Experiment No.

Title: To install and configure Tails OS in a VirtualBox environment using an ISO image.

Roll No.: 16010423076 **Experiments No.:6**

Aim : To install and configure Tails OS in a VirtualBox environment using an ISO image.

Resources : Internet connection**,** Oracle VirtualBox, Tails OS ISO Image

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Theory:

Tails OS (The Amnesic Incognito Live System) is a security-focused Linux distribution designed for privacy, anonymity, and security. It is based on Debian Linux and routes all internet traffic through Tor (The Onion Router), ensuring encrypted and anonymous browsing. Tails operates as a Live OS, meaning it runs from a USB or ISO file and does not leave traces on the host system.

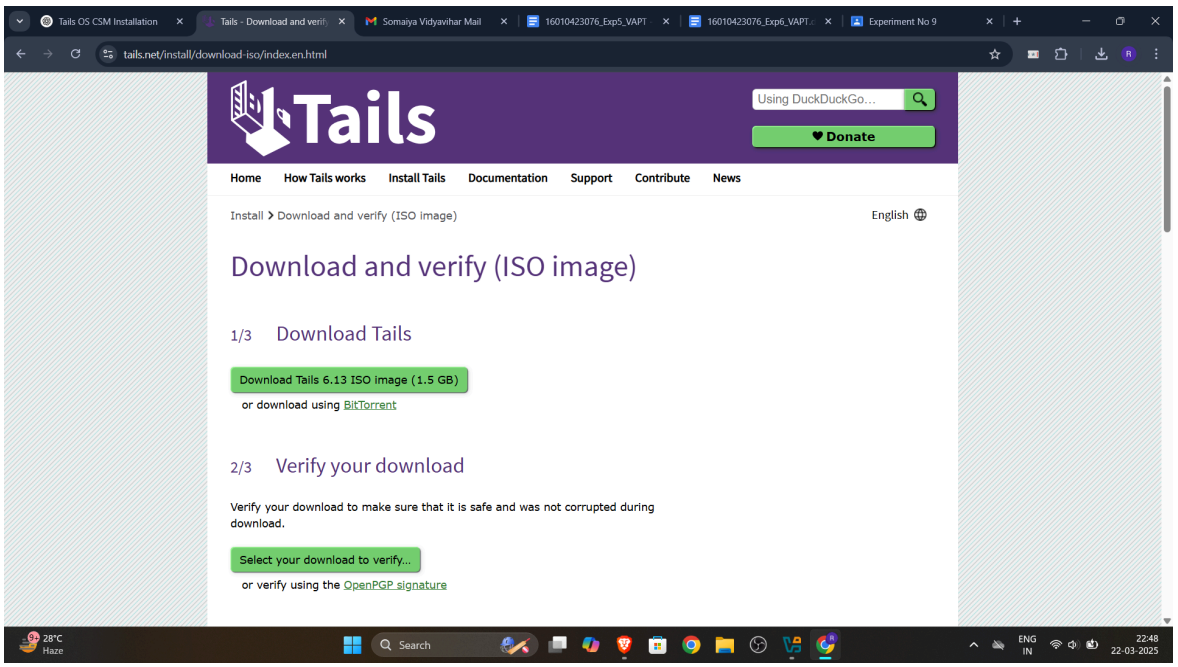
Key Features of Tails OS:

- Anonymity: All network connections are forced through Tor, hiding the user's identity.
- Amnesia Mode: No activity logs are stored on the system after shutdown.
- Built-in Encryption: Tools like LUKS encryption, GnuPG, and VeraCrypt are pre-installed.
- Secure Communication: Comes with Tor Browser, OnionShare, and Thunderbird for private messaging and browsing.

