ASSIGNMENT 2 REPORT

LAB SETUP

Kali Linux & Metasploitable 2

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Date: 4/3/2024

Executive Summary:

The purpose of this report is to document the setup of a hacker lab, including the installation of **Kali Linux** and **Metasploitable 2** in virtualbox.

Kali Linux is a Debian-derived Linux distribution that is maintained by Offensive Security. It is a specially designed OS for network analysts, Penetration testers, or in simple words, it is for those who work under the umbrella of cybersecurity and analysis.

Metasploitable is a virtualized Linux-based operating system that comes pre-loaded with a variety of vulnerabilities often found in operating systems that can be exploited. It was created to test the Metasploit Framework. It is an operating system designed specifically for practicing penetration testing, network security, and Metasploit-Framework skills, among other things.

The report provides steps to create the setup. It is essential to note that this lab is intended for educational and testing purposes only,

VIRTUALBOX INSTALLATION:

- Download virtualbox for its official website nd install the .exe file**.**

KALI LINUX SETUP

DOWNLOADING KALI LINUX ISO :

- Search kali linux in web browser and enter on its official website,
- Select the distribution that you want to install.
- Download the ISO image of the distribution from their websites.

Create a New Virtual Machine:

- Open VirtualBox.
- Click on "New" button on the top
- Enter a name for your virtual machine, select the type as "Linux," and choose the version as “Debian 64”.
- Allocate the amount of RAM that you want to assign to the virtual machine.

- Create a virtual hard disk. Choose the default options unless you have specific requirements.

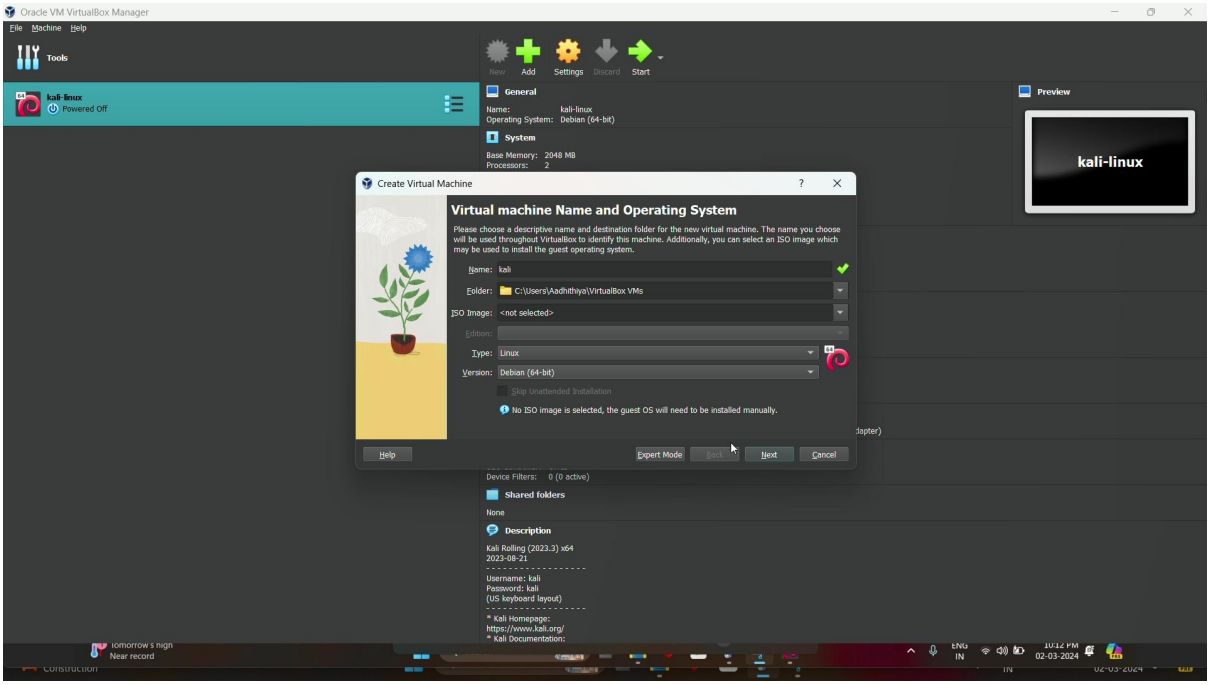
Configure Virtual Machine Settings:

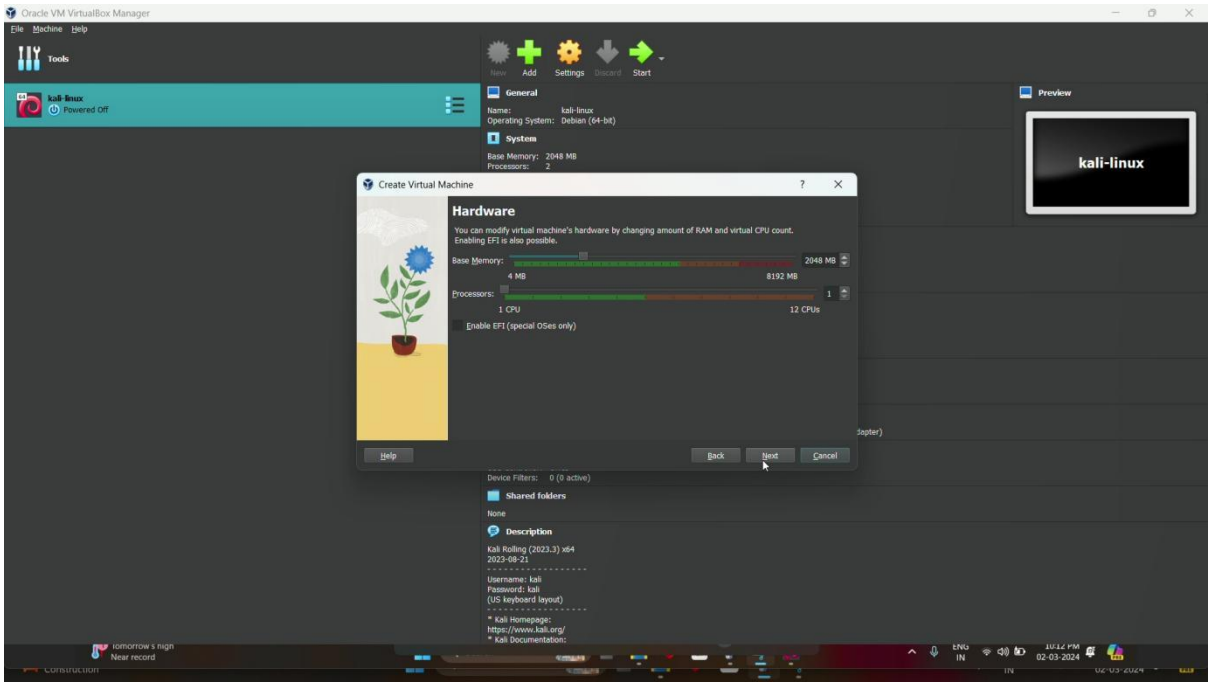
- Select the virtual machine and click on “Settings”
- Under the "System" tab, make sure the boot order includes "Optical" before "Hard Disk."
- Under the "Storage" tab, click on the empty disk next to "Controller: IDE" or "Controller: SATA," and then click the disk icon and choose "Choose a disk file."
- Browse the kali ISO file from your directory.

