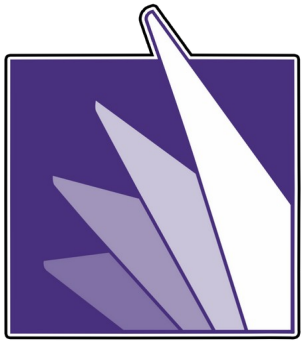

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[LAB 1 SETUP LAB ENVIRONMENT]

CIS 4367.01 Computer Security, Fall 2025

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Abstract

In this lab I will be creating and setting up two virtual machine environments, Windows Server 2025 and Parrot Security Linux using VirtualBox. In addition, I will create a shared folder between the two.

Tasks

Task 1: Install VirtualBox

Command: winget install -e --id Oracle.VirtualBox

Task 2: Download Parrot Linux and Windows Server 2025

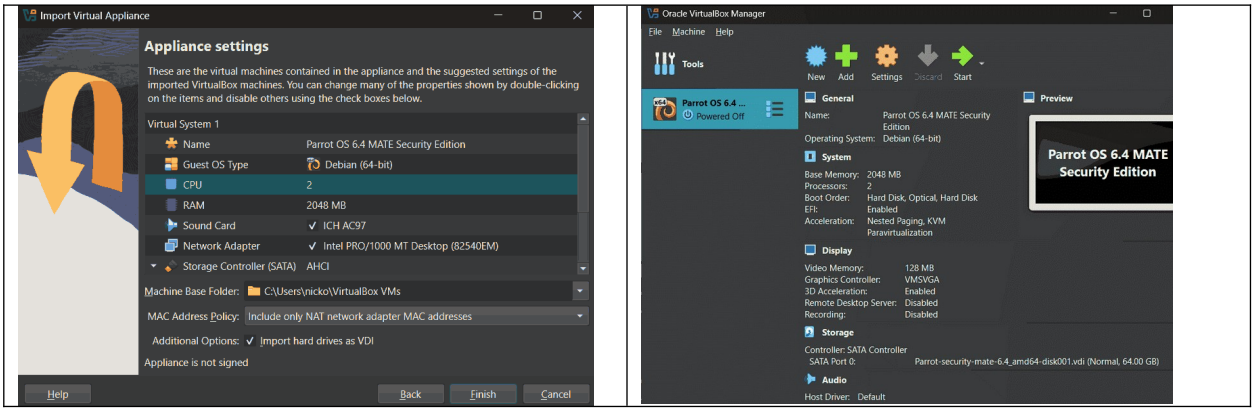
Parrot Linux .ova format: Link
Windows Server 2025 VHD image: Link

VHD files are for Hyper-V to convert it to vdi format I used his command

C:\Program Files\Oracle\VirtualBox\VBoxManage clonemedium disk "C:\Users\nicko\Documents\26100.1742.amd64fre.ge_release_svc_refresh.240906-0331_server_serverdatacentereval_en-us.vhdx" "C:\Users\nicko\Documents\windows_server_2025.vdi" --format VDI

