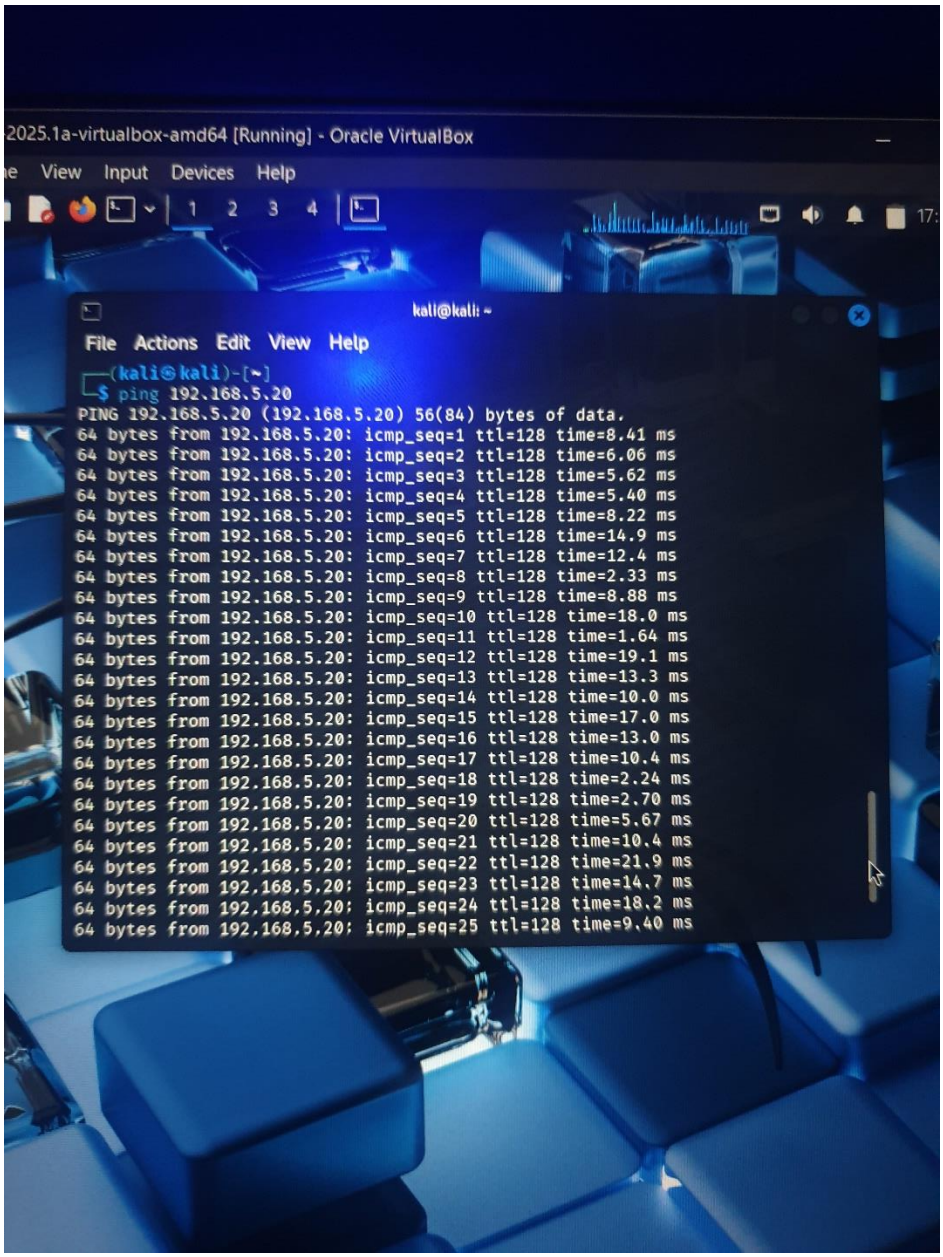

File Actions Edit View Help
└─$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share -o username=isaiahbold,password=isaiahbold,uid=$(id -u),gid=$(id -g),file_mode=0777,dir_mode=0777
mount: invalid option -- '0'
Try 'mount --help' for more information.
┌──(kali㉿kali)-[~]
└─$ sudo mount -t cifs //192.168.5.20/KaliSharedFolder /mnt/windows_share \
-o username=isaiahbold,password=isaiahbold,uid=$(id -u),gid=$(id -g),file_mode=0777,dir_mode=0777
mount error(2): No such file or directory
Refer to the mount.cifs(8) manual page (e.g. man mount.cifs) and kernel log messages (dmesg)
┌──(kali㉿kali)-[~]
└─$ sudo mount -t cifs //192.168.5.20/KaliShare /mnt/windows_share \
-o username=isaiahbold,password=isaiahbold,uid=$(id -u),gid=$(id -g),file_mode=0777,dir_mode=0777
[sudo] password for kali:
┌──(kali㉿kali)-[~]
└─$ ls /mnt/windows_share
'dsa project'
┌──(kali㉿kali)-[~]
└─$

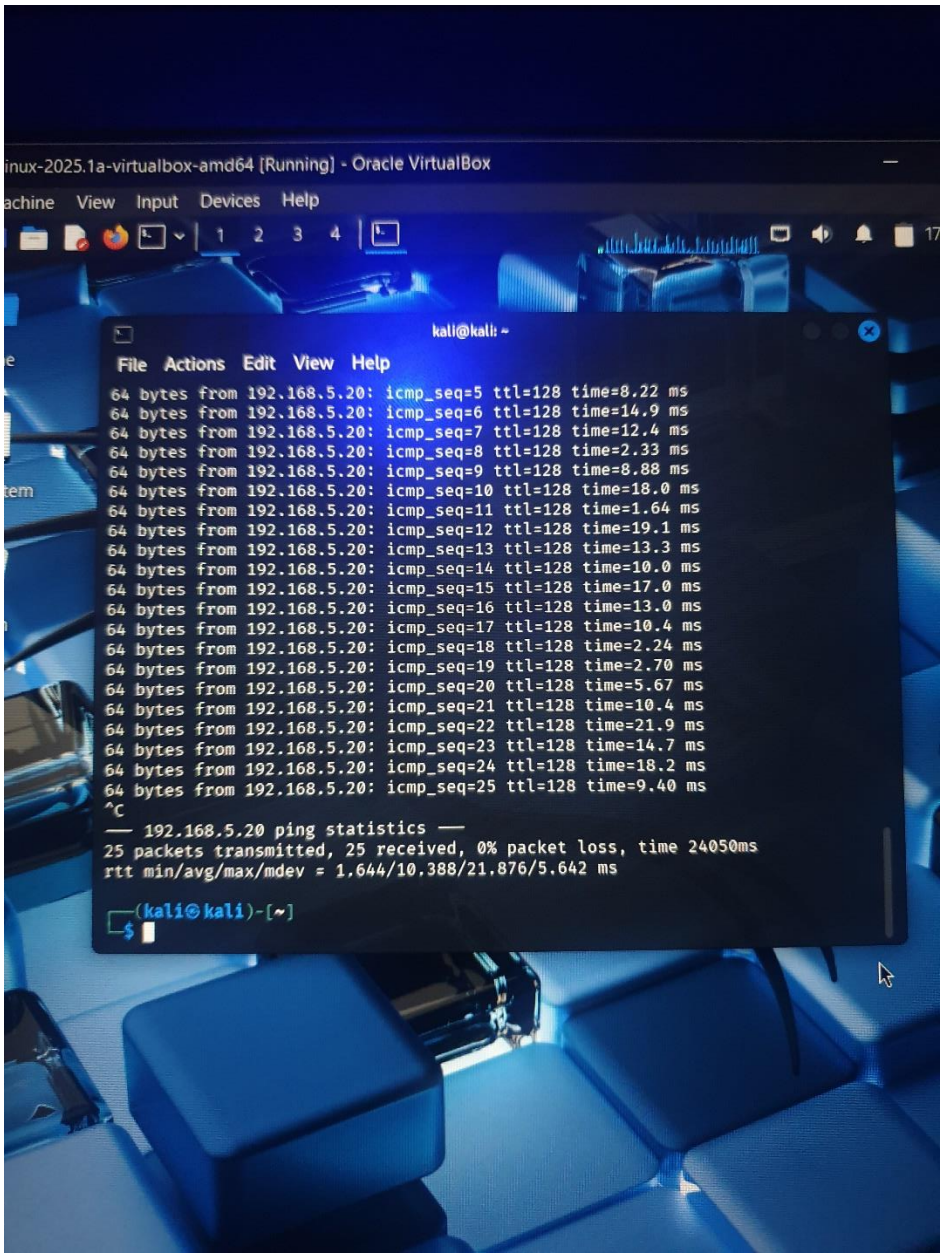


SERVICE ENUMERATION

I SUCCESSFULLY CARRIED OUT A CONNECTIVITY SERVICE ENUMERATION BETWEEN MY BOTH VMS KALI AND WINDOWS AFTER SUCCESSFULLY CARRYING OUT PINGING TEST BETWEEN BOTH AND SHARED DIRECTORIES BETWEEN BOTH VMS ALSO WHICH IS STATED ABOVE

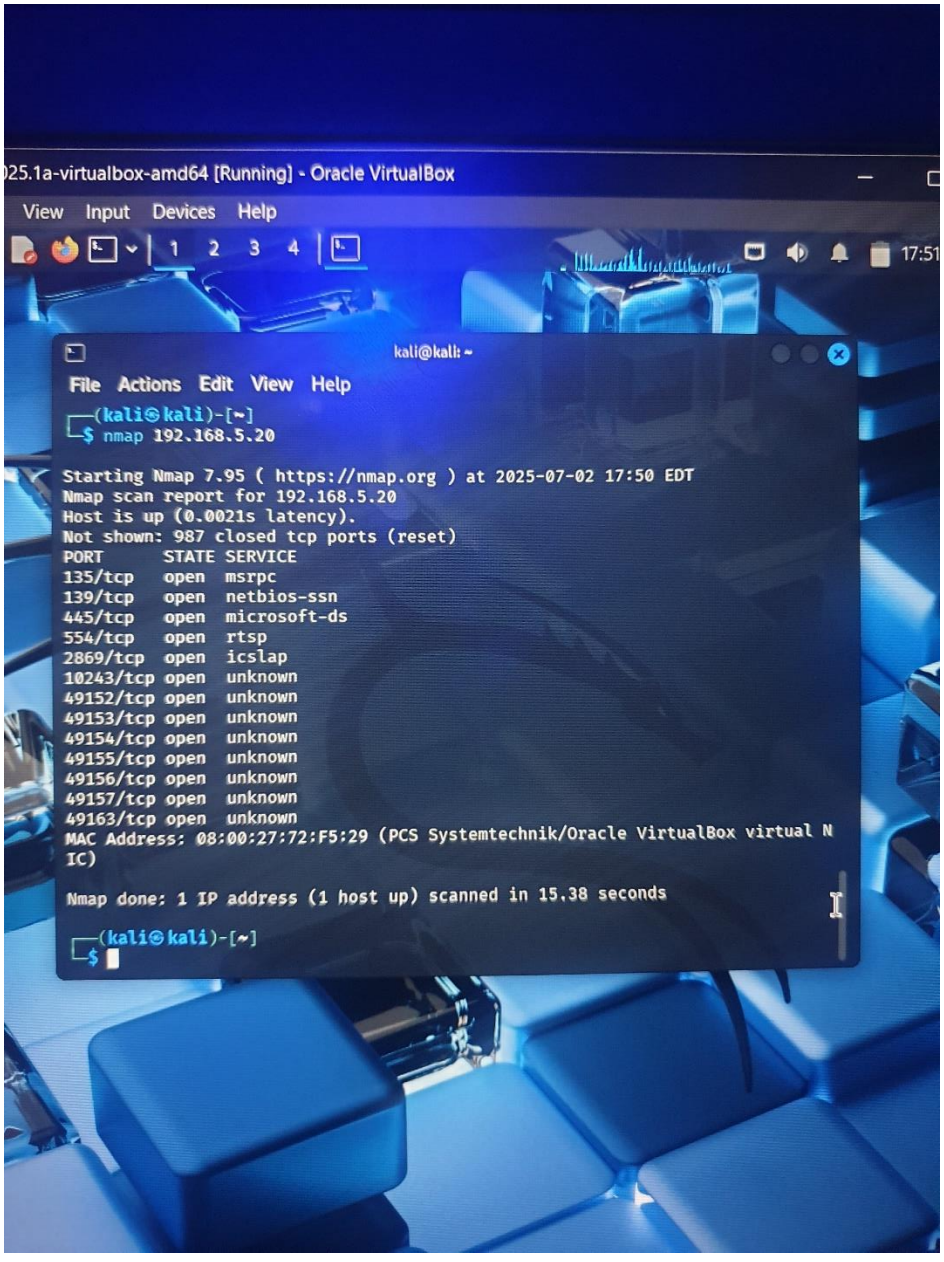
- I first of all ping my windows with its IP address to make sure both can still communicate and it was a successful pinging