IMPLEMENTATION AND RESULTS:

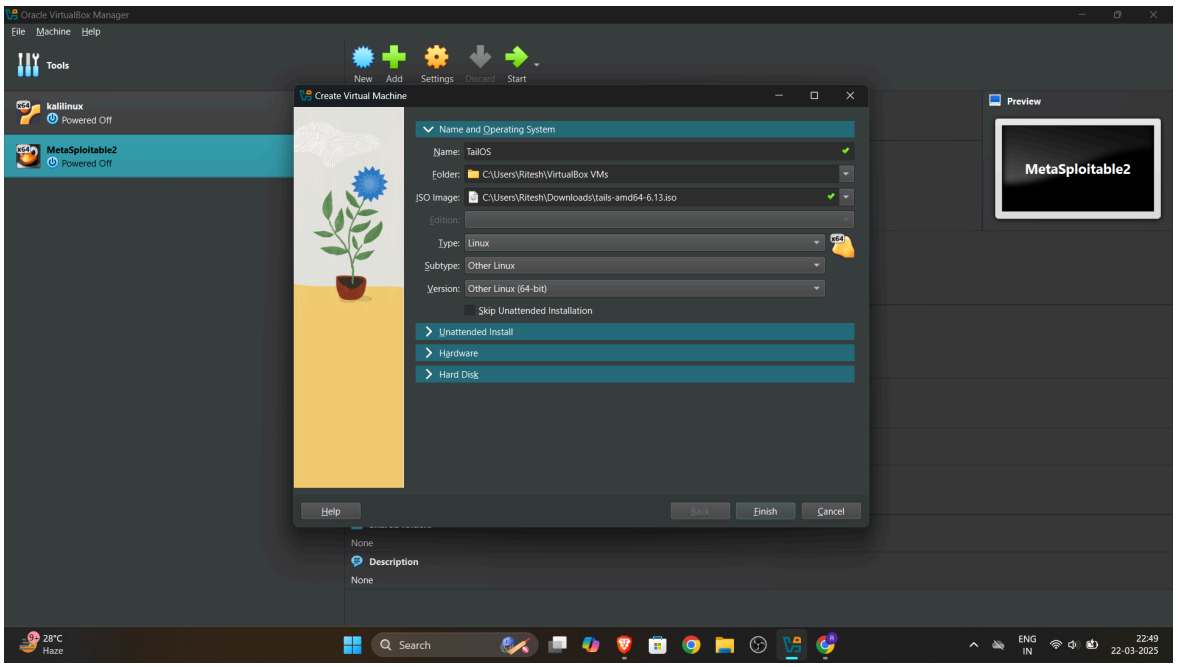
1. Downloading the Tails OS ISO

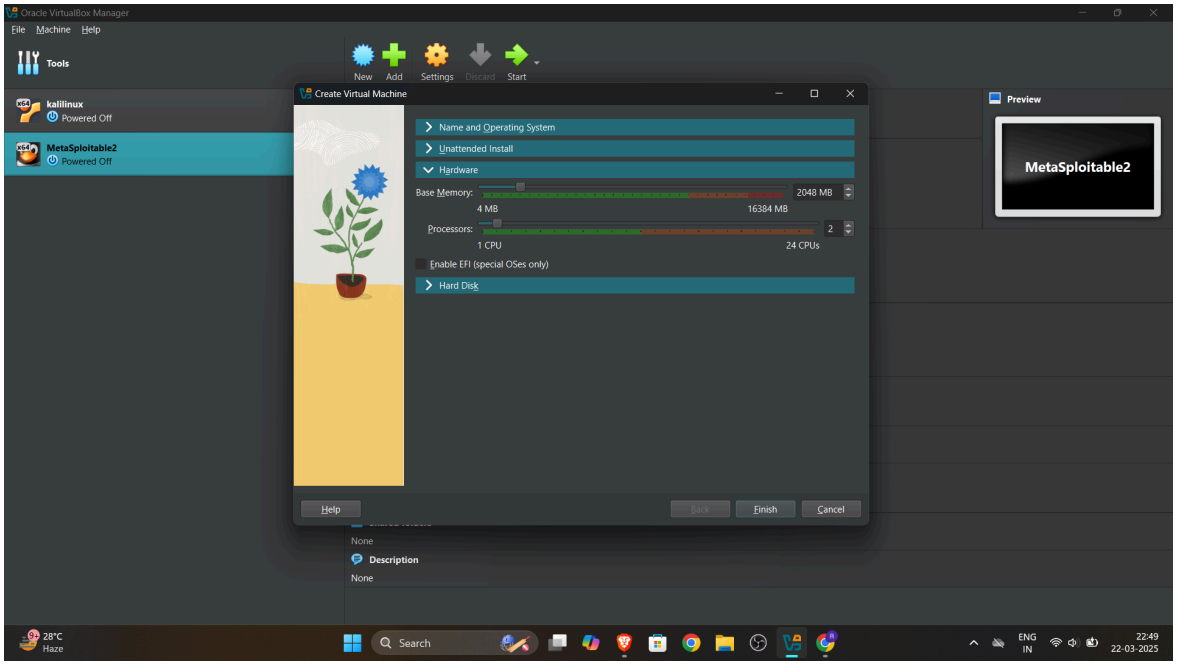
To begin, I downloaded the latest Tails ISO from its official website (https://tails.net/). This ensures I have an up-to-date, secure version of the OS.