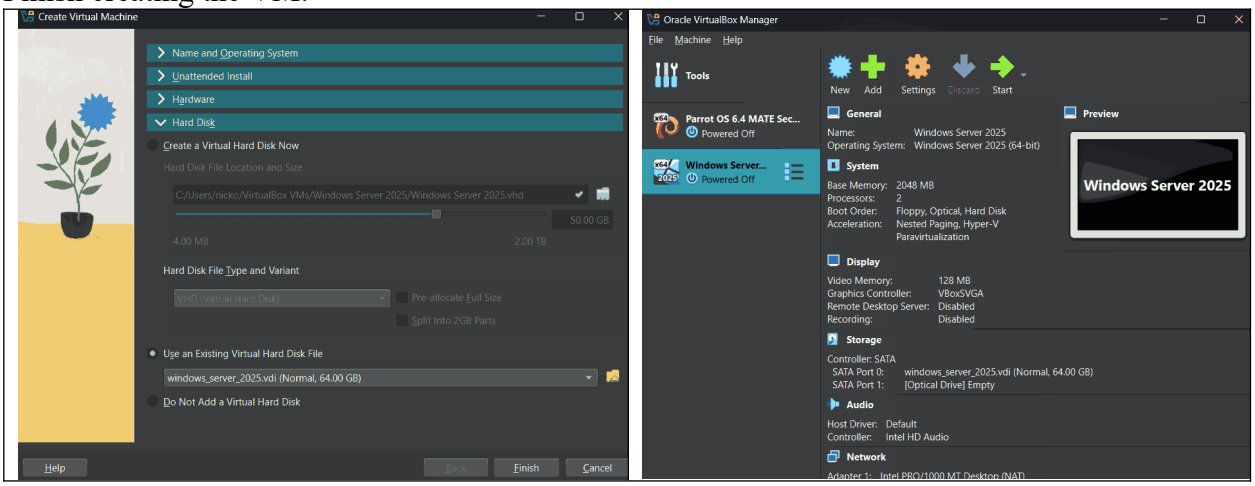
Task 3: Create the Parrot Linux VM

Go to File > Import Appliance from VirtualBox
Allocation: 2GB RAM, 40GB disk



Task 4: Create the Windows Server 2025

In VirtualBox, click on "New".
Name the VM (e.g., WindowsServer2025), select Type: Microsoft Windows, and Version: Windows 2025 (64-bit).
Allocate memory (e.g., 4096 MB)
Attach the VHD Image:
In the Hard disk section of the VM creation wizard, choose Use an existing virtual hard disk file.
Click on the folder icon and browse to select the downloaded Windows Server 2025 .vhd file.
Finish creating the VM.

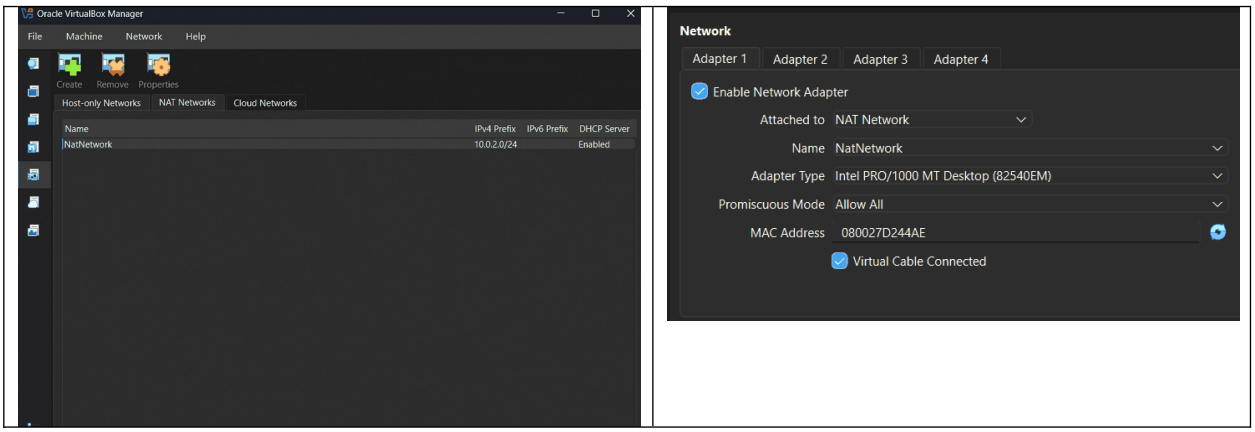


Task 5: Create and Configure the NAT Network

Click the "+" button to create a new NAT network.

Edit the NAT Network to ensure it is enabled, and note the IP range (e.g., 10.0.2.0/24).