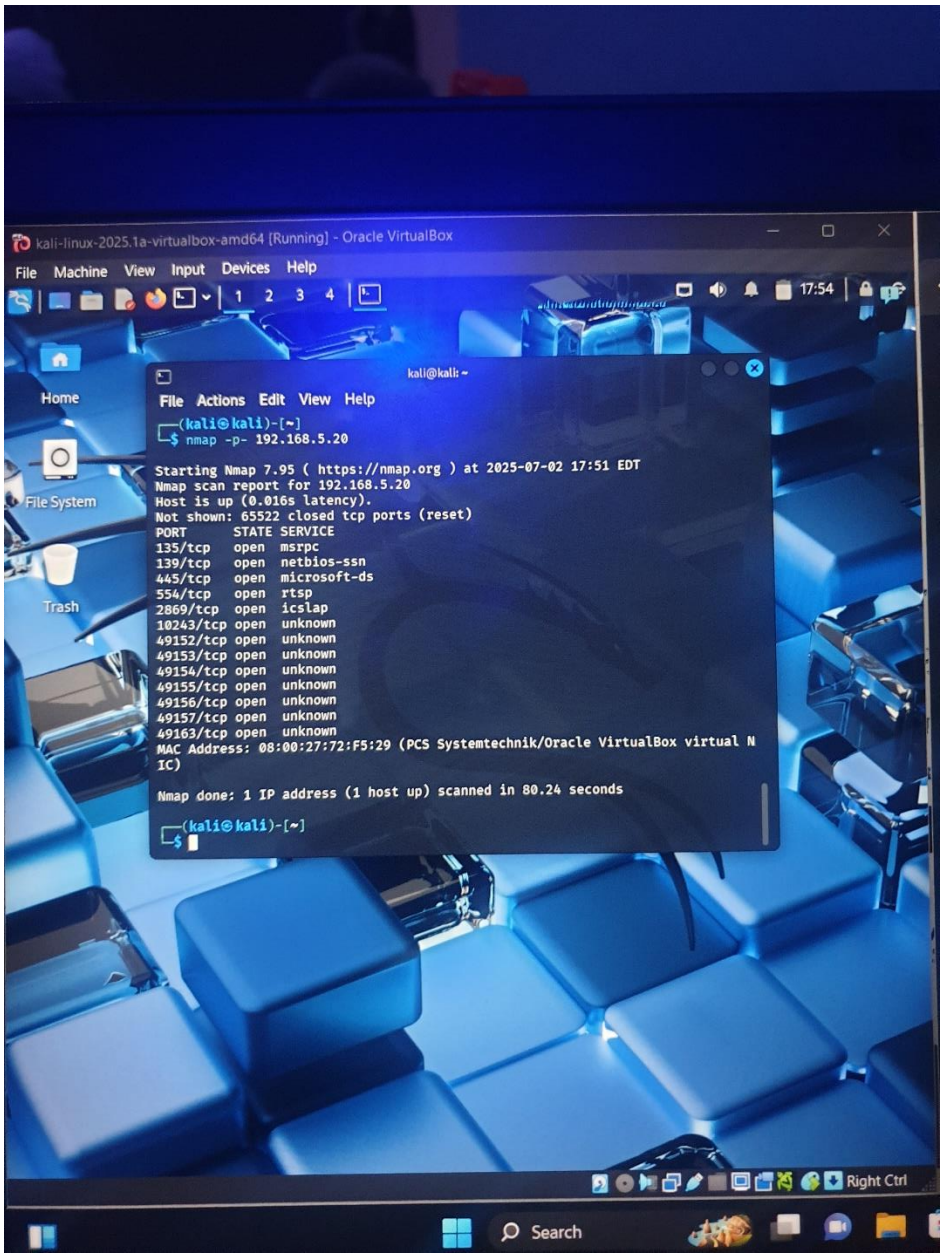

2025.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
View Input Devices Help
1 2 3 4
kali@kali: ~
File Actions Edit View Help
(kali㉿kali)-[~]
$ ping 192.168.5.20
PING 192.168.5.20 (192.168.5.20) 56(84) bytes of data.
64 bytes from 192.168.5.20: icmp_seq=1 ttl=128 time=8.41 ms
64 bytes from 192.168.5.20: icmp_seq=2 ttl=128 time=6.06 ms
64 bytes from 192.168.5.20: icmp_seq=3 ttl=128 time=5.62 ms
64 bytes from 192.168.5.20: icmp_seq=4 ttl=128 time=5.40 ms
64 bytes from 192.168.5.20: icmp_seq=5 ttl=128 time=8.22 ms
64 bytes from 192.168.5.20: icmp_seq=6 ttl=128 time=14.9 ms
64 bytes from 192.168.5.20: icmp_seq=7 ttl=128 time=12.4 ms
64 bytes from 192.168.5.20: icmp_seq=8 ttl=128 time=2.33 ms
64 bytes from 192.168.5.20: icmp_seq=9 ttl=128 time=8.88 ms
64 bytes from 192.168.5.20: icmp_seq=10 ttl=128 time=18.0 ms
64 bytes from 192.168.5.20: icmp_seq=11 ttl=128 time=1.64 ms
64 bytes from 192.168.5.20: icmp_seq=12 ttl=128 time=19.1 ms
64 bytes from 192.168.5.20: icmp_seq=13 ttl=128 time=13.3 ms
64 bytes from 192.168.5.20: icmp_seq=14 ttl=128 time=10.0 ms
64 bytes from 192.168.5.20: icmp_seq=15 ttl=128 time=17.0 ms
64 bytes from 192.168.5.20: icmp_seq=16 ttl=128 time=13.0 ms
64 bytes from 192.168.5.20: icmp_seq=17 ttl=128 time=10.4 ms
64 bytes from 192.168.5.20: icmp_seq=18 ttl=128 time=2.24 ms
64 bytes from 192.168.5.20: icmp_seq=19 ttl=128 time=2.70 ms
64 bytes from 192.168.5.20: icmp_seq=20 ttl=128 time=5.67 ms
64 bytes from 192.168.5.20: icmp_seq=21 ttl=128 time=10.4 ms
64 bytes from 192.168.5.20: icmp_seq=22 ttl=128 time=21.9 ms
64 bytes from 192.168.5.20: icmp_seq=23 ttl=128 time=14.7 ms
64 bytes from 192.168.5.20: icmp_seq=24 ttl=128 time=18.2 ms
64 bytes from 192.168.5.20: icmp_seq=25 ttl=128 time=9.40 ms

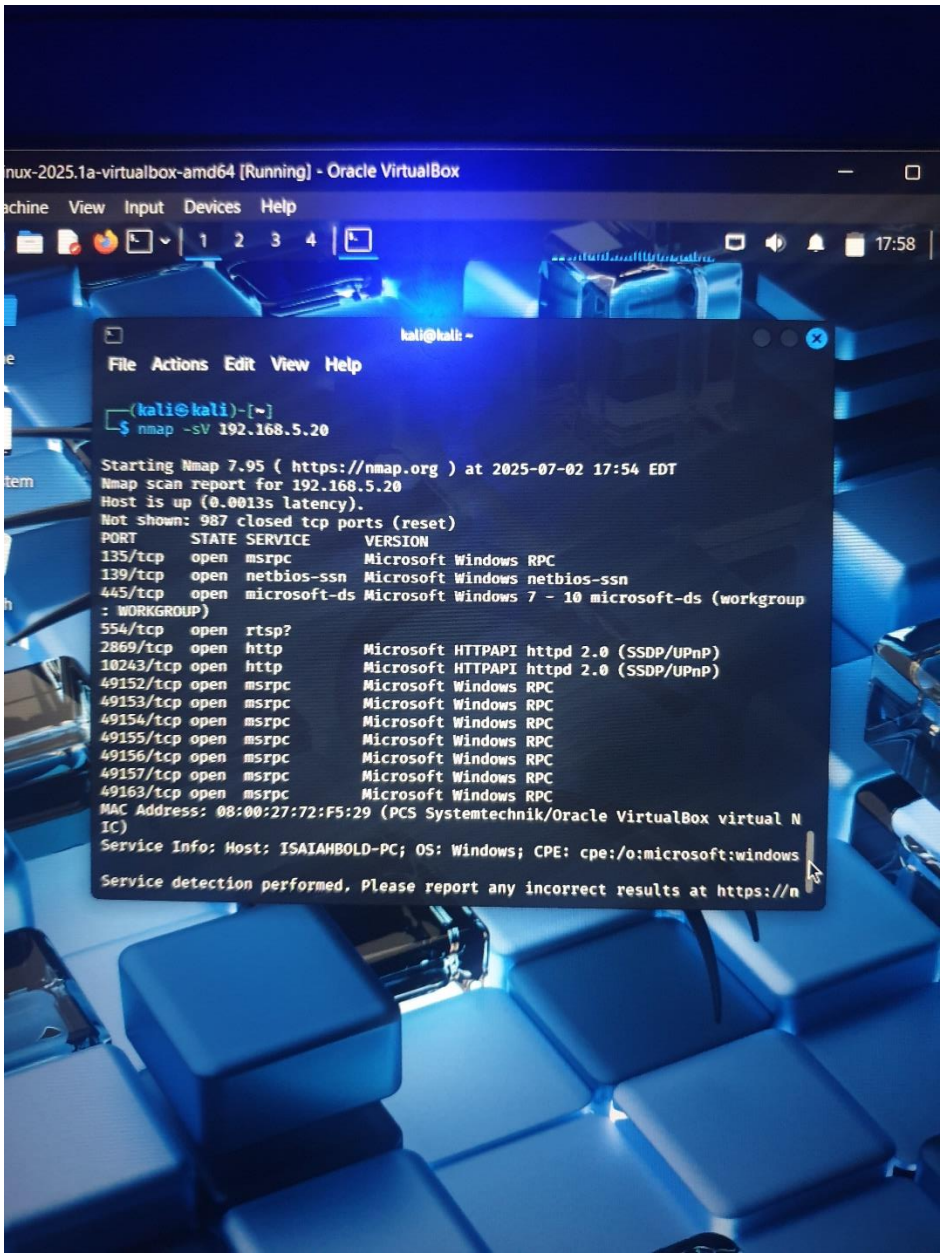


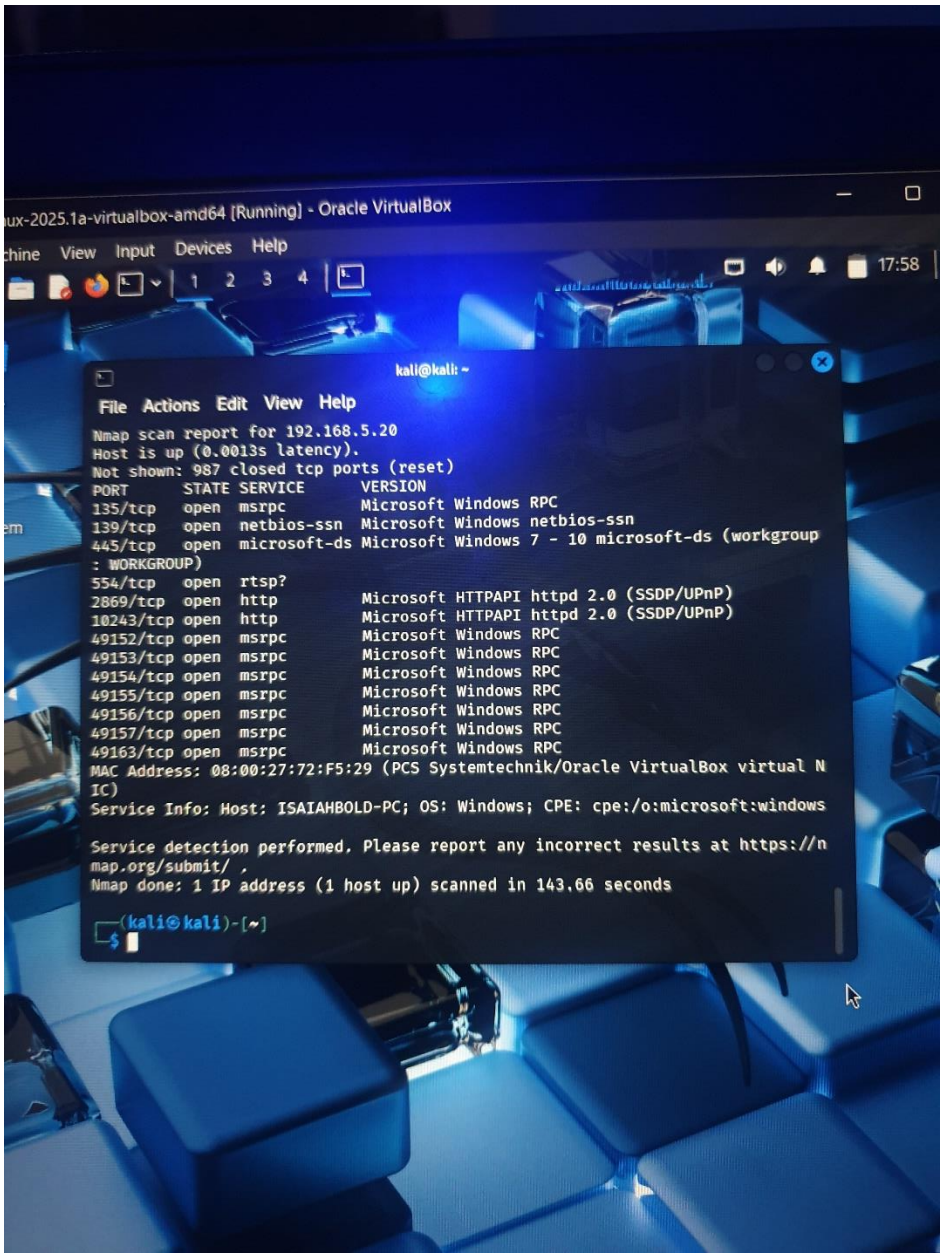
- THEN I RAN AN NMAP SCRIPT TO SCAN MY WINDOWS IP ADDRESS AND WENT AS FAR FOR AGGRESSIVE SCANNING AND PORT DETECTION AND WHAT SERVICE ARE CURRENTLY RUNNING ON THE PORTS INCLUDING DETECTING WINDOWS HOST AND WHAT OS IT IS MOREOVE LATER WENT AHEAD TO SIMULATE MORE ATTACK ON THE WINDOWS VMS AND GAINING ACCESS

