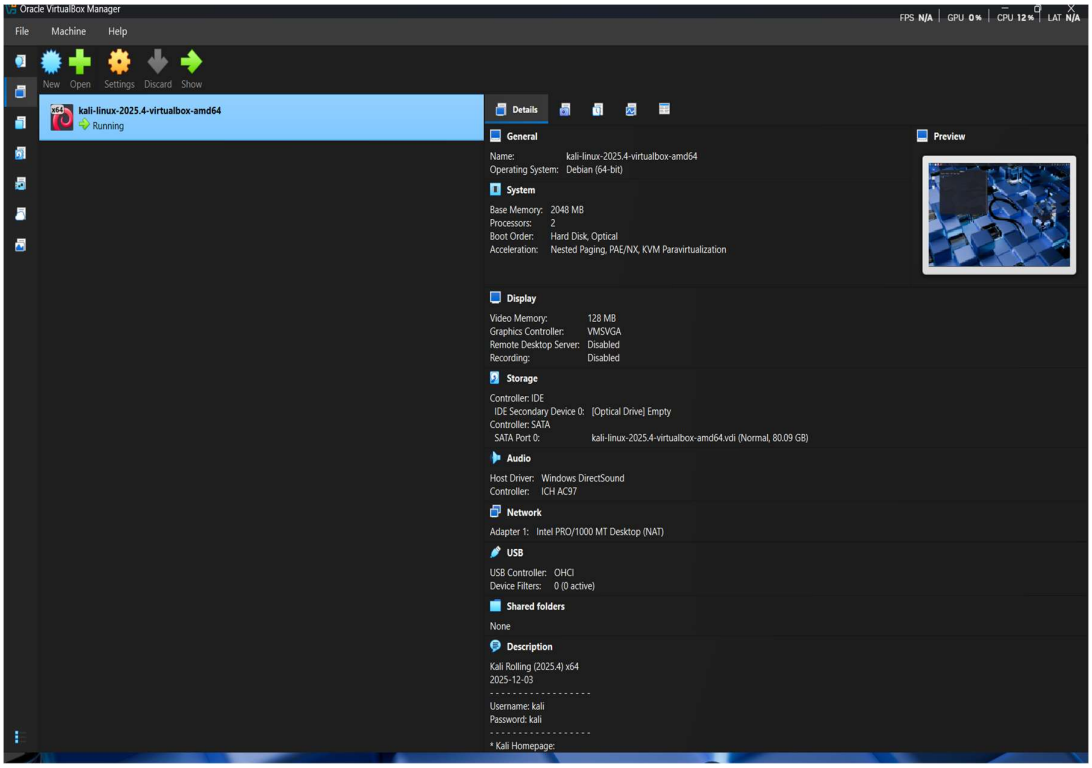
MODULE 1–4 : Kali Linux Assessment

1. Virtual Machine Setup

Installed VirtualBox and set up a virtual machine with Kali Linux successfully. The virtual machine boots correctly and runs Kali Linux environment.

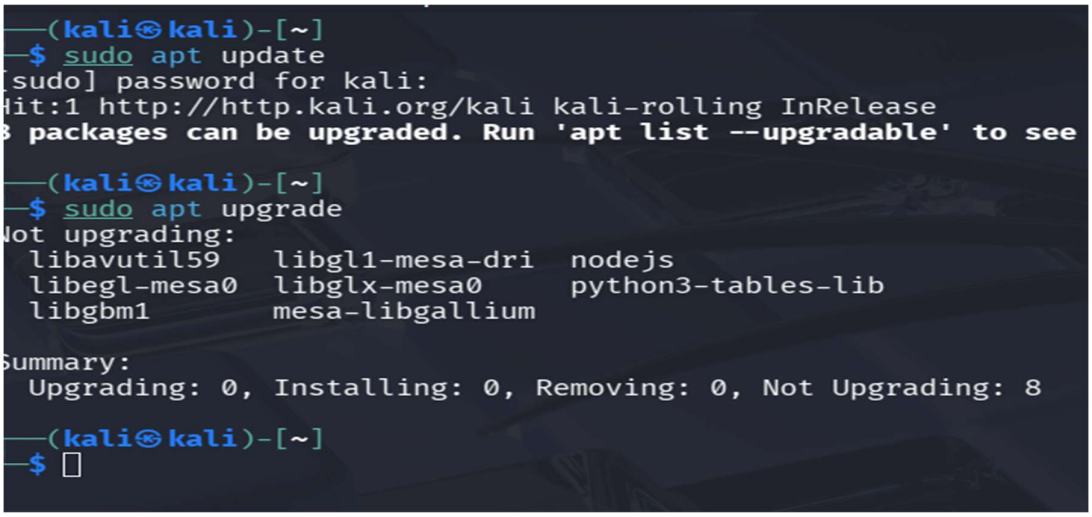
Screenshot: VirtualBox/VMware running Kali Linux.