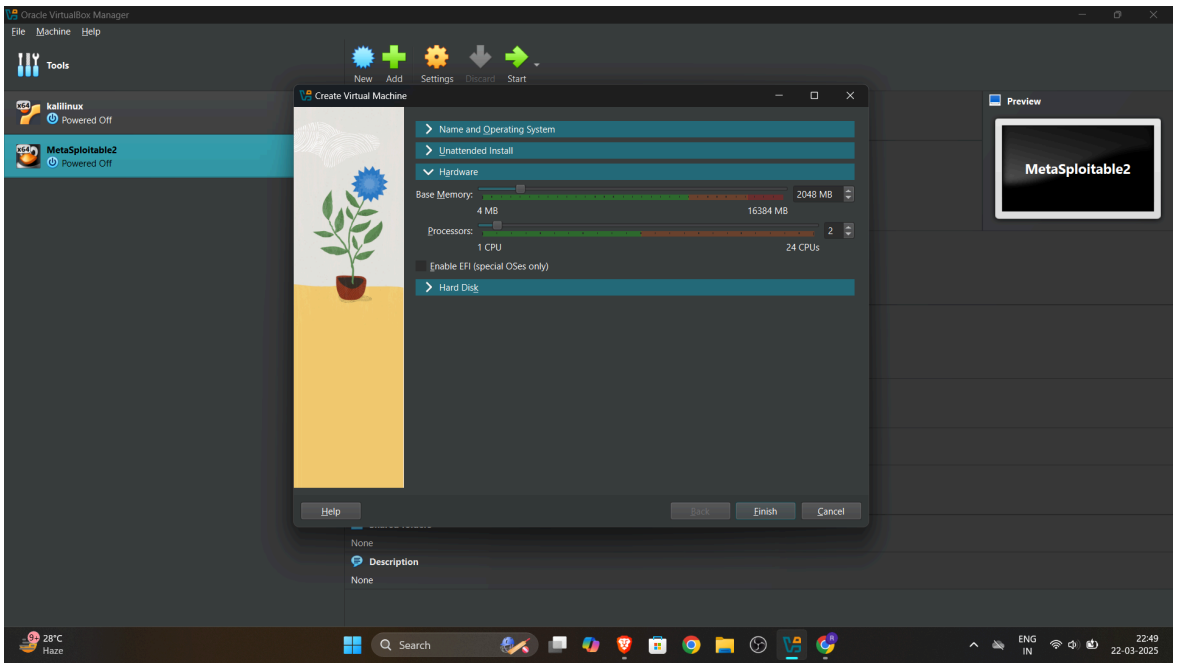


2. Configuring the Virtual Machine

- Name: I assigned a suitable name, e.g., Tails OS.
- Type: Selected Linux as the OS type.
- Version: Chose Other Linux (64-bit) to match Tails' system requirements.
- Memory Allocation: I allocated at least 2GB RAM, though 4GB is recommended for better performance.
- Storage: I opted for a dynamically allocated VDI disk with at least 8GB, preferably 16GB.