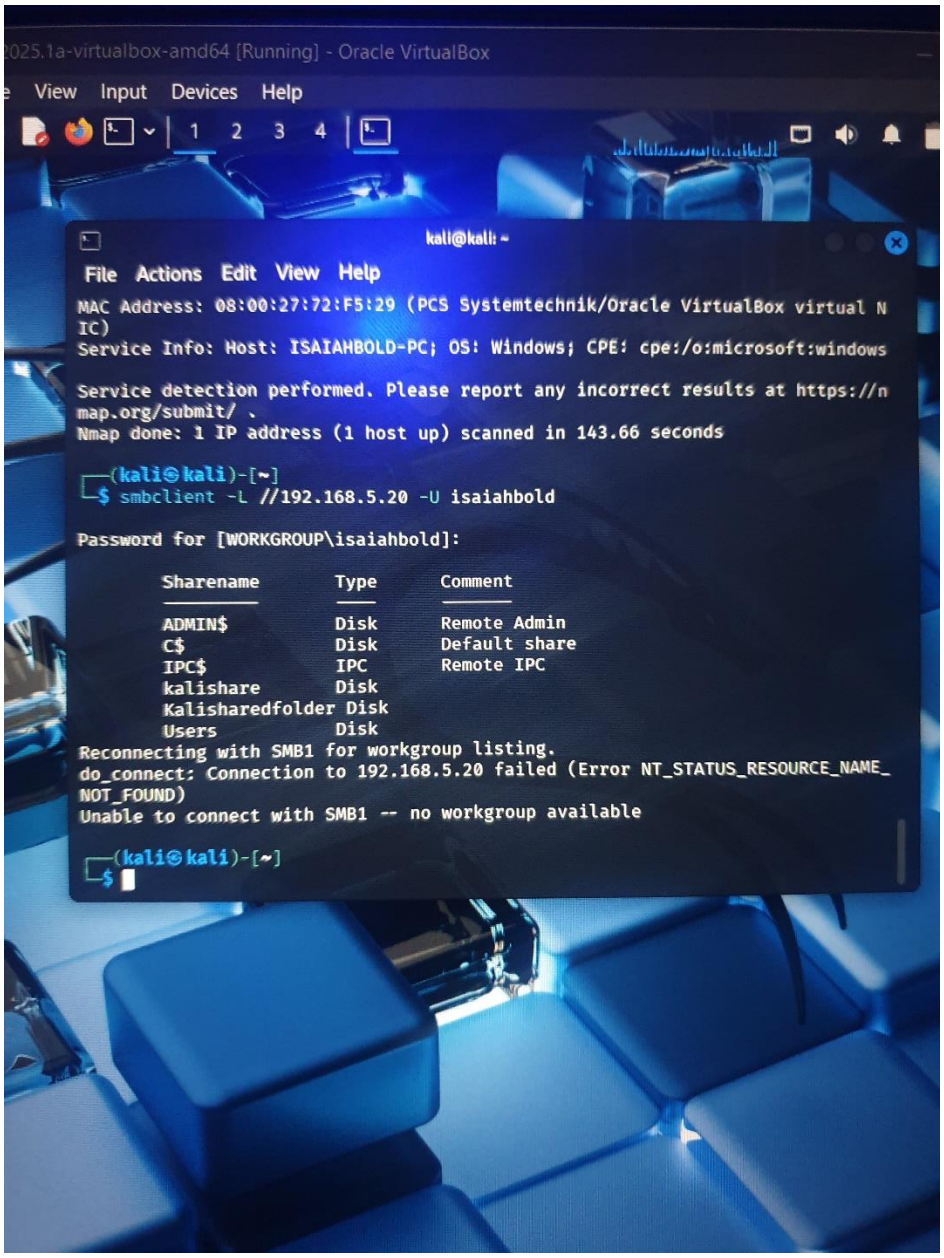
TO THE WINDOWS VMS WHICH MAKES THE WINDOWS VMS A TARGET AND KALI THE ATTACKER,




kali-linux-2025.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
17:54
Home
File System
Trash
kali@kali: ~
File Actions Edit View Help
(kali㉿kali)-[~]
$ nmap -p- 192.168.5.20
Starting Nmap 7.95 (https://nmap.org) at 2025-07-02 17:51 EDT
Nmap scan report for 192.168.5.20
Host is up (0.016s latency).
Not shown: 65522 closed tcp ports (reset)
PORT STATE SERVICE
135/tcp open msrpc
139/tcp open netbios-ssn
445/tcp open microsoft-ds
554/tcp open rtsp
2869/tcp open icslap
10243/tcp open unknown
49152/tcp open unknown
49153/tcp open unknown
49154/tcp open unknown
49155/tcp open unknown
49156/tcp open unknown
49157/tcp open unknown
49163/tcp open unknown
MAC Address: 08:00:27:72:F5:29 (PCS Systemtechnik/Oracle VirtualBox virtual NIC)
Nmap done: 1 IP address (1 host up) scanned in 80.24 seconds
(kali㉿kali)-[~]
$
Right Ctrl
Search

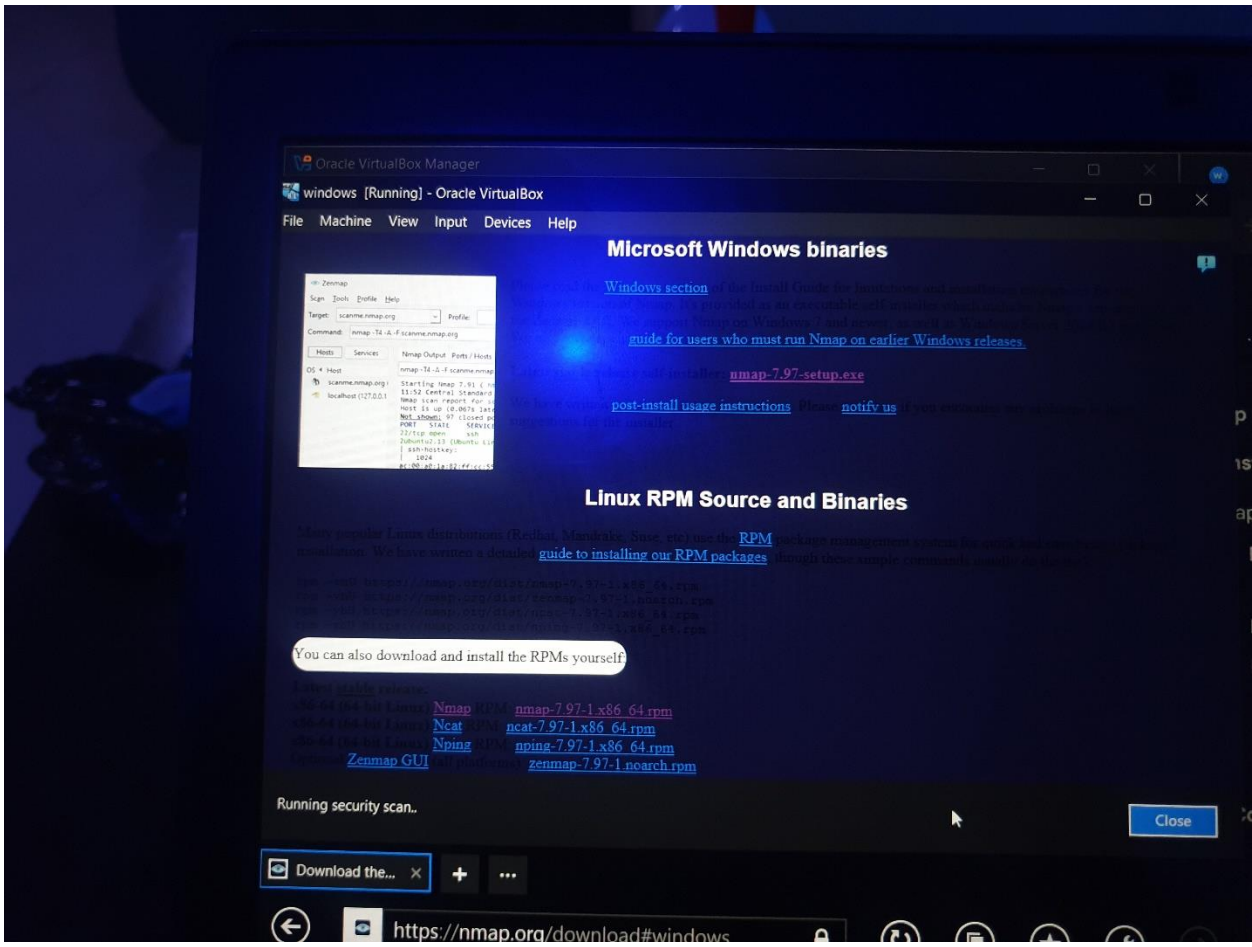

nux-2025.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
achine View Input Devices Help
1 2 3 4
17:58
kali@kali: ~
File Actions Edit View Help
(kali㉿kali)-[~]
$ nmap -sV 192.168.5.20
Starting Nmap 7.95 (https://nmap.org) at 2025-07-02 17:54 EDT
Nmap scan report for 192.168.5.20
Host is up (0.0013s latency).
Not shown: 987 closed tcp ports (reset)
PORT STATE SERVICE VERSION
135/tcp open msrpc Microsoft Windows RPC
139/tcp open netbios-ssn Microsoft Windows netbios-ssn
445/tcp open microsoft-ds Microsoft Windows 7 - 10 microsoft-ds (workgroup
: WORKGROUP)
554/tcp open rtsp?
2869/tcp open http Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
10243/tcp open http Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
49152/tcp open msrpc Microsoft Windows RPC
49153/tcp open msrpc Microsoft Windows RPC
49154/tcp open msrpc Microsoft Windows RPC
49155/tcp open msrpc Microsoft Windows RPC
49156/tcp open msrpc Microsoft Windows RPC
49157/tcp open msrpc Microsoft Windows RPC
49163/tcp open msrpc Microsoft Windows RPC
MAC Address: 08:00:27:72:F5:29 (PCS Systemtechnik/Oracle VirtualBox virtual N
IC)
Service Info: Host: ISAIAHBOLD-PC; OS: Windows; CPE: cpe:/o:microsoft:windows
Service detection performed. Please report any incorrect results at https://n

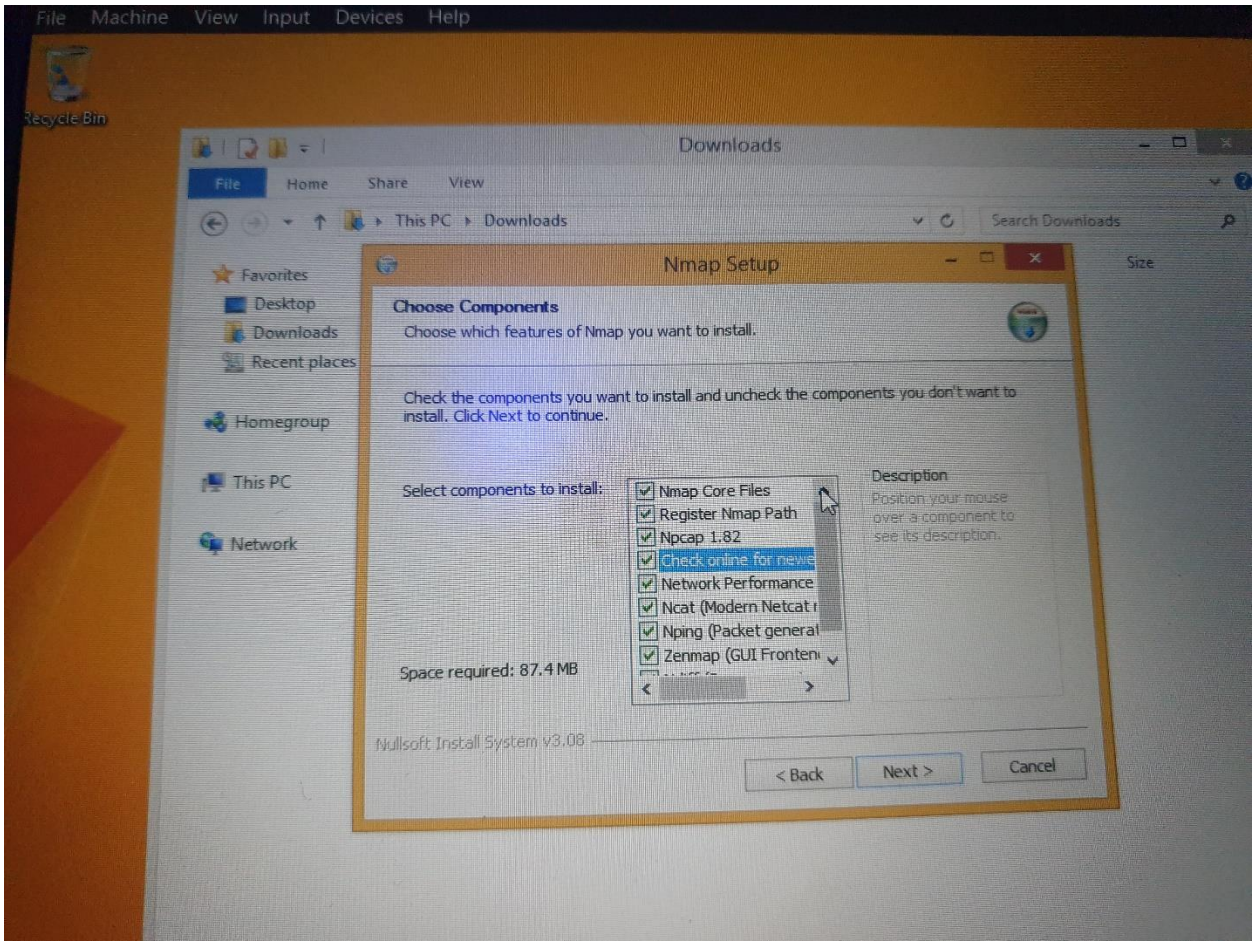

ux-2025.1a-virtualbox-amd64 [Running] - Oracle VirtualBox
chine View Input Devices Help
1 2 3 4
17:58
kali@kali: ~
File Actions Edit View Help
Nmap scan report for 192.168.5.20
Host is up (0.0013s latency).
Not shown: 987 closed tcp ports (reset)
PORT STATE SERVICE VERSION
135/tcp open msrpc Microsoft Windows RPC
139/tcp open netbios-ssn Microsoft Windows netbios-ssn
445/tcp open microsoft-ds Microsoft Windows 7 - 10 microsoft-ds (workgroup
: WORKGROUP)
554/tcp open rtsp?
2869/tcp open http Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
10243/tcp open http Microsoft HTTPAPI httpd 2.0 (SSDP/UPnP)
49152/tcp open msrpc Microsoft Windows RPC
49153/tcp open msrpc Microsoft Windows RPC
49154/tcp open msrpc Microsoft Windows RPC
49155/tcp open msrpc Microsoft Windows RPC
49156/tcp open msrpc Microsoft Windows RPC
49157/tcp open msrpc Microsoft Windows RPC
49163/tcp open msrpc Microsoft Windows RPC
MAC Address: 08:00:27:72:F5:29 (PCS Systemtechnik/Oracle VirtualBox virtual N
IC)
Service Info: Host: ISAIAHBOLD-PC; OS: Windows; CPE: cpe:/o:microsoft:windows
Service detection performed. Please report any incorrect results at https://n
map.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 143.66 seconds
(kali㉿kali)-[~]
$