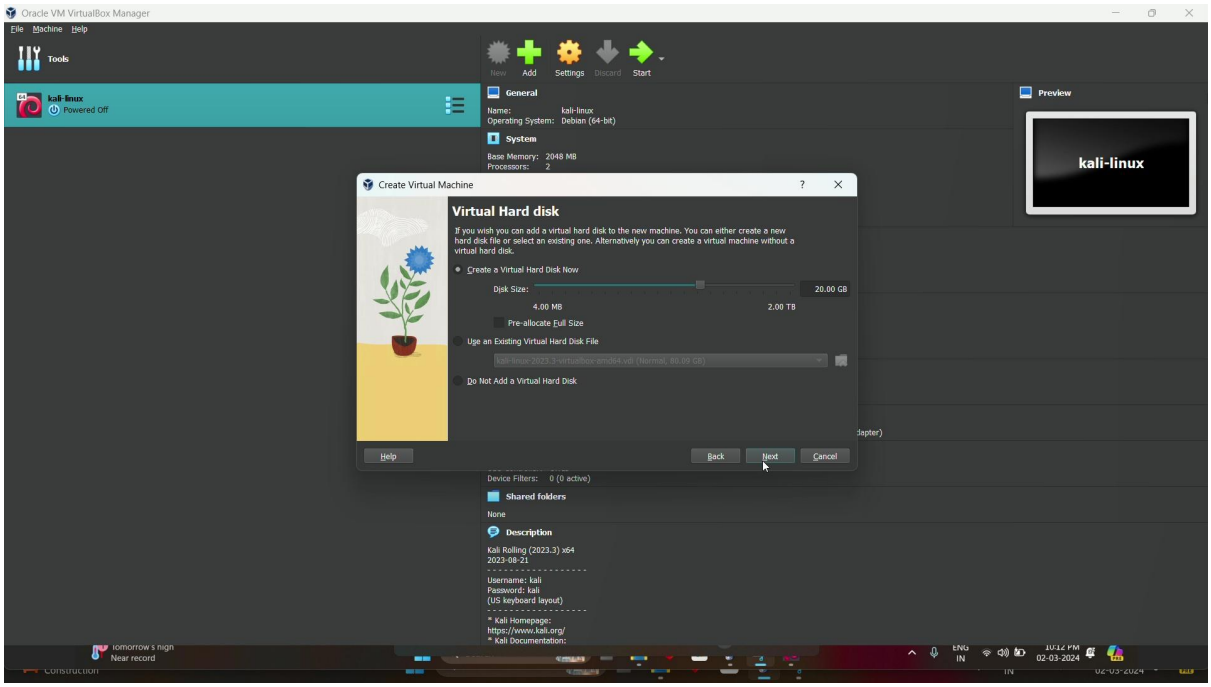
Install Linux:

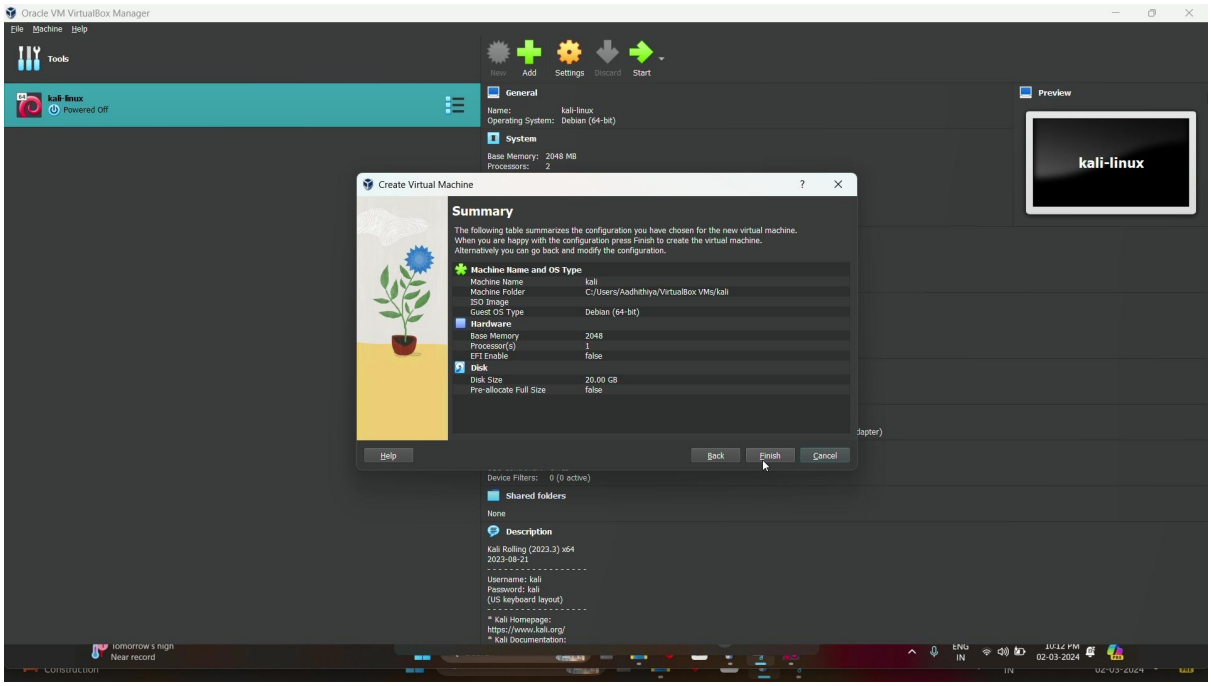
- Start the virtual machine by selecting it from the VirtualBox manager tab and click on "Start" button.
- The virtual machine will boot the Linux ISO you attached.
- When booted up, select the option to install Linux, and follow the on-screen instructions to complete the installation process.
- After installation, the virtual machine will likely prompt to restart.
- Go ahead and restart.