Oracle VirtualBox Manager
File Machine Help
Tools
New Add Settings Discard Start
kalilinux
Powered Off
MetaSploitable2
Powered Off
Create Virtual Machine
Name and Operating System
Name: TailOS
Folder: C:\Users\Ritesh\VirtualBox VMs
ISO Image: C:\Users\Ritesh\Downloads\tails-amd64-6.13.iso
Edition:
Type: Linux
Subtype: Other Linux
Version: Other Linux (64-bit)
Skip Unattended Installation
Unattended Install
Hardware
Hard Disk
Help Back Finish Cancel
Preview
MetaSploitable2
None
Description
None
28°C Haze
Search
ENG IN
22:49 22-03-2025

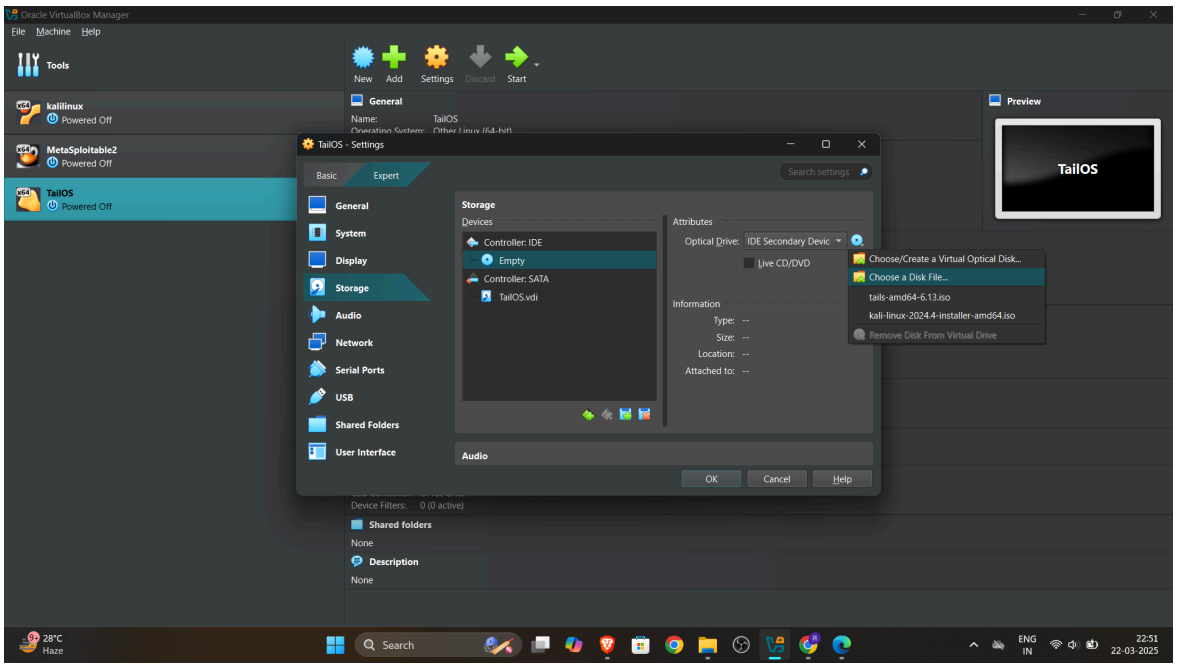

Oracle VirtualBox Manager
File Machine Help
Tools
New Add Settings Discard Start
kalilinux
Powered Off
MetaSploitable2
Powered Off
Create Virtual Machine
Name and Operating System
Unattended Install
Hardware
Base Memory: 2048 MB
4 MB 16384 MB
Processors: 2
1 CPU 24 CPUs
Enable EFI (special OSes only)
Hard Disk
Help Back Finish Cancel
Preview
MetaSploitable2
None
Description
None
28°C Haze
Search
ENG IN
22:49 22-03-2025