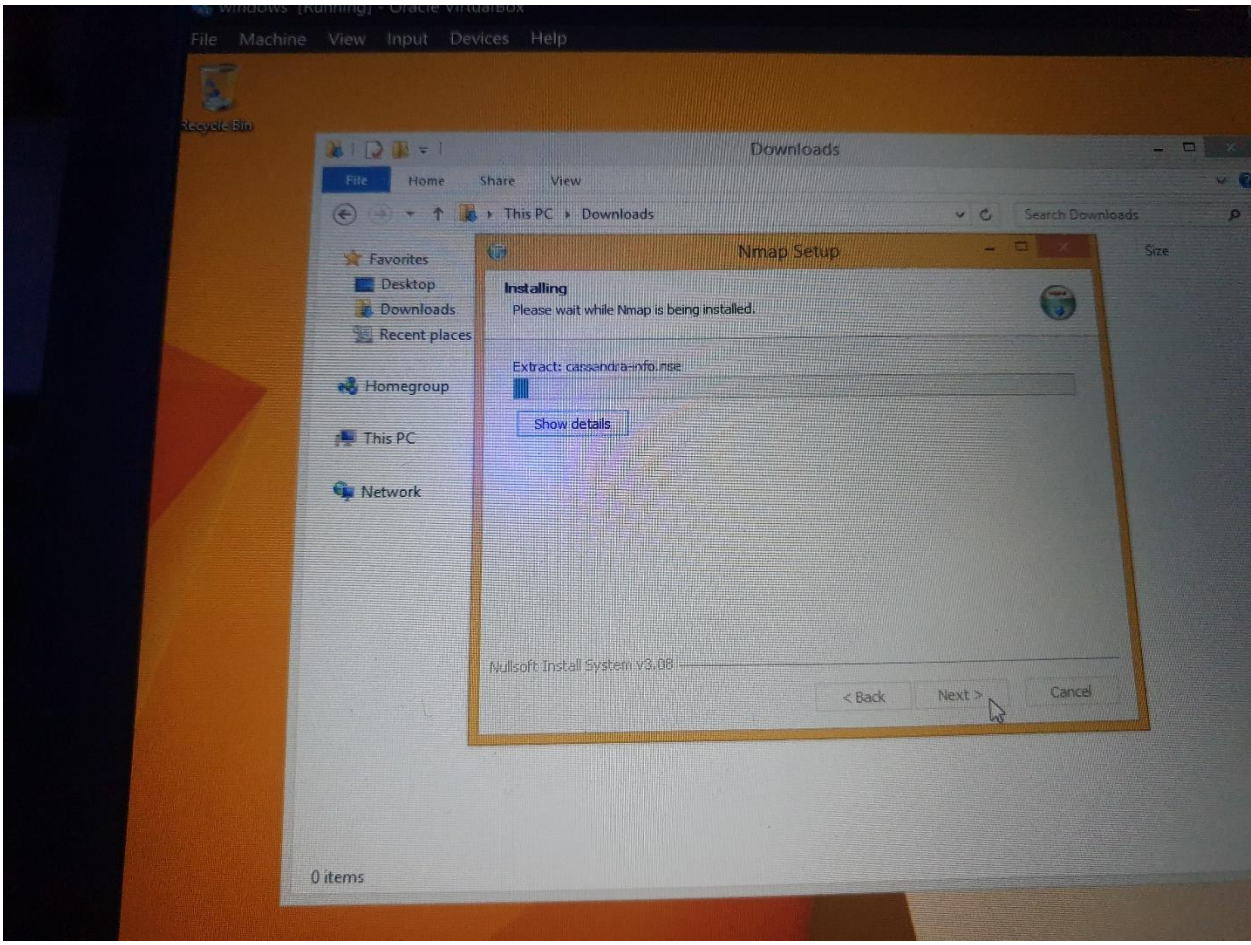


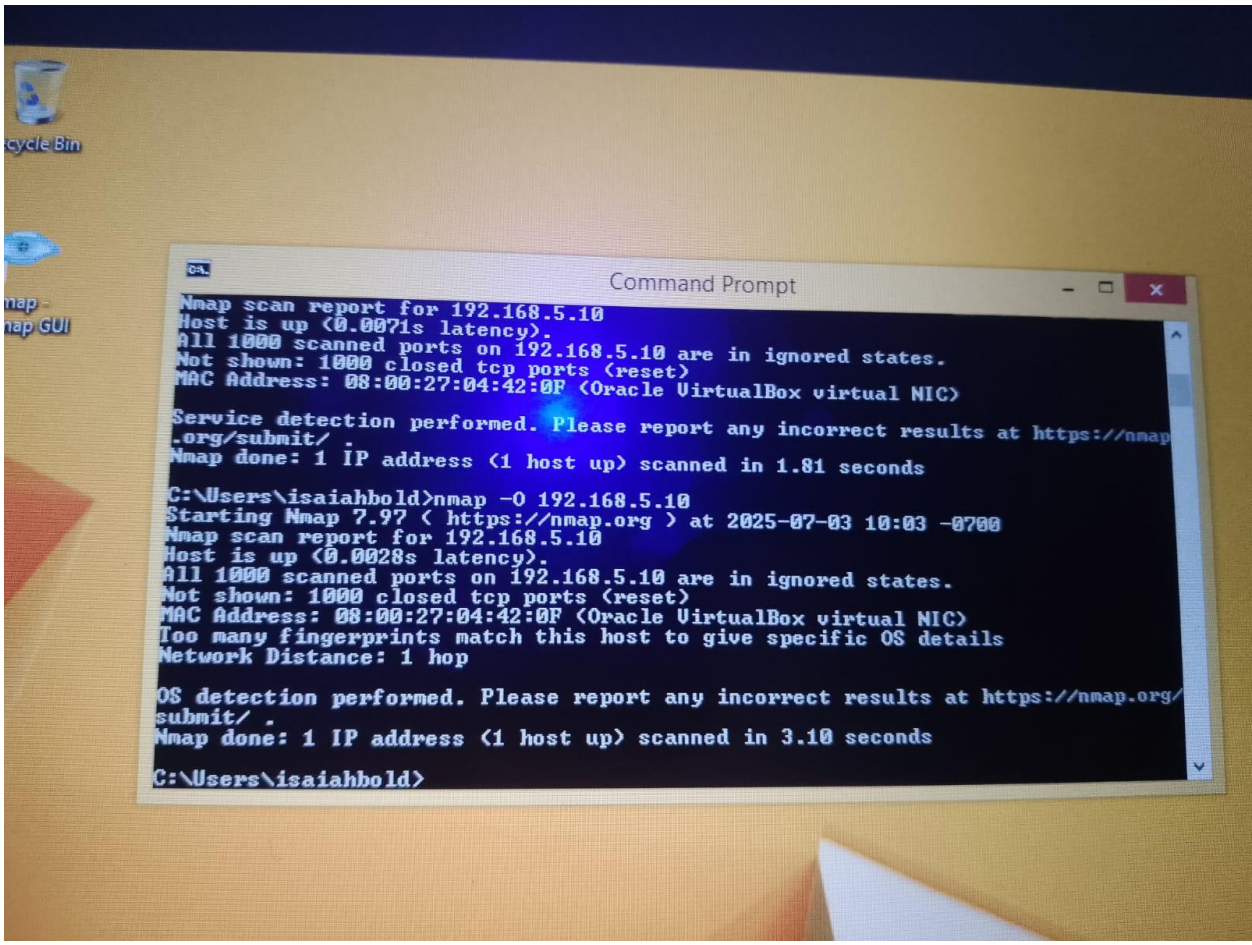
- I FAR AS WENT AHEAD TO SIMULATE THE SAME ATTACK ON THE KALI VMS FROM THE WINDOWS WITH NMAP AFTER DOWNLOADING NMAP ON WINDOWS VMS MOVING ON TO DO THAT I WAS ABLE TO PING KALI SUCCESSFULLY AND SCANNED WITH NMAP SCRIPT

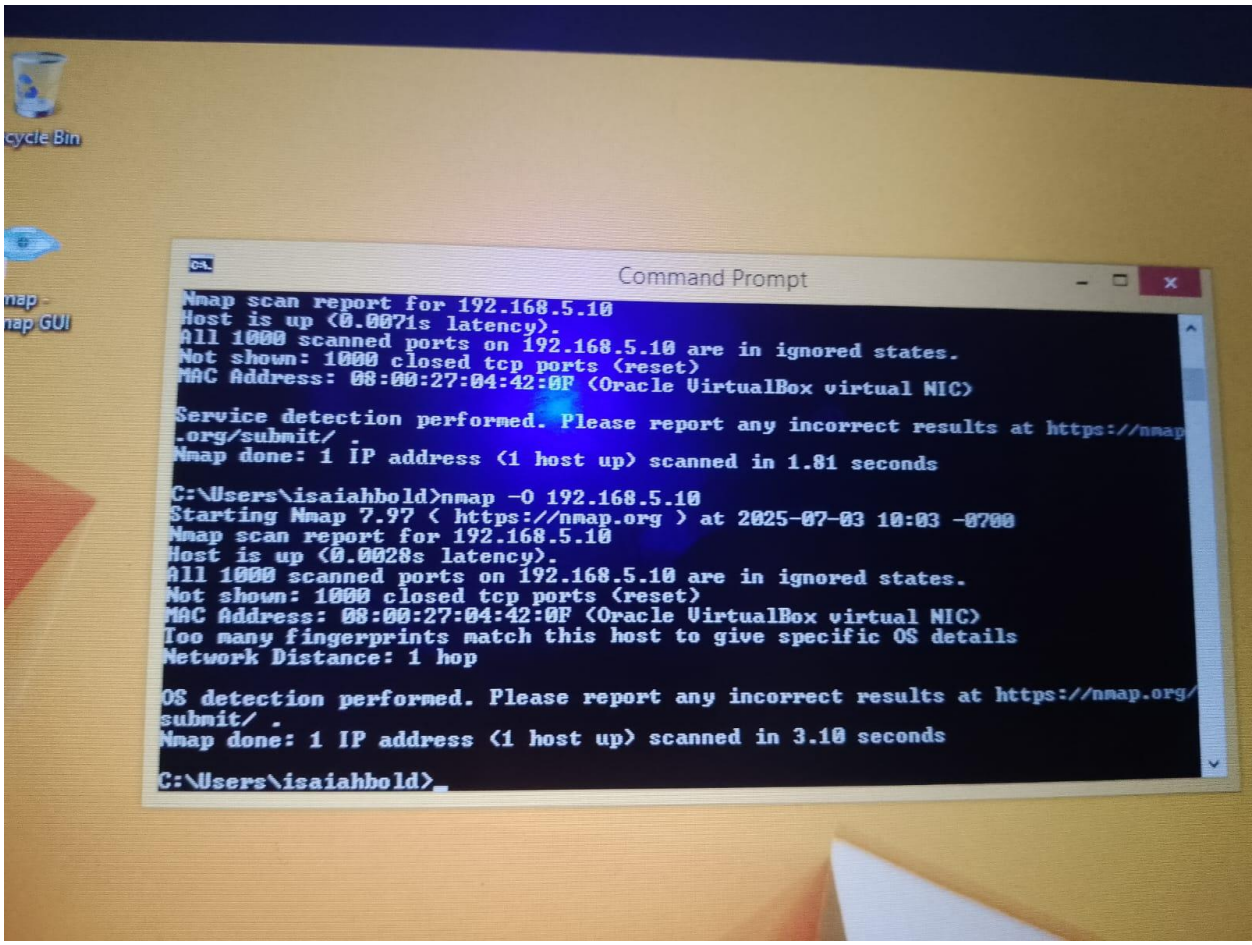
BUT THERE ISN'T ANY OPEN PORT FOUND ON THE KALI THAT WILL ENABLE ME TO PENETRATE INTO THE KALI ACCORDING TO REASERCHES I FOUND OUT THAT KALI IS QUITE MORE SECURE DUE TO THE INBUILT SECURITY OF IT OS, SO I COULD'NT DETECT ANY OPEN PORT ON IT