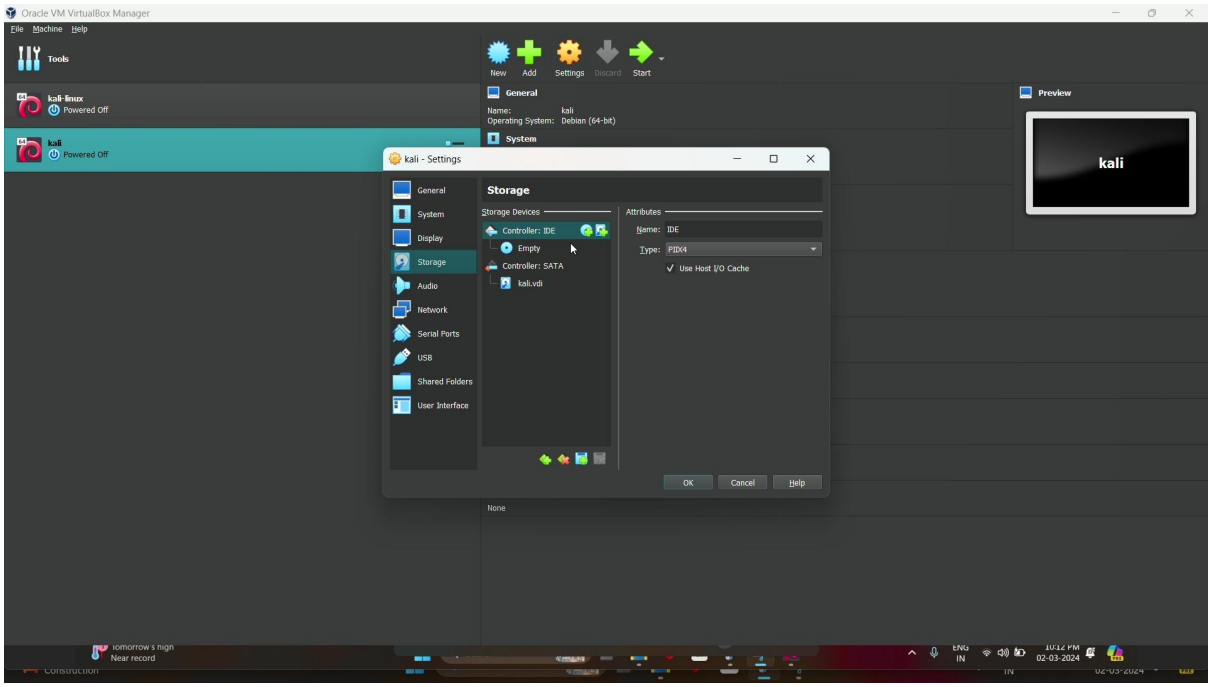
SCREENSHOTS

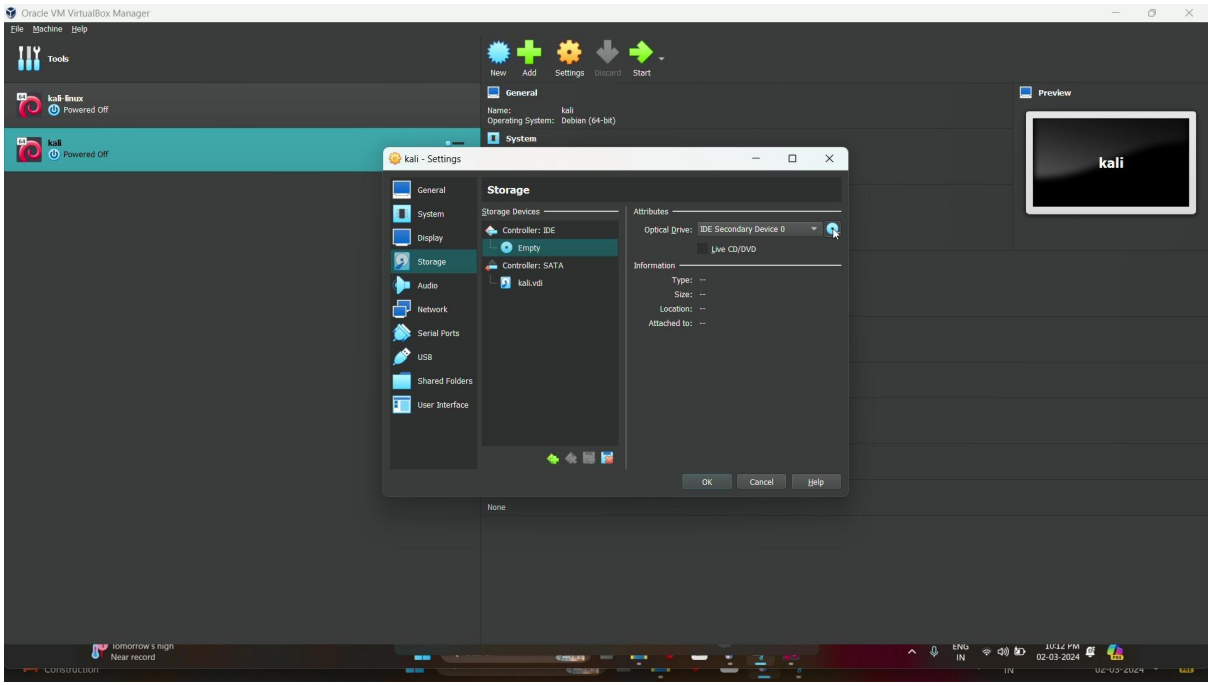


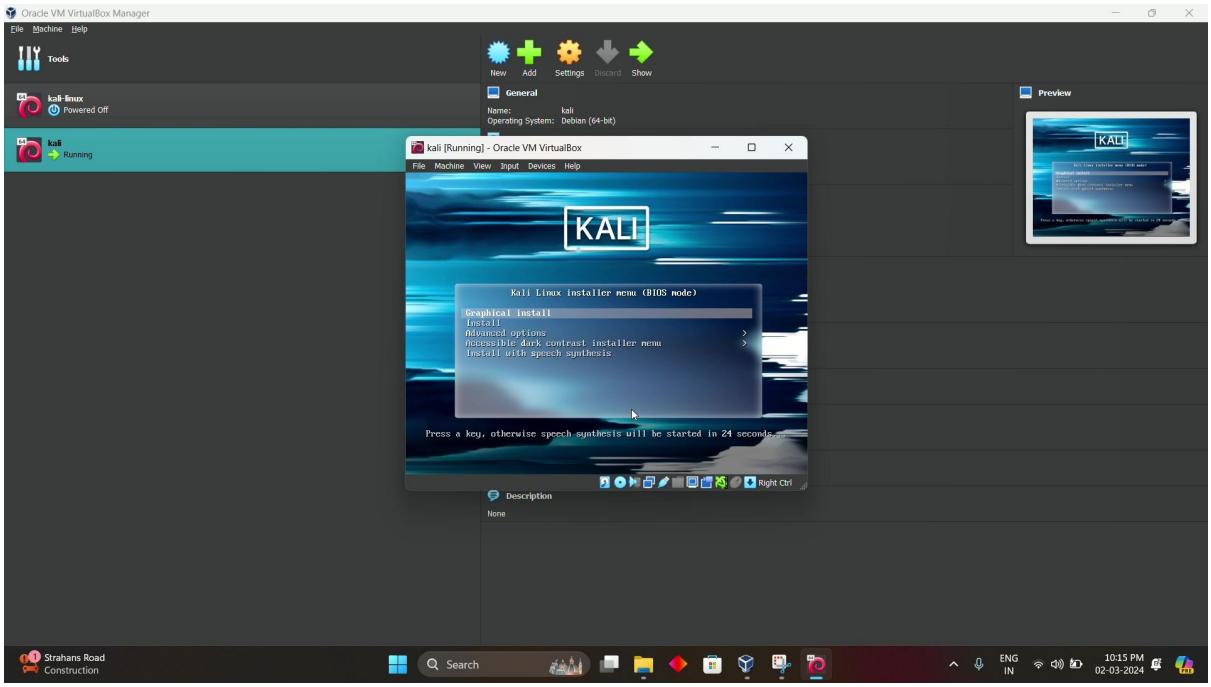

Oracle VM VirtualBox Manager
File Machine Help
Tools
kali-linux
Powered Off
New Add Settings Discard Start
General
Name: kali-linux
Operating System: Debian (64-bit)
System
Base Memory: 2048 MB
Processors: 2
Preview
kali-linux
Create Virtual Machine
Hardware
You can modify virtual machine's hardware by changing amount of RAM and virtual CPU count.
Enabling EFI is also possible.
Base Memory: 2048 MB
4 MB 8192 MB
Processors: 1
1 CPU 12 CPUs
Enable EFI (special OSes only)
Help Back Next Cancel
Device Filters: 0 (0 active)
Shared folders
None
Description
Kali Rolling (2023.3) x64
2023-08-21
Username: kali
Password: kali
(US keyboard layout)
* Kali Homepage:
https://www.kali.org/
* Kali Documentation:


Oracle VM VirtualBox Manager
File Machine Help
Tools
kali-linux
Powered Off
New Add Settings Discard Start
General
Name: kali-linux
Operating System: Debian (64-bit)
System
Base Memory: 2048 MB
Processors: 2
Preview
kali-linux
Create Virtual Machine
Virtual Hard disk
If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select an existing one. Alternatively you can create a virtual machine without a virtual hard disk.
Create a Virtual Hard Disk Now
Disk Size: 20.00 GB