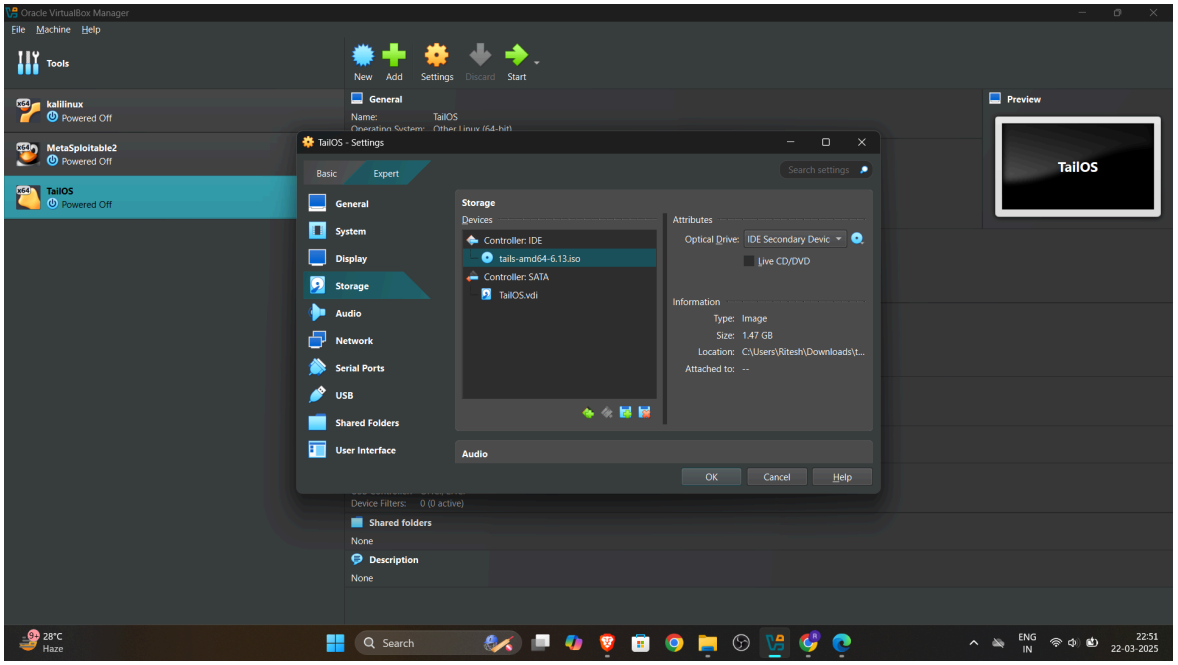


3. Mounting the Tails ISO

After setting up the VM, I proceeded to attach the **Tails ISO** to it:

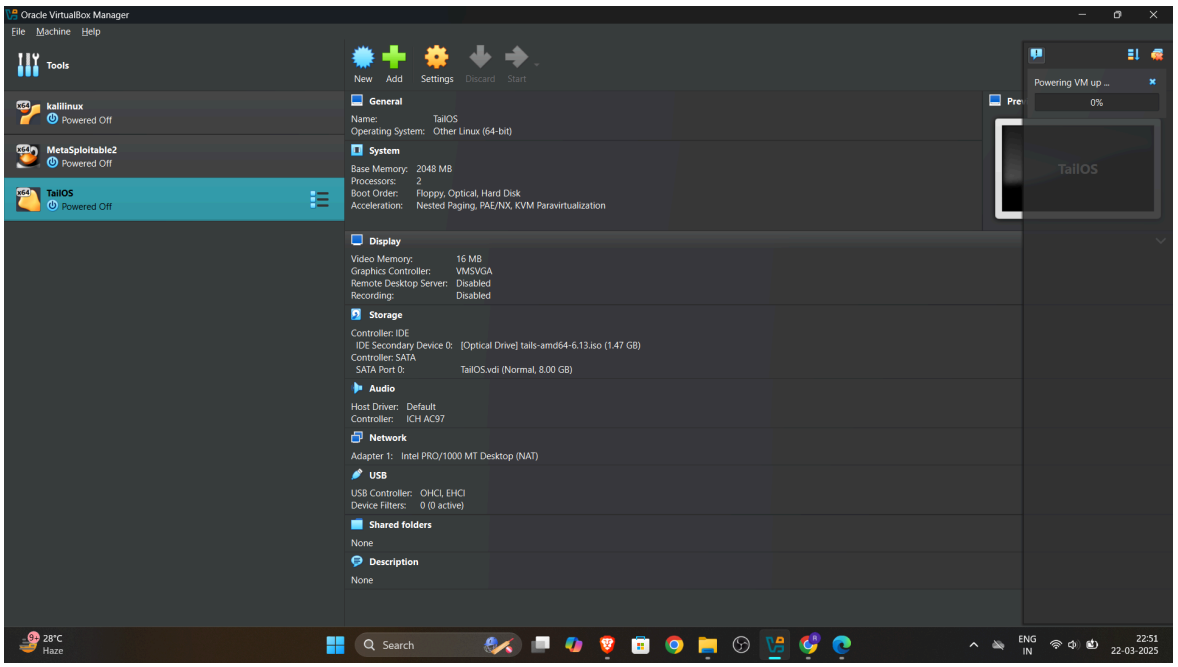
- Opened Settings → Storage.
- Selected Empty under Controller: IDE.
- Clicked the CD icon and chose "Select a disk file" to mount the downloaded Tails ISO.