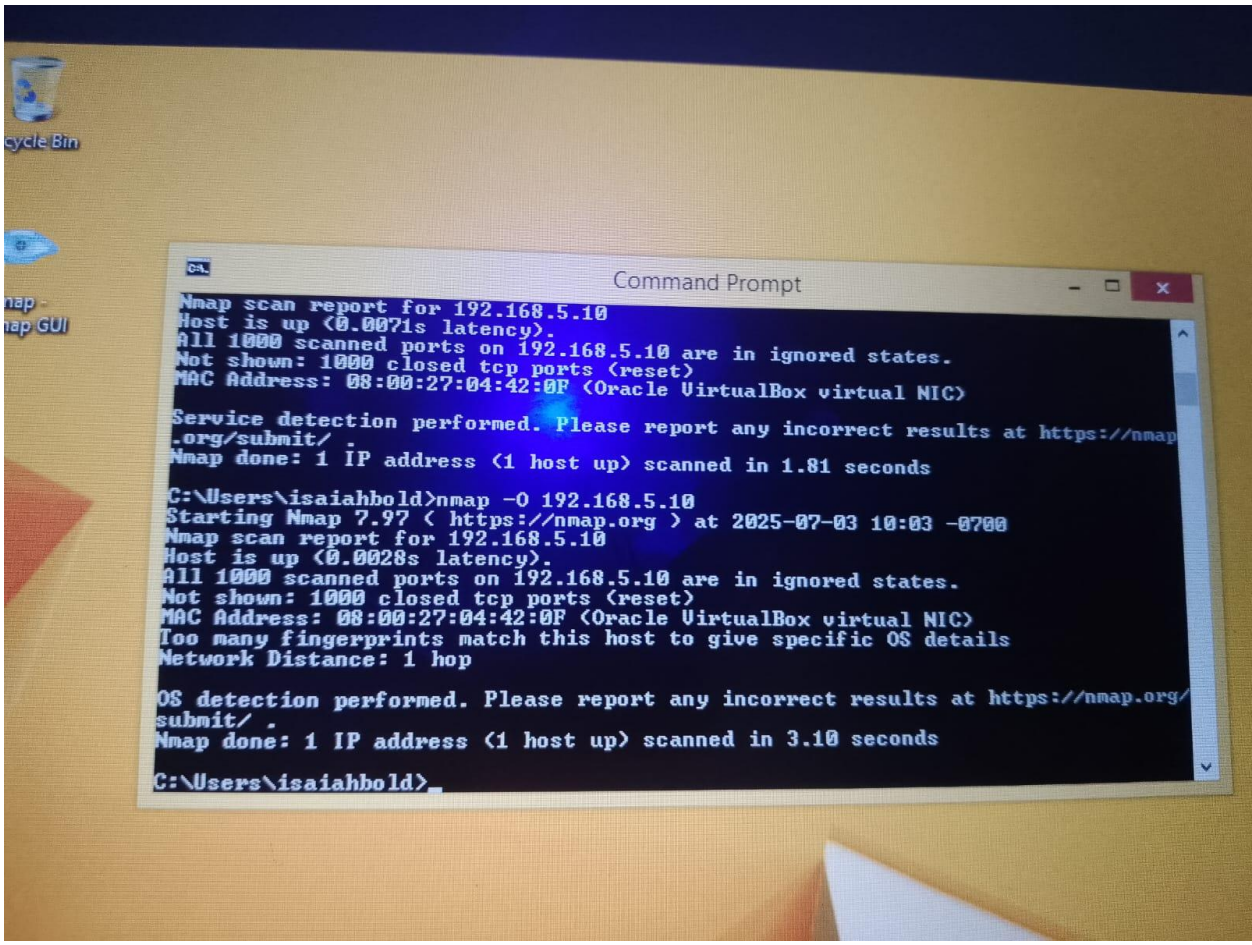


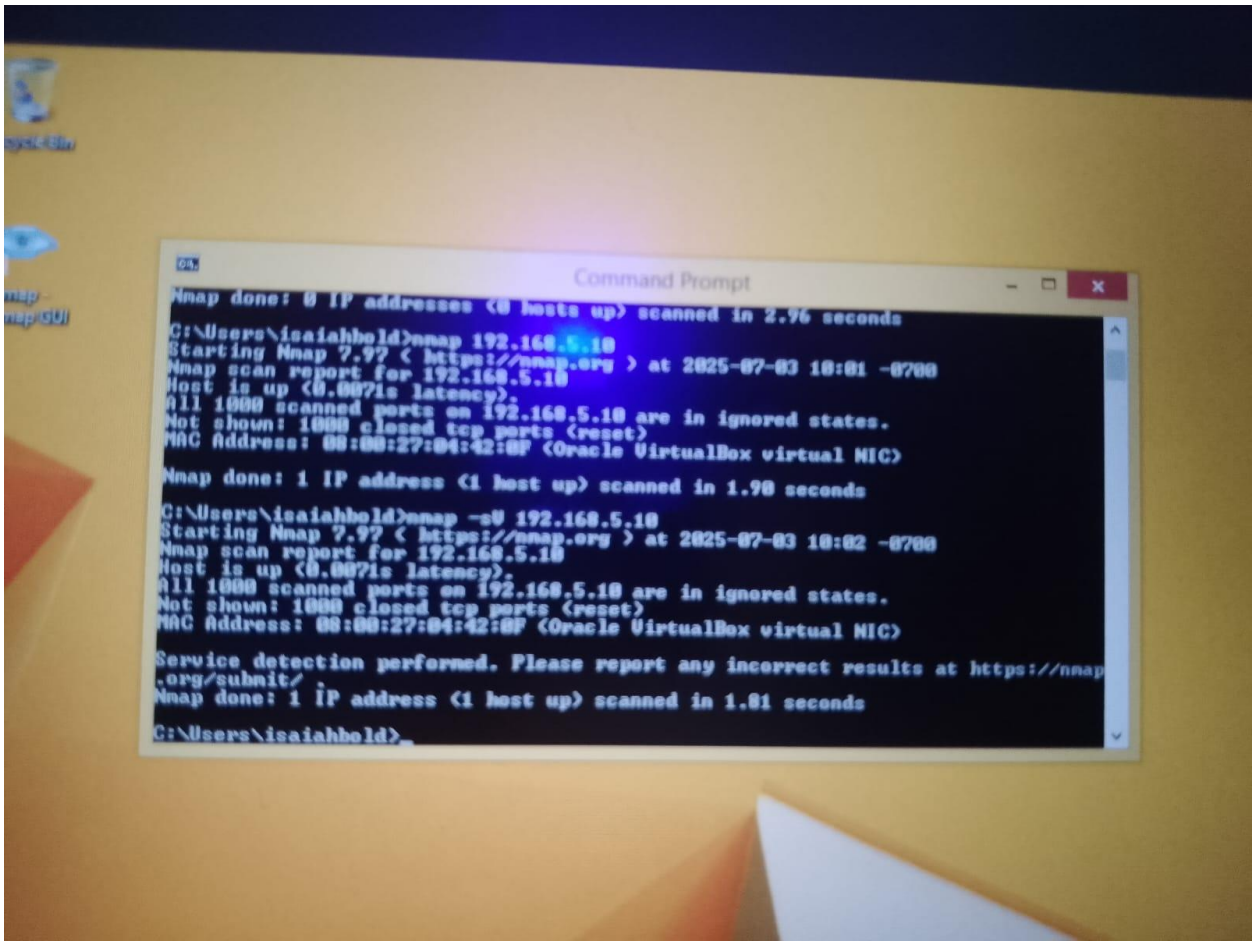

File Machine View Input Devices Help
Recycle Bin
Downloads
File Home Share View
This PC ▸ Downloads
Search Downloads
Favorites
Desktop
Downloads
Recent places
Homegroup
This PC
Network
Size
Nmap Setup
Choose Components
Choose which features of Nmap you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select components to install:
Nmap Core Files
Register Nmap Path
Npcap 1.82
Check online for newe
Network Performance
Ncat (Modern Netcat
Nping (Packet general
Zenmap (GUI Fronten
Description
Position your mouse over a component to see its description.
Space required: 87.4 MB
Nullsoft Install System v3.08
< Back
Next >
Cancel

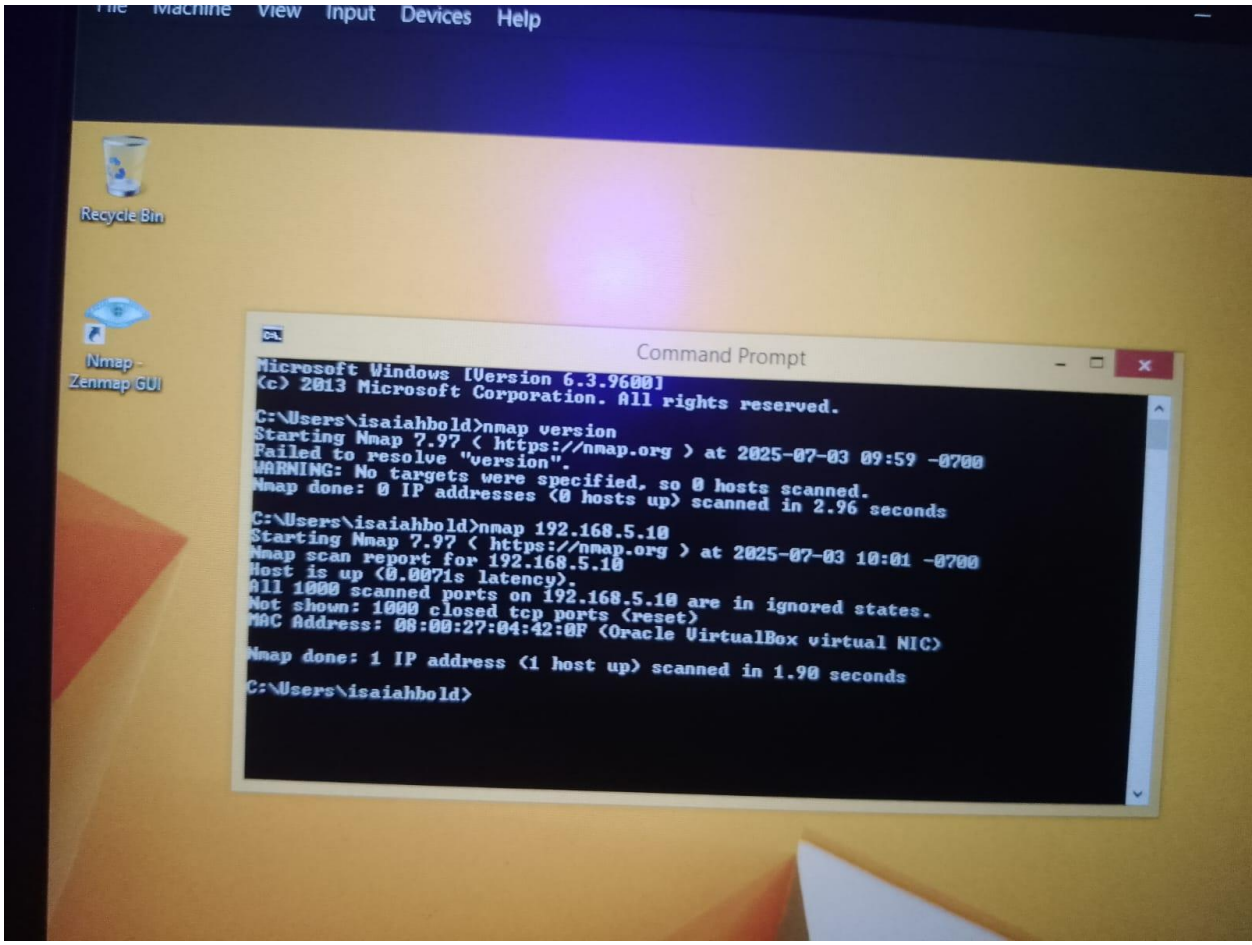

File Machine View Input Devices Help
Recycle Bin
Downloads
File Home Share View
This PC ▸ Downloads
Search Downloads
Favorites
Desktop
Downloads
Recent places
Homegroup
This PC
Network
Size
Nmap Setup
Installing
Please wait while Nmap is being installed.
Extract: cassandra-info.nse
Show details
Nullsoft Install System v3.08
< Back
Next >
Cancel
0 items