4.00 MB 2.00 TB
Pre-allocate Full Size
Use an Existing Virtual Hard Disk File
Do Not Add a Virtual Hard Disk
Help Back Next Cancel
Device Filters: 0 (0 active)
Shared folders
None
Description
Kali Rolling (2023.3) x64
2023-08-21
Username: kali
Password: kali
(US keyboard layout)
* Kali Homepage:
https://www.kali.org/
* Kali Documentation:


Oracle VM VirtualBox Manager
File Machine Help
Tools
kali-linux
Powered Off
New Add Settings Discard Start
General
Name: kali-linux
Operating System: Debian (64-bit)
System
Base Memory: 2048 MB
Processors: 2
Preview
kali-linux
Create Virtual Machine
Summary
The following table summarizes the configuration you have chosen for the new virtual machine.
When you are happy with the configuration press Finish to create the virtual machine.
Alternatively you can go back and modify the configuration.
Machine Name and OS Type
Machine Name kali
Machine Folder C:/Users/Aadhithiya/VirtualBox VMs/kali
ISO Image
Guest OS Type Debian (64-bit)
Hardware
Base Memory 2048
Processor(s) 1
EFI Enable false
Disk
Disk Size 20.00 GB
Pre-allocate Full Size false
Help
Back
Finish
Cancel
Device Filters: 0 (0 active)
Shared folders
None
Description
Kali Rolling (2023.3) x64
2023-08-21
Username: kali
Password: kali
(US keyboard layout)
* Kali Homepage:
https://www.kali.org/
* Kali Documentation:


Oracle VM VirtualBox Manager
File Machine Help
Tools
kali-linux
Powered Off
kali
Powered Off
New Add Settings Discard Start
General
Name: kali
Operating System: Debian (64-bit)
System
Preview
kali
kali - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Storage
Storage Devices
Controller: IDE
Empty
Controller: SATA
kali.vdi
Attributes
Name: IDE
Type: PIIX4
Use Host I/O Cache
OK
Cancel
Help
None


Oracle VM VirtualBox Manager
File Machine Help
Tools
kali-linux
Powered Off
kali
Powered Off
New Add Settings Discard Start
General
Name: kali
Operating System: Debian (64-bit)
System
Preview
kali
kali - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Storage
Storage Devices
Controller: IDE
Empty
Controller: SATA
kali.vdi
Attributes
Optical Drive: IDE Secondary Device 0
Live CD/DVD
Information
Type: --
Size: --
Location: --
Attached to: --
OK
Cancel
Help
None


Oracle VM VirtualBox Manager
File Machine Help
Tools
kali-linux
Powered Off
kali
Running
New Add Settings Discard Show
General
Name: kali
Operating System: Debian (64-bit)
Preview
kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
KALI
Kali Linux installer menu (BIOS mode)
Graphical install
Install
Advanced options
Accessible dark contrast installer menu
Install with speech synthesis
Press a key, otherwise speech synthesis will be started in 24 seconds...
Right Ctrl
Description
None
Strahans Road
Construction
Search
ENG
IN
10:15 PM
02-03-2024

METASPLOITABLE SETUP

Download Metasploitable 2:

- Download Metasploitable 2 from a trusted source. The file will be in .VMDK format, which is compatible with Virtual box.

Import Metasploitable 2 into VirtualBox:

- Launch VirtualBox.
- Click on "New" and enter the machine name.
- Select the type as **"Linux"** and version as **"Ubantu(32-bit)"**
- Click "Next" and leave the hardware configuration in deafaut.
- In virtual hard settings select **"Use an existing virtual hard disk file"** and choose the file from your directory.
- Review the summary and click on finish.

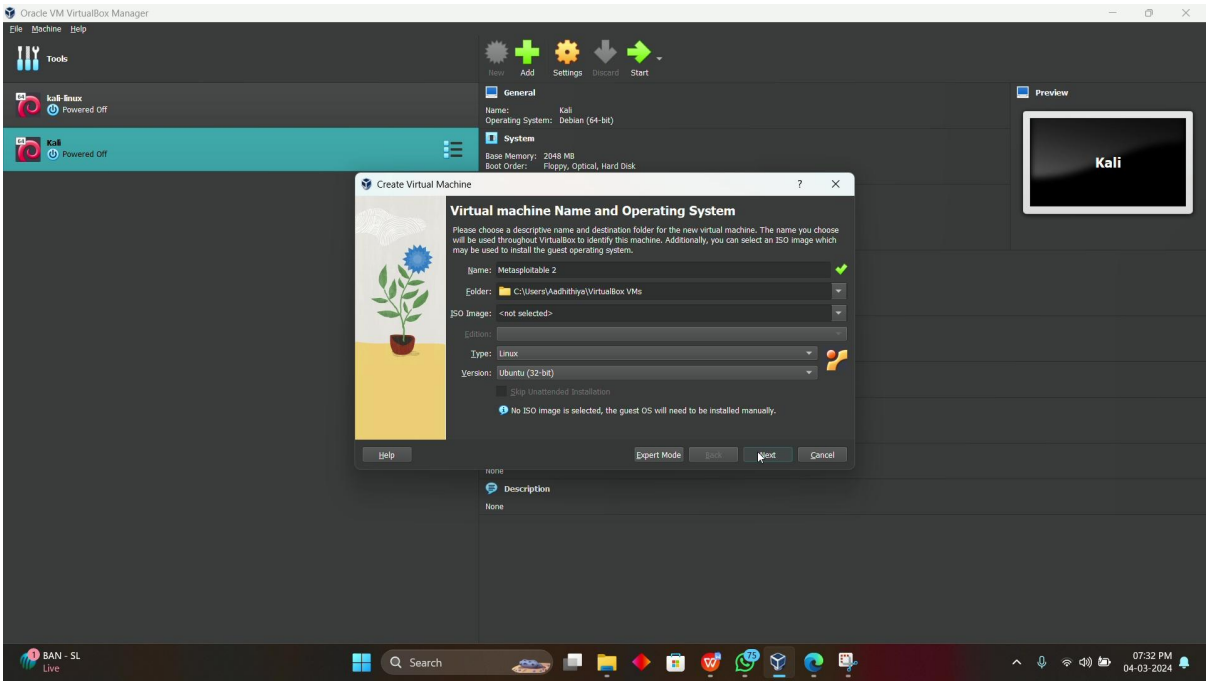
Configure Metasploitable 2 VM (if required)