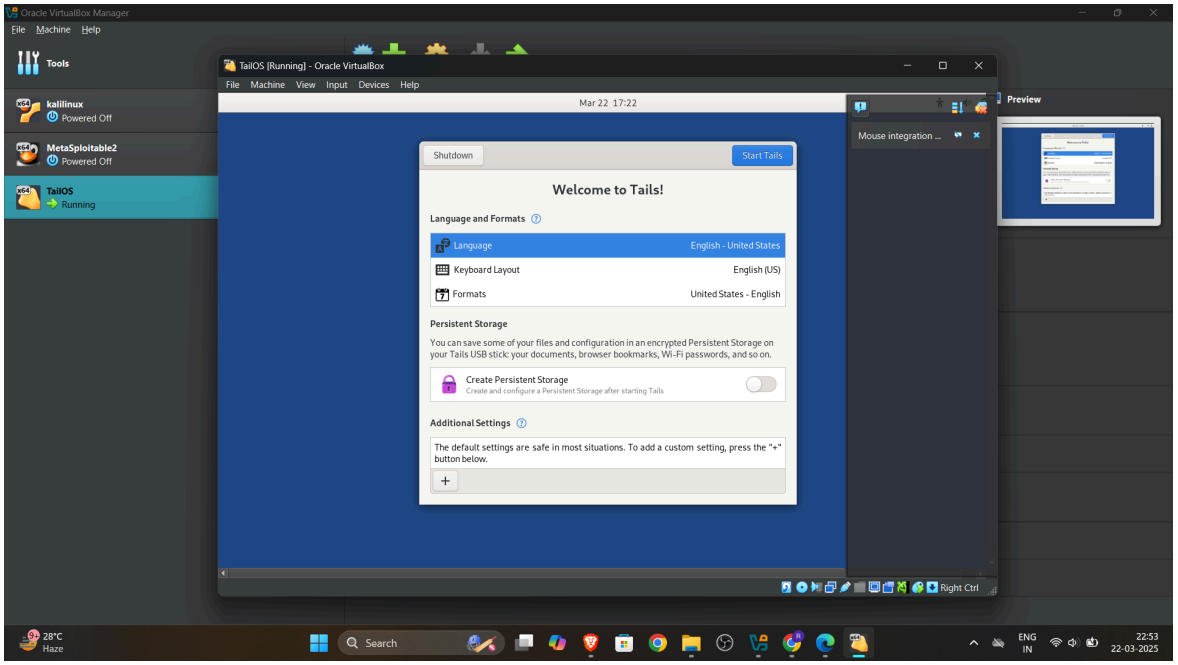


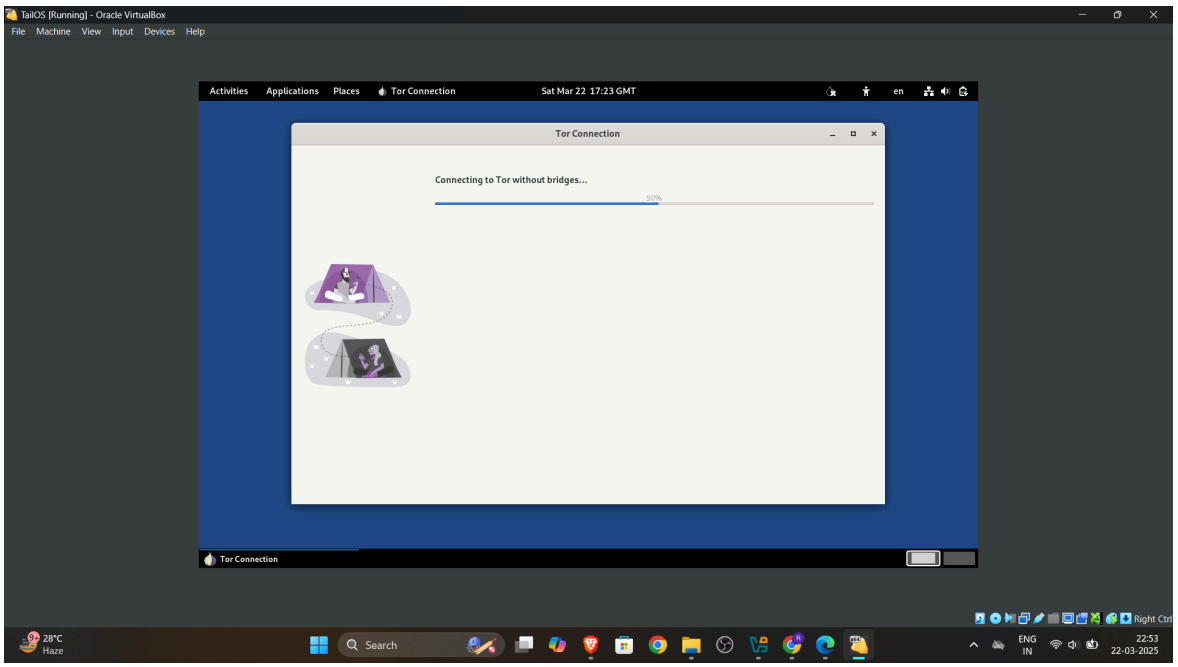


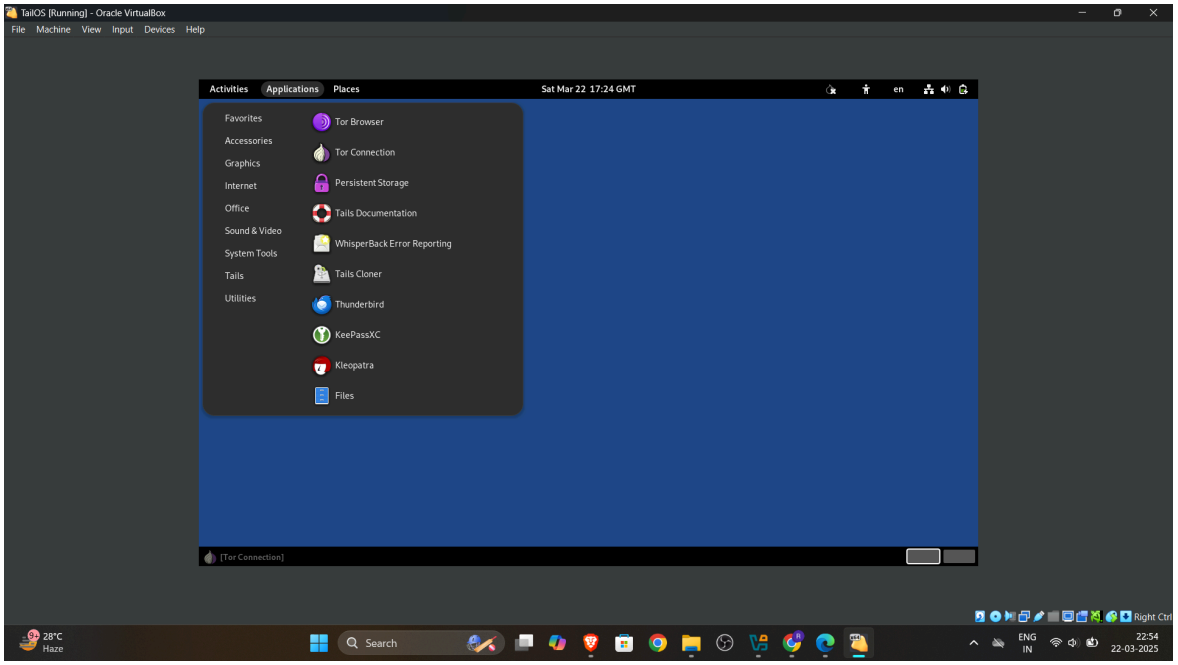
4. Booting and Running Tails OS

With everything in place, I started the VM. The Tails boot menu appeared, from which I selected Tails (Live) – Default Boot. The OS loaded successfully, and I proceeded with the initial configuration, setting up language and region preferences.