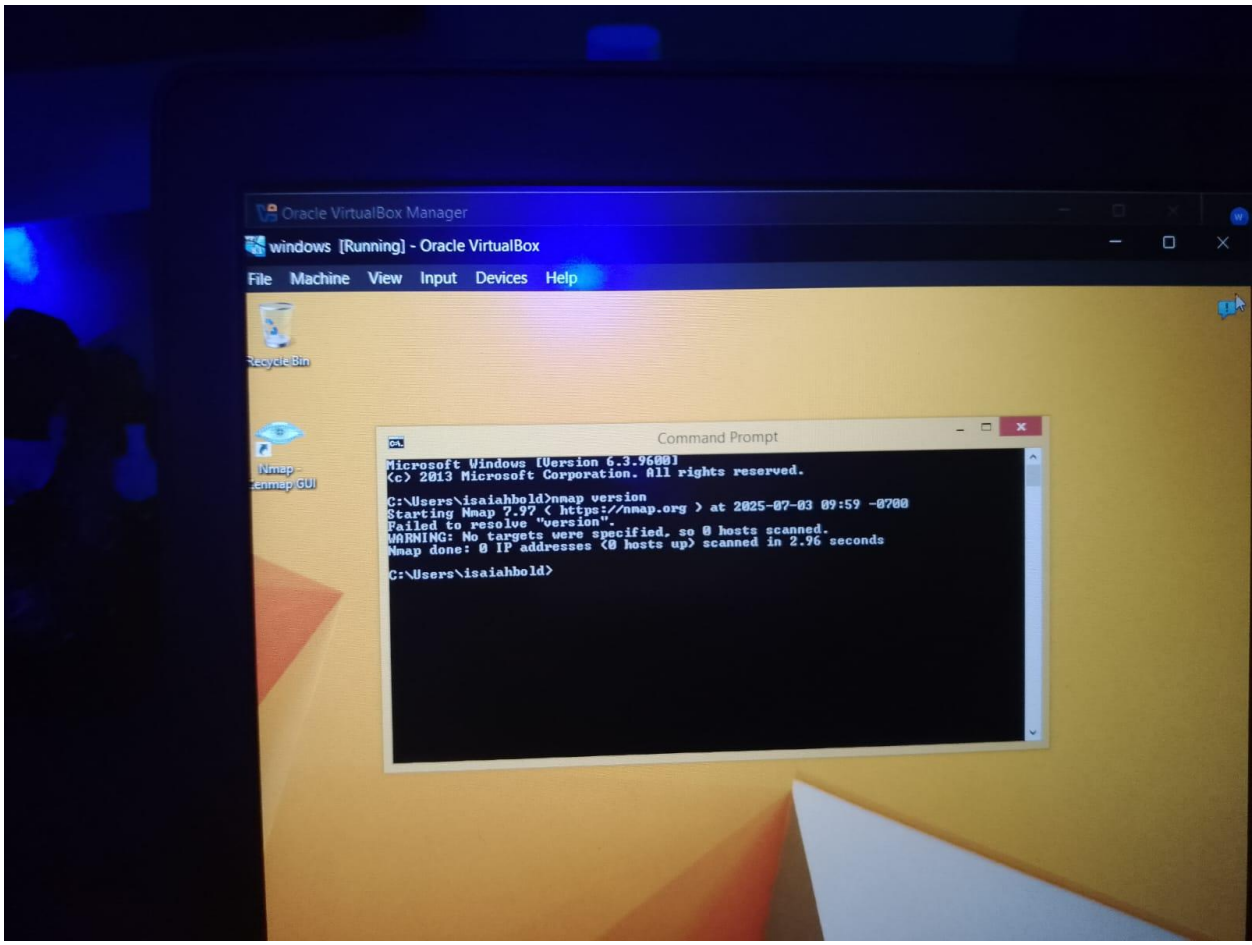

Command Prompt
Nmap scan report for 192.168.5.10
Host is up (0.0071s latency).
All 1000 scanned ports on 192.168.5.10 are in ignored states.
Not shown: 1000 closed tcp ports (reset)
MAC Address: 08:00:27:04:42:0F (Oracle VirtualBox virtual NIC)
Service detection performed. Please report any incorrect results at https://nmap
.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 1.81 seconds
C:\Users\isaiahbold>nmap -O 192.168.5.10
Starting Nmap 7.97 (https://nmap.org) at 2025-07-03 10:03 -0700
Nmap scan report for 192.168.5.10
Host is up (0.0028s latency).
All 1000 scanned ports on 192.168.5.10 are in ignored states.
Not shown: 1000 closed tcp ports (reset)
MAC Address: 08:00:27:04:42:0F (Oracle VirtualBox virtual NIC)
Too many fingerprints match this host to give specific OS details
Network Distance: 1 hop
OS detection performed. Please report any incorrect results at https://nmap.org/
submit/ .
Nmap done: 1 IP address (1 host up) scanned in 3.10 seconds
C:\Users\isaiahbold>

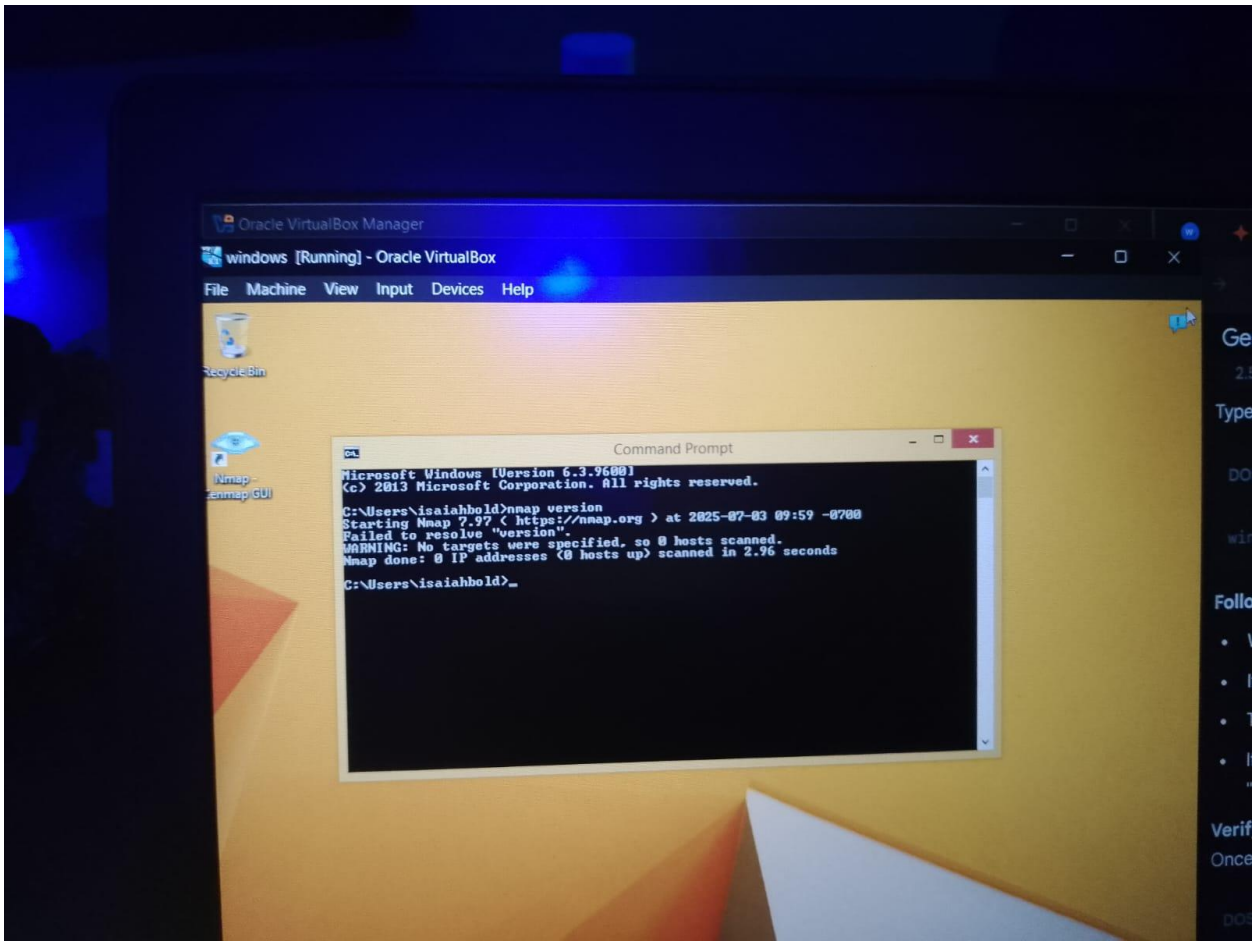

Command Prompt
Nmap scan report for 192.168.5.10
Host is up (0.0071s latency).
All 1000 scanned ports on 192.168.5.10 are in ignored states.
Not shown: 1000 closed tcp ports (reset)
MAC Address: 08:00:27:04:42:0F (Oracle VirtualBox virtual NIC)
Service detection performed. Please report any incorrect results at https://nmap
.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 1.81 seconds
C:\Users\isaiahbold>nmap -O 192.168.5.10
Starting Nmap 7.97 (https://nmap.org) at 2025-07-03 10:03 -0700
Nmap scan report for 192.168.5.10
Host is up (0.0028s latency).
All 1000 scanned ports on 192.168.5.10 are in ignored states.
Not shown: 1000 closed tcp ports (reset)
MAC Address: 08:00:27:04:42:0F (Oracle VirtualBox virtual NIC)
Too many fingerprints match this host to give specific OS details
Network Distance: 1 hop
OS detection performed. Please report any incorrect results at https://nmap.org/
submit/ .
Nmap done: 1 IP address (1 host up) scanned in 3.10 seconds
C:\Users\isaiahbold>

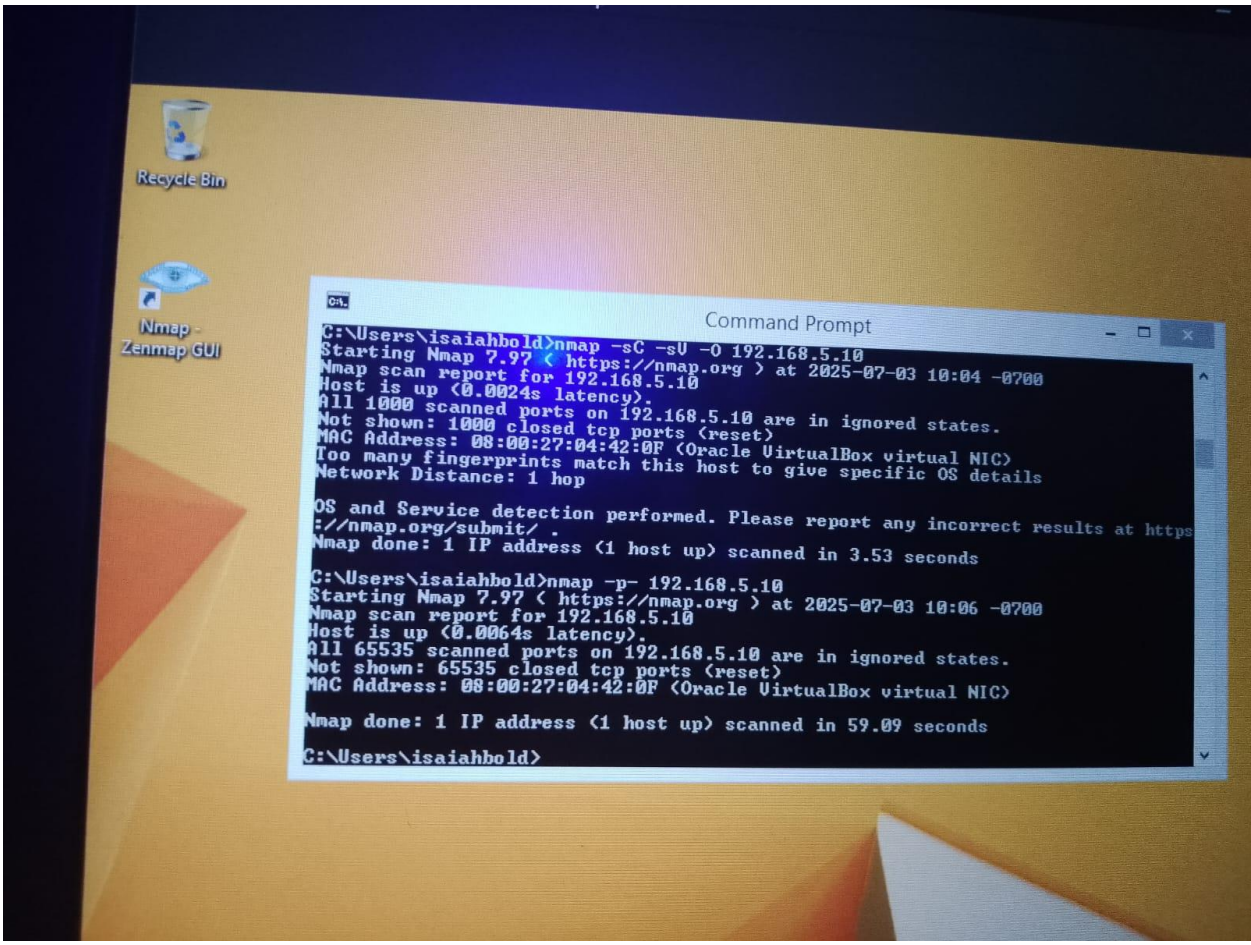

Command Prompt
Nmap scan report for 192.168.5.10
Host is up (0.0071s latency).
All 1000 scanned ports on 192.168.5.10 are in ignored states.
Not shown: 1000 closed tcp ports (reset)
MAC Address: 08:00:27:04:42:0F (Oracle VirtualBox virtual NIC)
Service detection performed. Please report any incorrect results at https://nmap
.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 1.81 seconds
C:\Users\isaiahbold>nmap -O 192.168.5.10
Starting Nmap 7.97 (https://nmap.org) at 2025-07-03 10:03 -0700
Nmap scan report for 192.168.5.10
Host is up (0.0028s latency).
All 1000 scanned ports on 192.168.5.10 are in ignored states.
Not shown: 1000 closed tcp ports (reset)
MAC Address: 08:00:27:04:42:0F (Oracle VirtualBox virtual NIC)
Too many fingerprints match this host to give specific OS details
Network Distance: 1 hop
OS detection performed. Please report any incorrect results at https://nmap.org/
submit/ .
Nmap done: 1 IP address (1 host up) scanned in 3.10 seconds
C:\Users\isaiahbold>


Command Prompt
Nmap done: 0 IP addresses (0 hosts up) scanned in 2.96 seconds
C:\Users\isaiahbold>nmap 192.168.5.10
Starting Nmap 7.97 (https://nmap.org) at 2025-07-03 10:01 -0700
Nmap scan report for 192.168.5.10
Host is up (0.007s latency).
All 1000 scanned ports on 192.168.5.10 are in ignored states.
Not shown: 1000 closed tcp ports (reset)
MAC Address: 08:00:27:04:42:0F (Oracle VirtualBox virtual NIC)
Nmap done: 1 IP address (1 host up) scanned in 1.90 seconds
C:\Users\isaiahbold>nmap -sV 192.168.5.10
Starting Nmap 7.97 (https://nmap.org) at 2025-07-03 10:02 -0700
Nmap scan report for 192.168.5.10
Host is up (0.007s latency).
All 1000 scanned ports on 192.168.5.10 are in ignored states.
Not shown: 1000 closed tcp ports (reset)
MAC Address: 08:00:27:04:42:0F (Oracle VirtualBox virtual NIC)
Service detection performed. Please report any incorrect results at https://nmap
.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 1.81 seconds
C:\Users\isaiahbold>