Attach VMs to the NAT Network:
For each VM (Parrot Linux and Windows Server 2025), go to Settings > Network.
Set Adapter 1 to Attached to: NAT Network.
Select the NAT Network you just created.
Enable Promiscuous mode: All all or Allow VMs.

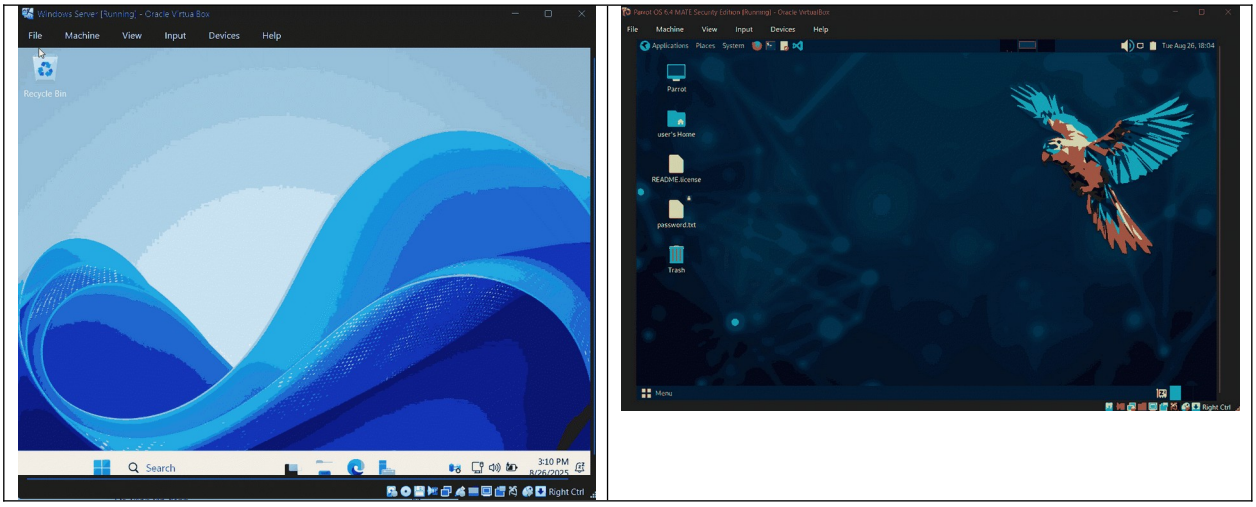


Ip subnet: 10.0.2.0/24
Note I had to update to the newest version of VirtualBox 7.2 as the option did not show up

Task 6: Start the VMs

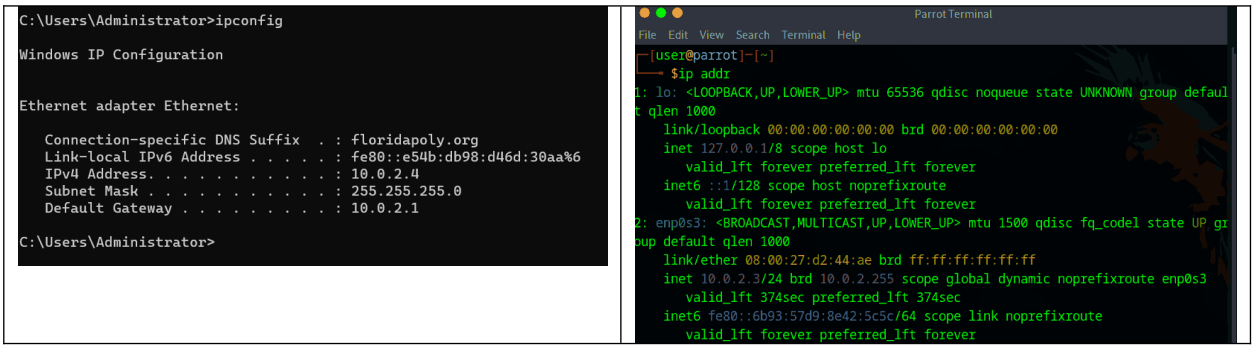
Windows VM did not boot up got this error. The virtual machine failed to boot. That might be caused by a missing operating system or misconfigured boot order. Mounting an operating system install DVD might solve this problem. Selecting an ISO file will attempt to mount it after the dialog is closed.