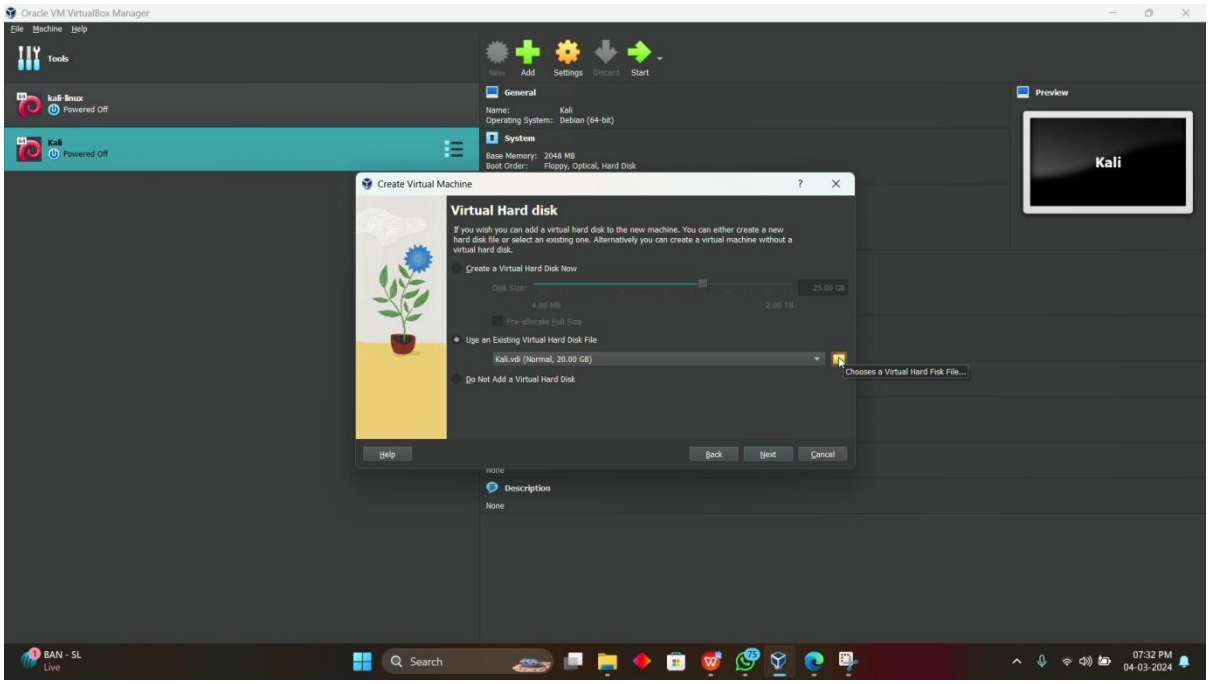
- Select the Metasploitable from the VirtualBox manager tab.
- Click on "Settings".
- Adjust settings if necessary, but you may adjust based on your system resources.
- Click "OK" to save the settings.

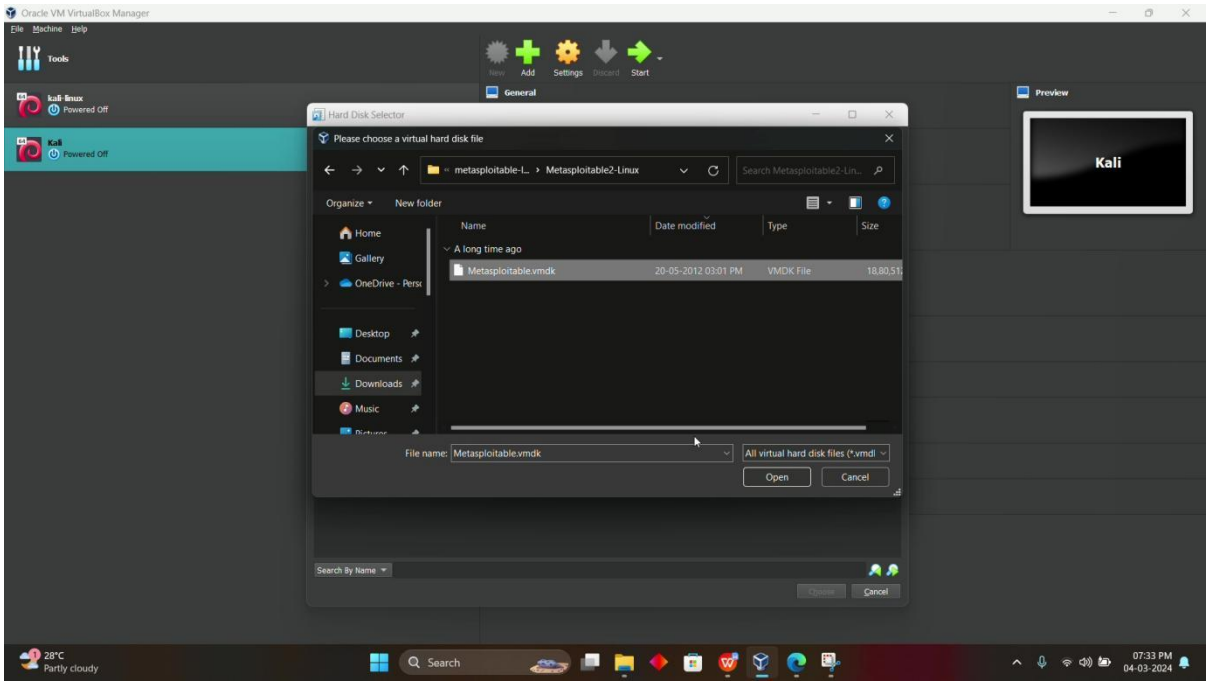
Start Metasploitable 2 VM:

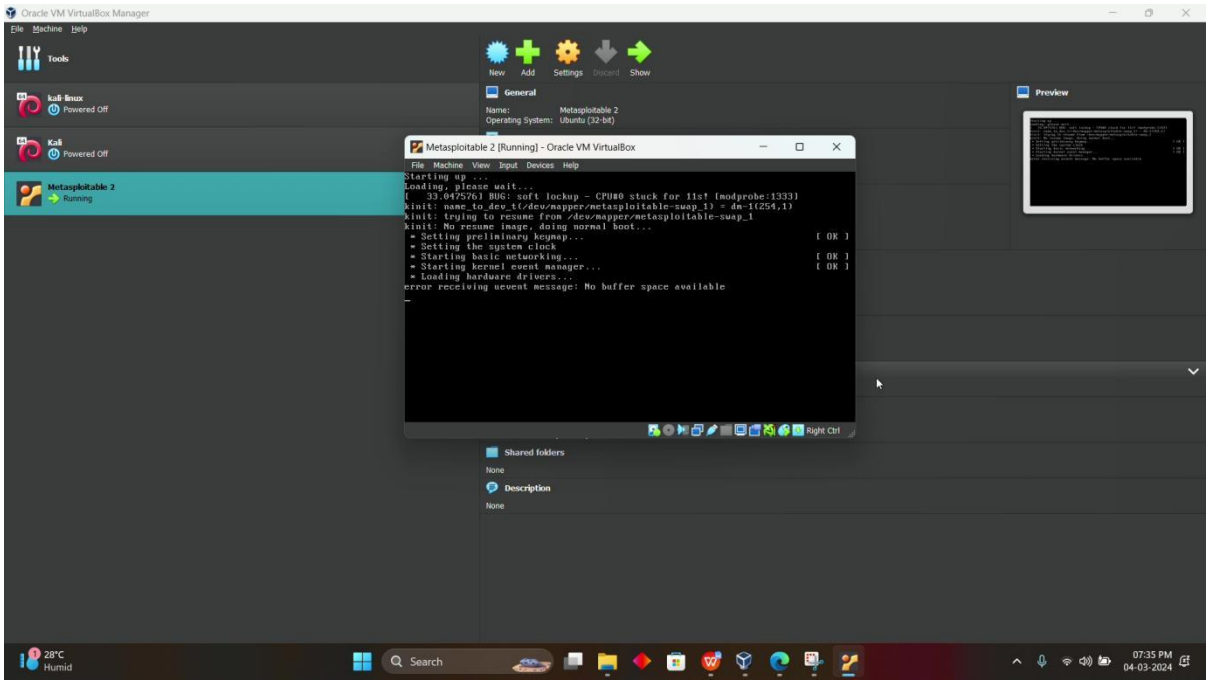
- Select the Metasploitable.
- Click on “Start” Button.
- Wait until it check the pre requisites and show the metaMetasploitable login.