File Machine View Input Devices Help
Recycle Bin
Nmap - Zenmap GUI
Command Prompt
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.
C:\Users\isaiahbold>nmap version
Starting Nmap 7.97 (https://nmap.org) at 2025-07-03 09:59 -0700
Failed to resolve "version".
WARNING: No targets were specified, so 0 hosts scanned.
Nmap done: 0 IP addresses (0 hosts up) scanned in 2.96 seconds
C:\Users\isaiahbold>nmap 192.168.5.10
Starting Nmap 7.97 (https://nmap.org) at 2025-07-03 10:01 -0700
Nmap scan report for 192.168.5.10
Host is up (0.007is latency).
All 1000 scanned ports on 192.168.5.10 are in ignored states.
Not shown: 1000 closed tcp ports (reset)
MAC Address: 08:00:27:04:42:0F (Oracle VirtualBox virtual NIC)
Nmap done: 1 IP address (1 host up) scanned in 1.90 seconds
C:\Users\isaiahbold>


Oracle VirtualBox Manager
windows [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Recycle Bin
Nmap - Zenmap GUI
Command Prompt
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.
C:\Users\isaiahbold>nmap version
Starting Nmap 7.97 (https://nmap.org) at 2025-07-03 09:59 -0700
Failed to resolve "version".
WARNING: No targets were specified, so 0 hosts scanned.
Nmap done: 0 IP addresses (0 hosts up) scanned in 2.96 seconds
C:\Users\isaiahbold>

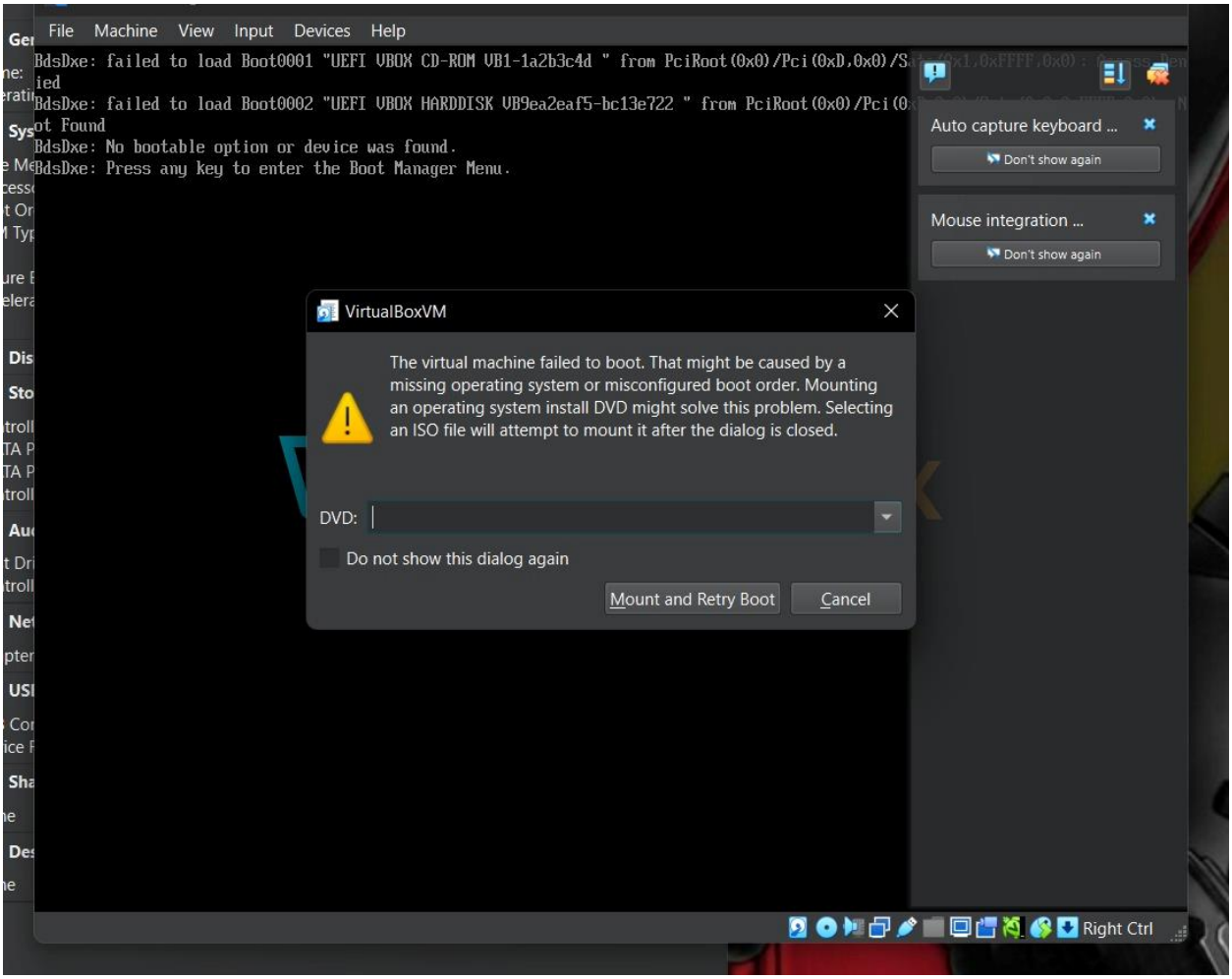

Oracle VirtualBox Manager
windows [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Recycle Bin
Nmap - Zenmap GUI
Command Prompt
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.
C:\Users\isaiahbold>nmap version
Starting Nmap 7.97 (https://nmap.org) at 2025-07-03 09:59 -0700
Failed to resolve "version".
WARNING: No targets were specified, so 0 hosts scanned.
Nmap done: 0 IP addresses (0 hosts up) scanned in 2.96 seconds
C:\Users\isaiahbold>



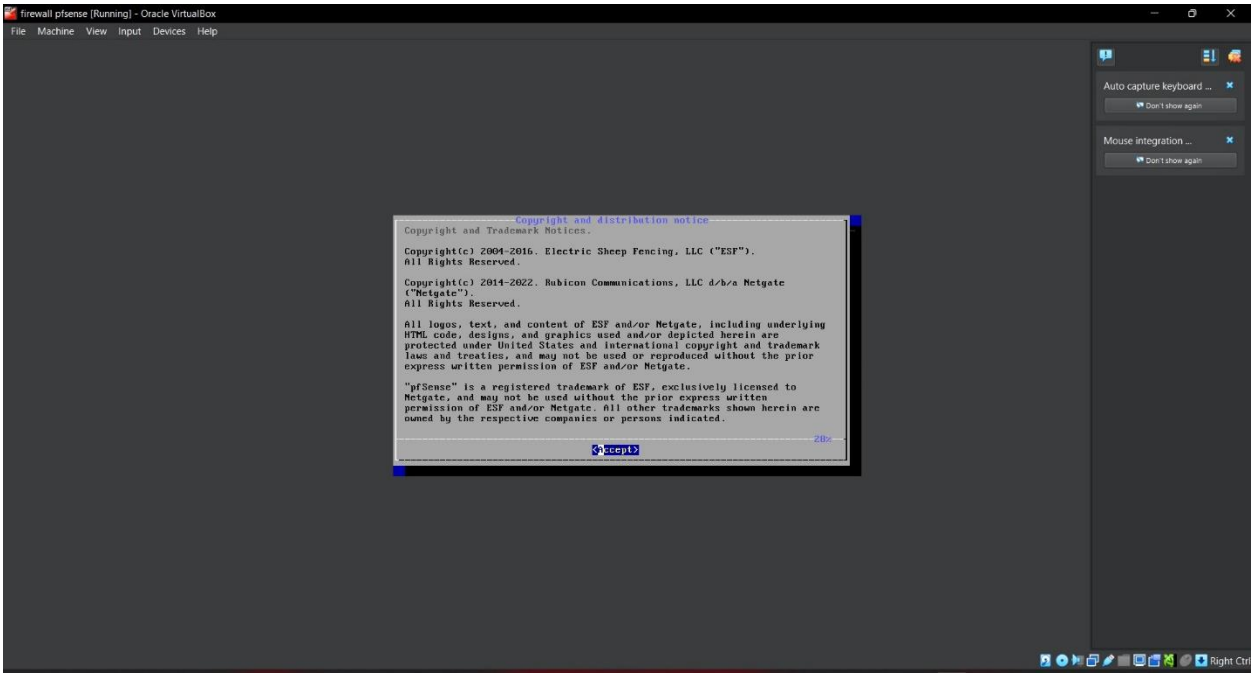
- VIRTUAL FIREWALL IMPLEMENTATION (BUT NOT SUCCESSFUL DUE TO HOST SYSTEM STORAGE FULL)

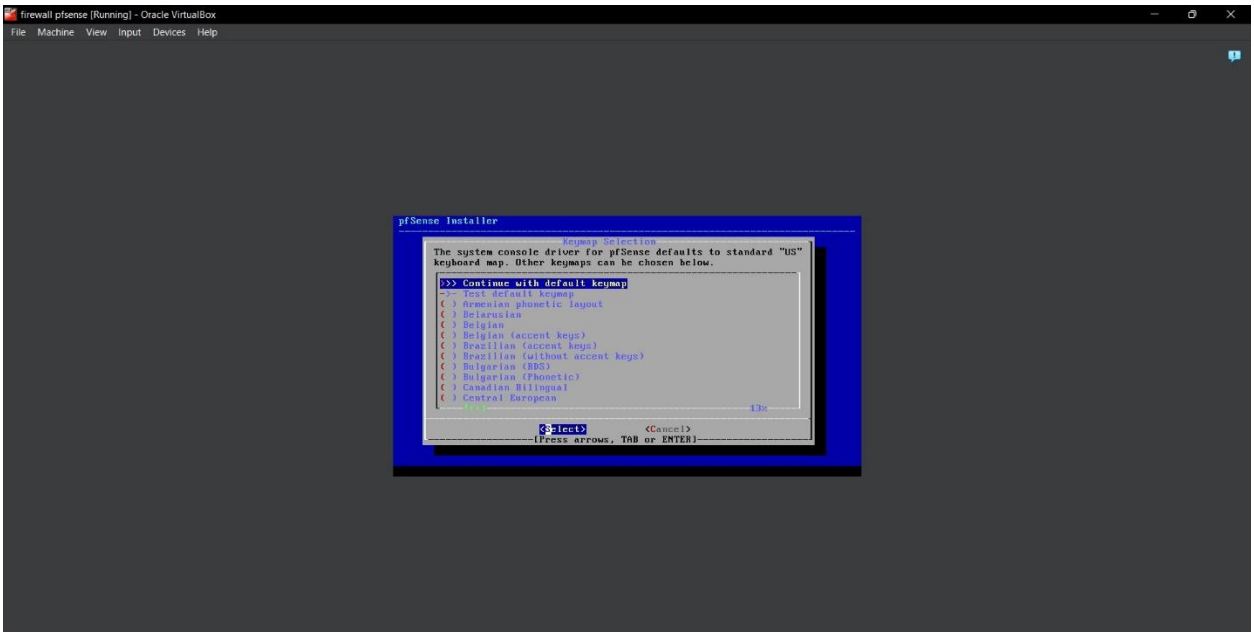
I WAS ALL SET, DOWNLOADED PFSENSE FIREWALL ISO IMAGE AND SET IT UP IN THE VIRTUAL BOX AT FIRST I