Accidentally I deleted both the VDI and the vhdx files together. I will just use the ISO file as it won't give me more troubles.



Task 7: Verify Network Configuration

Windows Server 2025 command: ipconfig
Parrot Linux command: ip addr

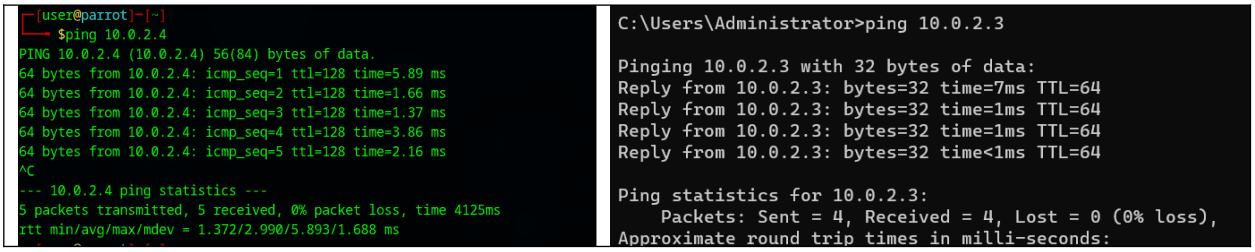


Windows ip address: 10.0.2.4
Parrot ip address: 10.0.2.3

Test Communication Between VMs
From Parrot Linux, ping windows Server 2025:
# To enable ping without sudo
sudo setcap cap_net_raw+p $(which ping)

ping <Windows Server 2025 IP>

turn on its echo services for Windows Server: link



Task 8: Verify Network Configuration

Guest Additions need to be installed on both VMs to enable bidirectional copy-paste and shared folders
Parrot Linux command: lsmod | grep vboxguest

Insert the Guest Additions CD:
In VirtualBox, with the VM running, go to Devices > Insert Guest Additions CD Image.
Install Required Packages:
Open a terminal in Parrot Linux and run:
sudo apt update
sudo apt install build-essential dkms linux-headers-$(uname -r)

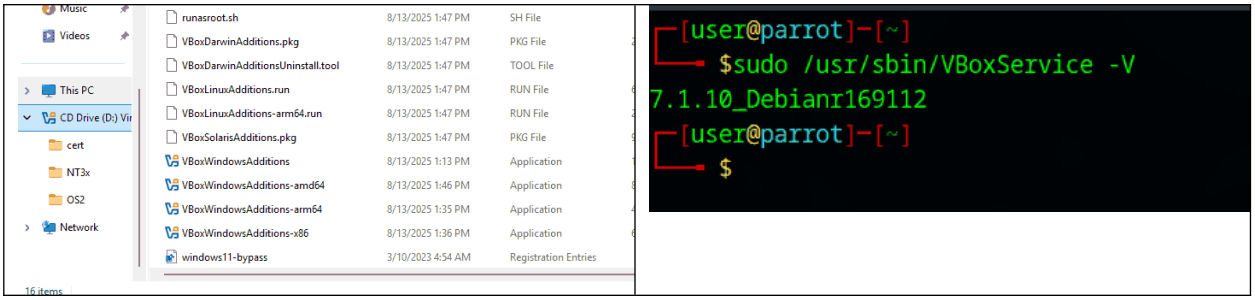
Mount and Install Guest Additions:
In the terminal, run:
sudo mkdir /mnt/cdrom
sudo mount /dev/cdrom /mnt/cdrom
sudo /mnt/cdrom/VBoxLinuxAdditions.run

Reboot the VM: sudo reboot

For Windows Server 2025
Start the Windows Server 2025 VM.
Insert the Guest Additions CD:
In VirtualBox, with the VM running, go to Devices > Insert Guest Additions CD Image.
Install Guest Additions:
When the CD is detected, run the installer (VBoxWindowsAdditions.exe) from the CD drive.
Follow the prompts to install Guest Additions.
Reboot the VM after installation

Task 9: Enable Bidirectional Copy-Paste

With the VM Powered On:
Go to Devices > Shared Clipboard.
Select Bidirectional.
Go to Devices > Drag and Drop.
Select Bidirectional.