Oracle VirtualBox Manager
File Machine Help
Tools
kalilinux
Powered Off
MetaSploitable2
Powered Off
TailOS
Powered Off
New Add Settings Discard Start
General
Name: TailOS
Operating System: Other Linux (64-bit)
System
Base Memory: 2048 MB
Processors: 2
Boot Order: Floppy, Optical, Hard Disk
Acceleration: Nested Paging, PAE/NX, KVM Paravirtualization
Display
Video Memory: 16 MB
Graphics Controller: VMSVGA
Remote Desktop Server: Disabled
Recording: Disabled
Storage
Controller: IDE
IDE Secondary Device 0: [Optical Drive] tails-amd64-6.13.iso (1.47 GB)
Controller: SATA
SATA Port 0: TailOS.vdi (Normal, 8.00 GB)
Audio
Host Driver: Default
Controller: ICH AC97
Network
Adapter 1: Intel PRO/1000 MT Desktop (NAT)
USB
USB Controller: OHCI, EHCI
Device Filters: 0 (0 active)
Shared folders
None
Description
None
Powering VM up ...
0%
TailOS
28°C Haze
Search
ENG IN
22:51 22-03-2025


Oracle VirtualBox Manager
File Machine Help
Tools
kalilinux
Powered Off
MetaSploitable2
Powered Off
TailOS
Running
TailOS [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Mar 22 17:22
Shutdown
Start Tails
Welcome to Tails!
Language and Formats
Language English - United States
Keyboard Layout English (US)
Formats United States - English
Persistent Storage
You can save some of your files and configuration in an encrypted Persistent Storage on your Tails USB stick: your documents, browser bookmarks, Wi-Fi passwords, and so on.
Create Persistent Storage
Create and configure a Persistent Storage after starting Tails
Additional Settings
The default settings are safe in most situations. To add a custom setting, press the "+" button below.
Mouse integration ...
Preview
Right Ctrl
28°C Haze
Search
ENG IN
22:53 22-03-2025


TailOS [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Activities Applications Places Tor Connection Sat Mar 22 17:23 GMT en
Tor Connection
Connecting to Tor without bridges...
50%
Tor Connection
28°C Haze
Search
ENG IN
22:53 22-03-2025
Right Ctrl


TailOS [Running] - Oracle VirtualBox
File Machine View Input Devices Help
Activities Applications Places Sat Mar 22 17:24 GMT en
Favorites
Accessories
Graphics
Internet
Office
Sound & Video
System Tools
Tails
Utilities
Tor Browser
Tor Connection
Persistent Storage
Tails Documentation
WhisperBack Error Reporting
Tails Cloner
Thunderbird
KeePassXC
Kleopatra
Files
[Tor Connection]
28°C Haze
Search
ENG IN
22:54 22-03-2025
Right Ctrl

Outcomes: `CO2: Comprehend purpose of Anonymity and Foot printing.`

Conclusion: (Conclusion to be based on the objectives and outcomes achieved)

From this experiment, I learned how to install and configure Tails OS in VirtualBox, ensuring a secure and private computing environment. I explored the anonymity and security features provided by Tails, such as Tor routing, amnesic mode, and encryption tools. This experiment provided hands-on experience with virtualization, Linux OS setup, and privacy-focused computing.

Grade: AA / AB / BB / BC / CC / CD /DD

Signature of faculty in-charge with date

REFERENCES:

Tails OS Official Website: https://tails.net/

VirtualBox Official Download: https://www.virtualbox.org/

Tor Project: https://www.torproject.org/

Debian Linux: https://www.debian.org/