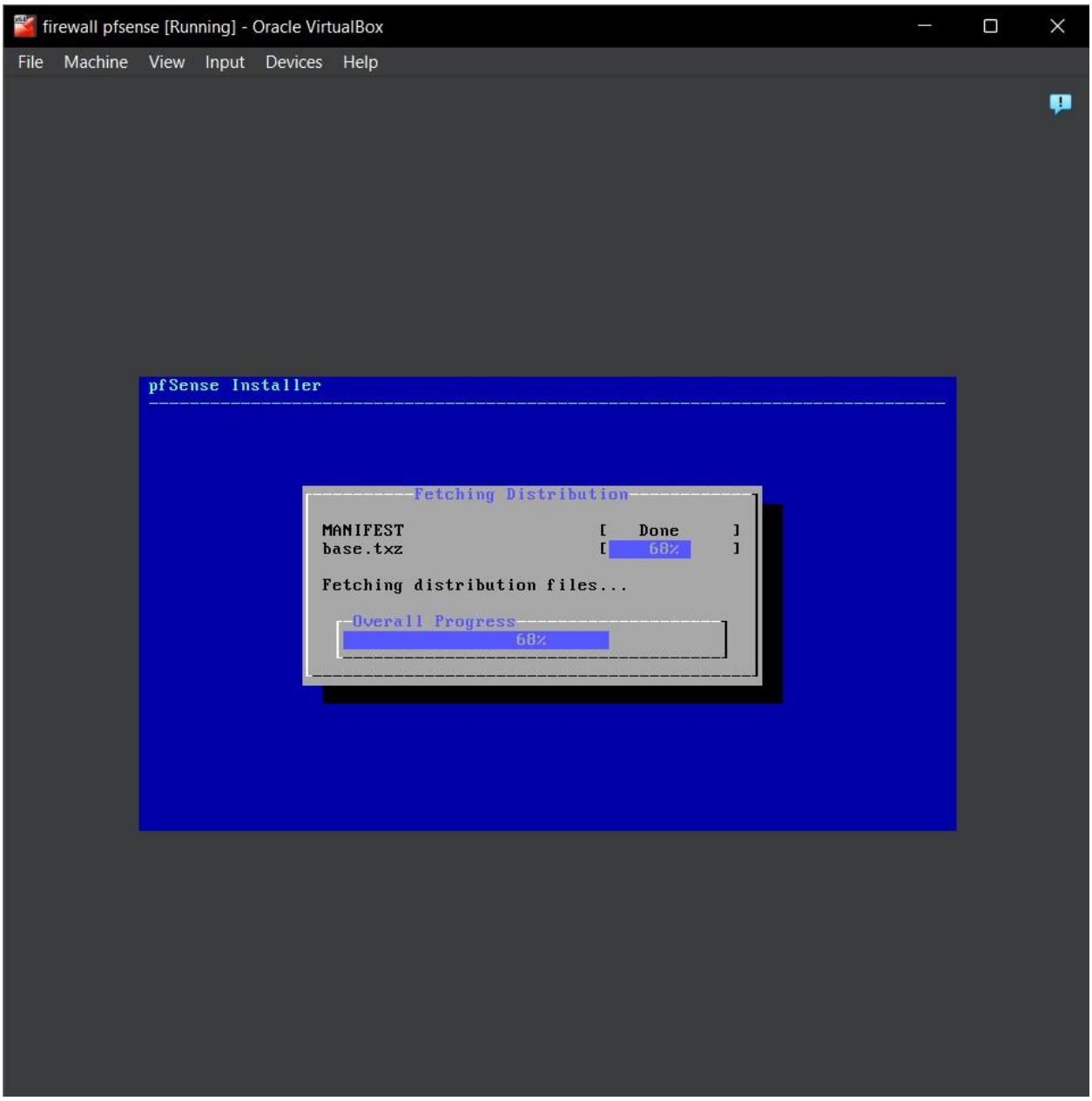
WASN'T GETTING IT

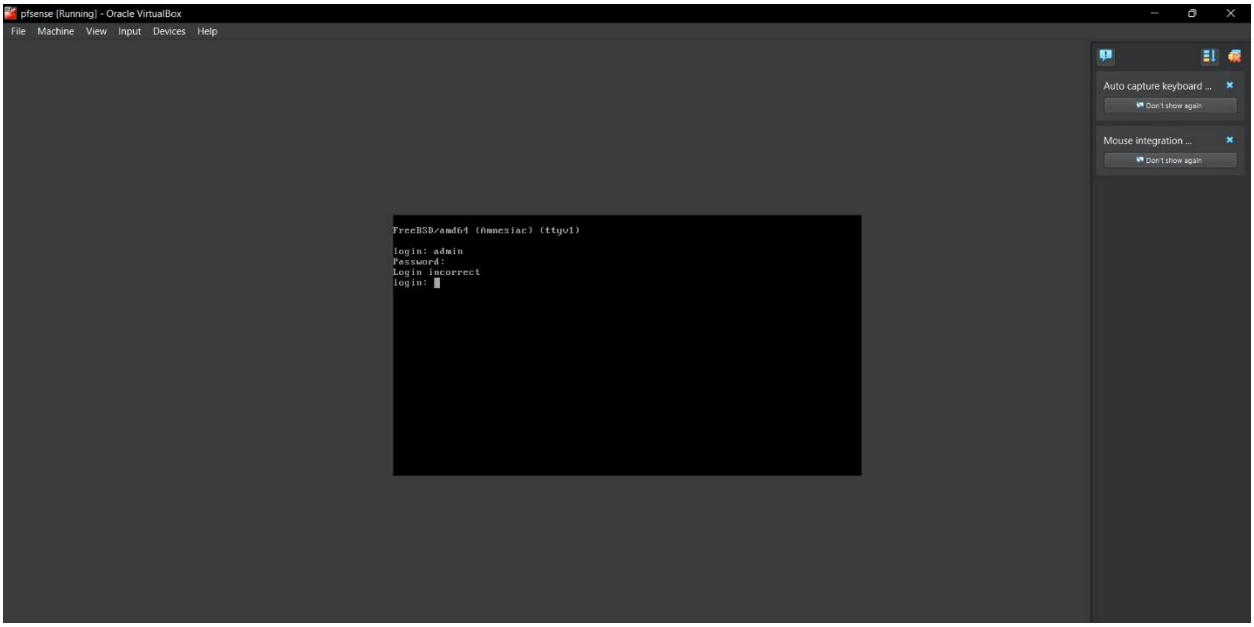


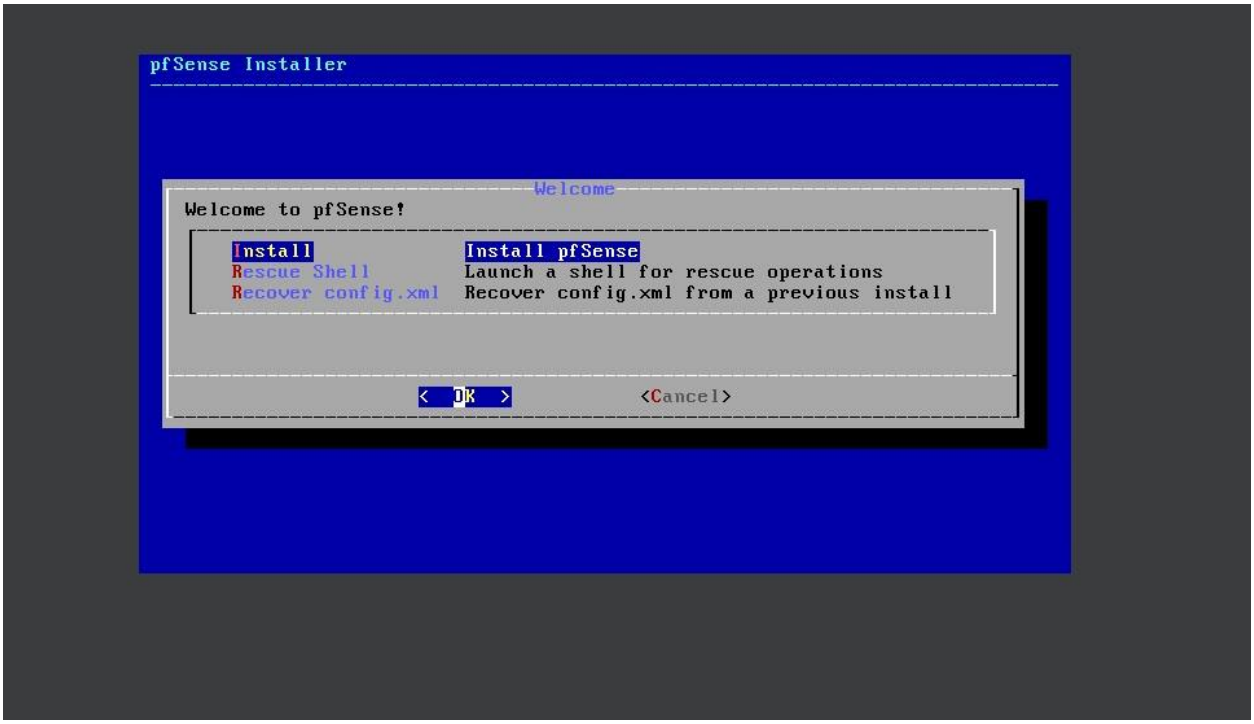
RIGHT BUT MOVING ON I WAS ABLE TO MOUNT IT WELL BUT COULDN'T GET IT DONE 100% DUE TO NOT ENOUGH STORAGE ON THE SYSTEM

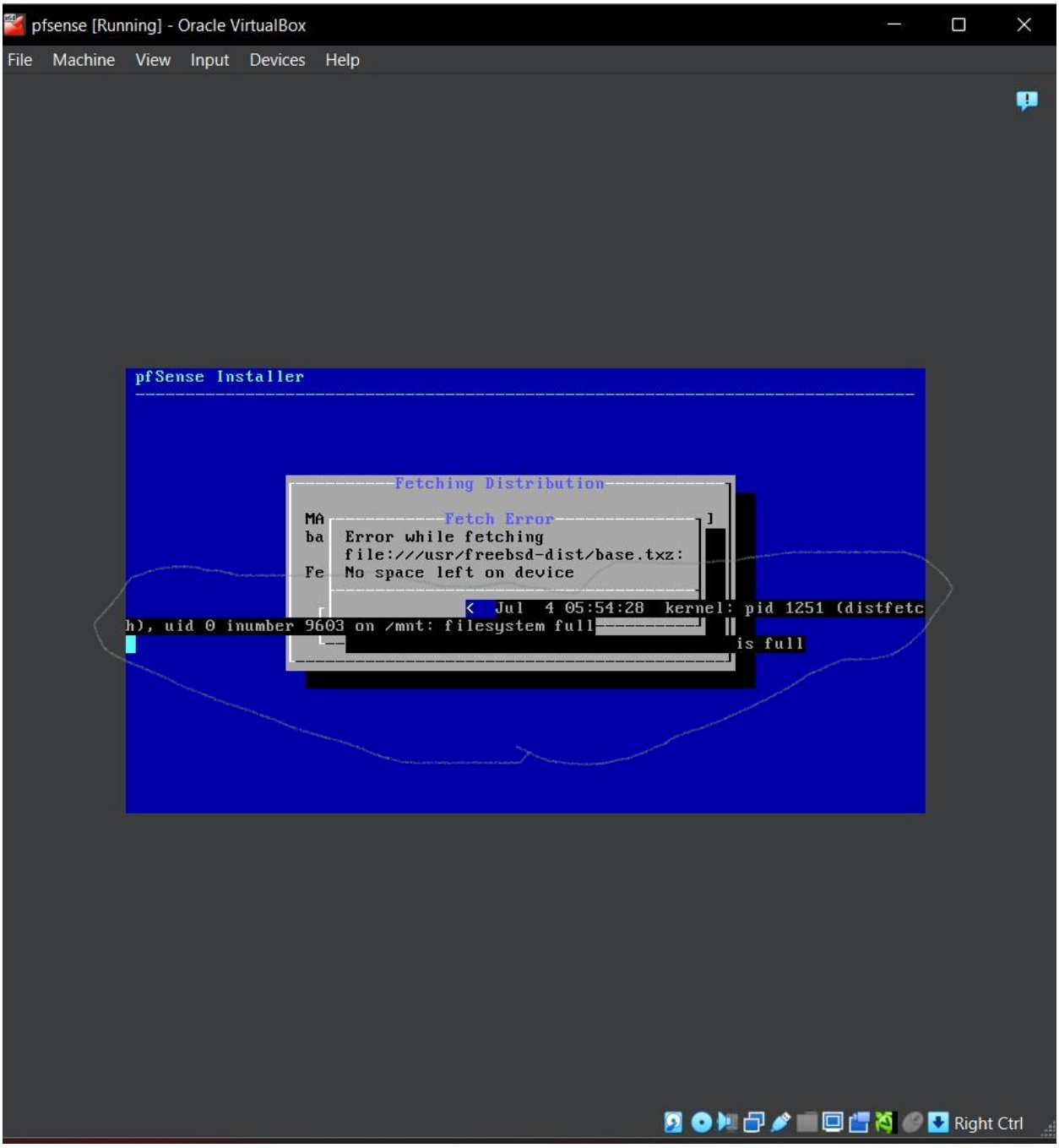

firewall pfsense [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Auto capture keyboard ...
Don't show again
Mouse integration ...
Don't show again
Copyright and distribution notice
Copyright and Trademark Notices.
Copyright(c) 2004-2016. Electric Sheep Fencing, LLC ("ESF").
All Rights Reserved.
Copyright(c) 2014-2022. Rubicon Communications, LLC d/b/a Netgate ("Netgate").
All Rights Reserved.
All logos, text, and content of ESF and/or Netgate, including underlying HTML code, designs, and graphics used and/or depicted herein are protected under United States and international copyright and trademark laws and treaties, and may not be used or reproduced without the prior express written permission of ESF and/or Netgate.
"pfSense" is a registered trademark of ESF, exclusively licensed to Netgate, and may not be used without the prior express written permission of ESF and/or Netgate. All other trademarks shown herein are owned by the respective companies or persons indicated.
20%
<Accept>
Right Ctrl


firewall pfsense [Running] - Oracle VirtualBox
File Machine View Input Devices Help
pfSense Installer
Keymap Selection
The system console driver for pfSense defaults to standard "US" keyboard map. Other keymaps can be chosen below.
>>> Continue with default keymap
=>- Test default keymap
( ) Armenian phonetic layout
( ) Belarusian
( ) Belgian
( ) Belgian (accent keys)
( ) Brazilian (accent keys)
( ) Brazilian (without accent keys)
( ) Bulgarian (BDS)
( ) Bulgarian (Phonetic)
( ) Canadian Bilingual
( ) Central European
13%
<Select>
<Cancel>
(Press arrows, TAB or ENTER)


firewall pfsense [Running] - Oracle VirtualBox
File Machine View Input Devices Help
pfSense Installer
Fetching Distribution
MANIFEST [Done]
base.txz [68%]
Fetching distribution files...
Overall Progress
68%


pfsense [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Auto capture keyboard ...
Don't show again
Mouse integration ...
Don't show again
FreeBSD/amd64 (Amnesiac) (ttyv1)
login: admin
Password:
Login incorrect
login:


pfSense Installer
Welcome
Welcome to pfSense!
Install
Install pfSense
Rescue Shell
Launch a shell for rescue operations
Recover config.xml
Recover config.xml from a previous install
< OK >
<Cancel>


pfsense [Running] - Oracle VirtualBox
File Machine View Input Devices Help
pfSense Installer
Fetching Distribution
Fetch Error
Error while fetching
file:///usr/freebsd-dist/base.txz:
No space left on device
Jul 4 05:54:28 kernel: pid 1251 (distfetc
h), uid 0 inumber 9603 on /mnt: filesystem full
is full
Right Ctrl