Task 10: Create Shared Folders

With the VM Powered Off:

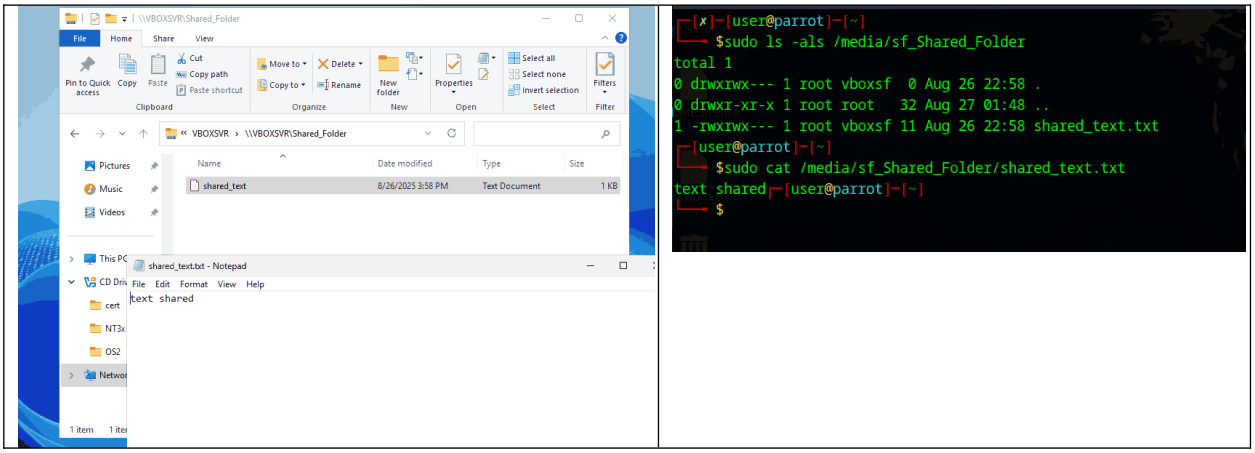
Go to Settings > Shared Folders.
Click the "+" icon on the right to add a new shared folder.
Choose a folder path on your host machine.
Set the Folder Name (this is how it will appear in the VM).
Check Auto-mount and optionally Make Permanent.

Access Shared Folders in Parrot Linux
After Booting the VM:
The shared folder should automatically appear in the /media/sf_<folder_name> directory.
If it doesn't appear, add the user to the vboxsf group:
sudo usermod -aG vboxsf $USER
Log out and log back in, or reboot the VM to apply the changes.

Access Shared Folders in Windows Server 2025
After Booting the VM:
Open File Explorer.
The shared folder should be listed as a network drive under This PC.
You can now access the shared folder directly from Windows Explorer.

Task 11: Final Verification

Copy-Paste Test: Try copying text or files between the host and the guest VMs to verify that bidirectional copy-paste is working.
Shared Folders Test: Place files in the shared folder on the host and verify that they appear in both VMs.



Conclusions

Detail the output and results of the laboratory exercises. Answer the question: “What did you learn during this lab?”

The result of this lab was being able to install and configure different virtual machines, which included specifying the amount of RAM, Storage, CPU cores, NAT, ip addresses, Promiscuous mode, testing communication between VM using IMCP, enabling Bidirectional copy and paste, and lastly creating shared folders between the VMs and host

References

https://github.com/ufidon/comsec/blob/main/labs/lab01/README.md