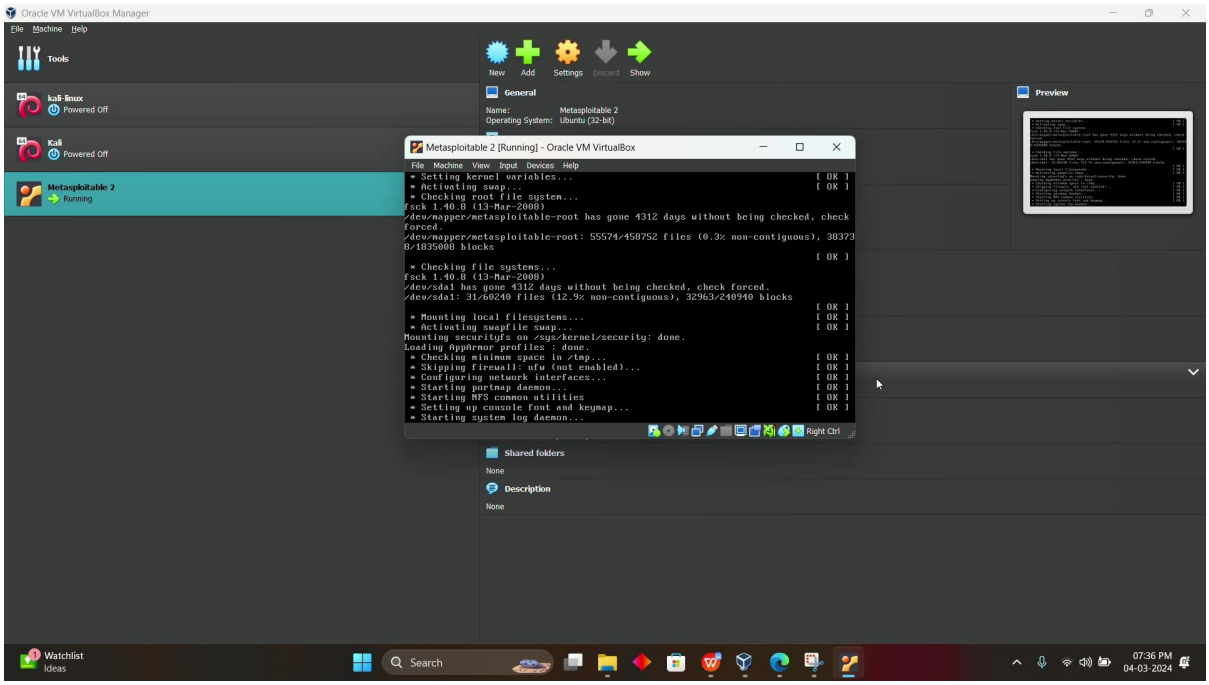
SCREENSHOTS

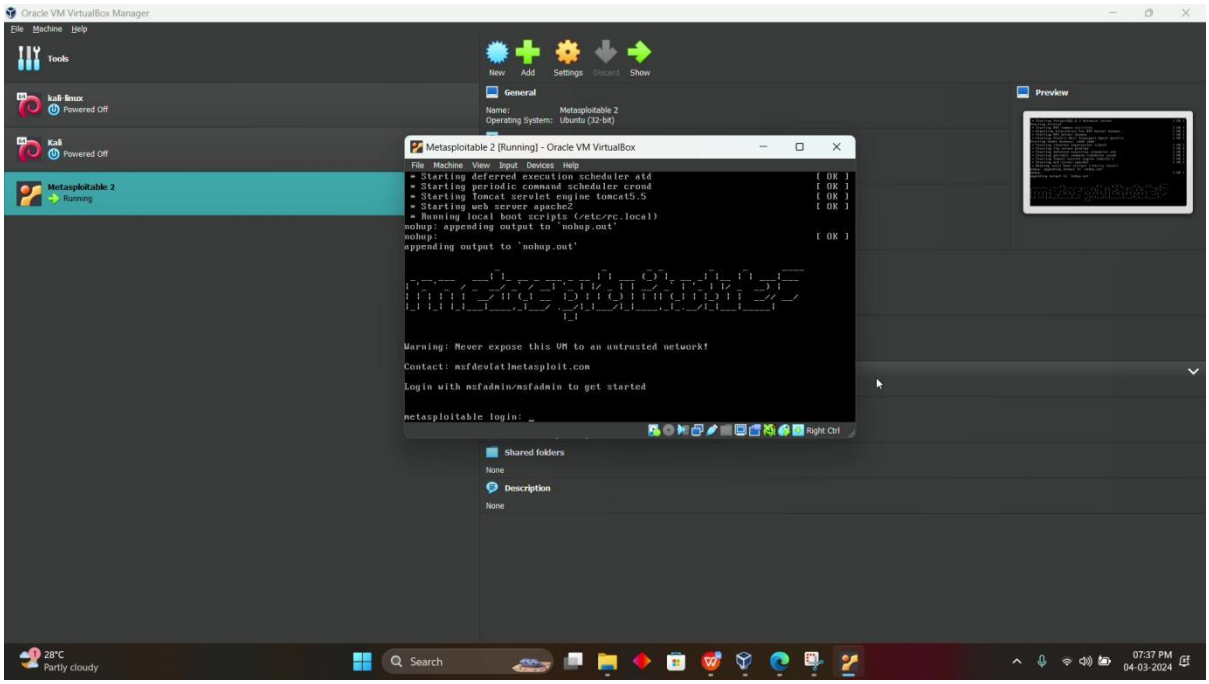



Oracle VM VirtualBox Manager
File Machine Help
Tools
kali-linux
Powered Off
Kali
Powered Off
New Add Settings Discard Start
General
Name: Kali
Operating System: Debian (64-bit)
System
Base Memory: 2048 MB
Boot Order: Floppy, Optical, Hard Disk
Preview
Kali
Create Virtual Machine
Virtual Hard disk
If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select an existing one. Alternatively you can create a virtual machine without a virtual hard disk.
Create a Virtual Hard Disk Now
Disk Size:
25.00 GB
4.00 MB
2.00 TB
Pre-allocate Full Size
Use an Existing Virtual Hard Disk File
Kali.vdi (Normal, 20.00 GB)
Chooses a Virtual Hard Fisk File...
Do Not Add a Virtual Hard Disk
Help
Back
Next
Cancel
none
Description
None
BAN - SL
Live
Search
07:32 PM
04-03-2024


Oracle VM VirtualBox Manager
File Machine Help
Tools
kali-linux
Powered Off
Kali
Powered Off
New Add Settings Discard Start
General
Preview
Kali
Hard Disk Selector
Please choose a virtual hard disk file
metasploitable-l... › Metasploitable2-Linux
Search Metasploitable2-Lin...
Organize
New folder
Home
Gallery
OneDrive - Perso
Desktop
Documents
Downloads
Music
Name
Date modified
Type
Size
A long time ago
Metasploitable.vmdk
20-05-2012 03:01 PM
VMDK File
18,80,51
File name: Metasploitable.vmdk
All virtual hard disk files (*.vmdk
Open
Cancel
Search By Name
Choose
Cancel
28°C
Partly cloudy
Search
07:33 PM
04-03-2024


Oracle VM VirtualBox Manager
File Machine Help
Tools
kali-linux
Powered Off
Kali
Powered Off
Metasploitable 2
Running
New Add Settings Discard Show
General
Name: Metasploitable 2
Operating System: Ubuntu (32-bit)
Preview
Metasploitable 2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Starting up ...
Loading, please wait...
[33.047576] BUG: soft lockup - CPU#0 stuck for 11s! [modprobe:1333]
kinit: name_to_dev_t(/dev/mapper/metasploitable-swap_1) = dm-1(254,1)
kinit: trying to resume from /dev/mapper/metasploitable-swap_1
kinit: No resume image, doing normal boot...
* Setting preliminary keymap... [OK]
* Setting the system clock
* Starting basic networking... [OK]
* Starting kernel event manager... [OK]
* Loading hardware drivers...
error receiving uevent message: No buffer space available
Right Ctrl
Shared folders
None
Description
None
28°C
Humid
Search
07:35 PM
04-03-2024


Oracle VM VirtualBox Manager
File Machine Help
Tools
kali-linux
Powered Off
Kali
Powered Off
Metasploitable 2
Running
New Add Settings Discard Show
General
Name: Metasploitable 2
Operating System: Ubuntu (32-bit)
Preview
Metasploitable 2 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
* Setting kernel variables... [OK]
* Activating swap... [OK]
* Checking root file system...
fsck 1.40.8 (13-Mar-2008)
/dev/mapper/metasploitable-root has gone 4312 days without being checked, check forced.
/dev/mapper/metasploitable-root: 55574/458752 files (0.3% non-contiguous), 383738/1835008 blocks
[OK]
* Checking file systems...
fsck 1.40.8 (13-Mar-2008)
/dev/sda1 has gone 4312 days without being checked, check forced.
/dev/sda1: 31/60240 files (12.9% non-contiguous), 32963/240940 blocks
[OK]
* Mounting local filesystems... [OK]
* Activating swapfile swap... [OK]
Mounting securityfs on /sys/kernel/security: done.
Loading AppArmor profiles : done.
* Checking minimum space in /tmp... [OK]
* Skipping firewall: ufw (not enabled)... [OK]
* Configuring network interfaces... [OK]
* Starting portmap daemon... [OK]
* Starting NFS common utilities [OK]
* Setting up console font and keymap... [OK]
* Starting system log daemon...
Right Ctrl
Shared folders
None
Description
None
Watchlist
Ideas
Search
07:36 PM
04-03-2024



CONCLUSION:

The configuration of Kali Linux and Metasploitable 2 using VirtualBox provides a safe and controlled environment for learning and practicing penetration testing techniques