2. Kali Linux Installation and Update

Kali Linux was installed inside the virtual machine and updated using terminal commands such as **sudo apt update** and **sudo apt upgrade**.

Screenshot: Terminal showing update completion.



3. Applications Menu Exploration

1 Nmap – Used for network scanning and discovering open ports.
2 Wireshark – Used to capture and analyze network traffic.
3 Metasploit Framework – Used for penetration testing and vulnerability analysis.
4 Burp Suite – Used for web application security testing.
5 Hydra – Used for password cracking and authentication testing.

Screenshot: Kali Linux applications menu.

4. Linux Commands Execution

1 find – Searches files and directories in the system.
2 ping – Checks network connectivity to a host.
3 traceroute – Shows the path packets take to reach a destination.
4 whoami – Displays the current logged-in user.
5 ps – Shows running processes.

Screenshot: Terminal output of each command.

```
Session  Actions  Edit  View  Help
┌──(kali㉿kali)-[~]
└─$ pwd
/home/kali

┌──(kali㉿kali)-[~]
└─$ ls
Desktop    Downlaods  Music     Public     Videos
Documents  Downloads  Pictures  Templates

┌──(kali㉿kali)-[~]
└─$ cd Music

┌──(kali㉿kali)-[~/Music]
└─$ ping -c google.com
ping: invalid argument: 'google.com'

┌──(kali㉿kali)-[~/Music]
└─$ ping -c 4 google.com
PING google.com (142.251.221.238) 56(84) bytes of data.
64 bytes from pnbomb-bk-in-f14.1e100.net (142.251.221.238): icmp_seq=1 ttl=25
5 time=24.2 ms
64 bytes from pnbomb-bk-in-f14.1e100.net (142.251.221.238): icmp_seq=2 ttl=25
5 time=31.4 ms
64 bytes from pnbomb-bk-in-f14.1e100.net (142.251.221.238): icmp_seq=3 ttl=25
5 time=24.7 ms
64 bytes from pnbomb-bk-in-f14.1e100.net (142.251.221.238): icmp_seq=4 ttl=25
5 time=312 ms

── google.com ping statistics ──
4 packets transmitted, 4 received, 0% packet loss, time 3170ms
rtt min/avg/max/mdev = 24.213/97.972/311.563/123.349 ms
```

```
┌──(kali㉿kali)-[~/Music]
└─$ traceroute google.com
traceroute to google.com (142.250.67.206), 30 hops max, 60 byte packets
 1  10.0.2.2 (10.0.2.2)  4.336 ms  3.917 ms  3.269 ms
 2  * * *
 3  * * *
 4  * * *
 5  * * *
 6  * * *
 7  * * *
 8  * * *
 9  * * *
10  * * *
11  * * *
12  * * *
13  * * *
14  * * *
15  * * *
16  * * *
17  * * *
18  * * *
19  * * *
20  * * *
21  * * *
22  * * *
23  * * *
24  * * *
25  * * *
26  * * *
27  * * *
28  * * *
29  * * *
30  * * *
```

```
┌──(kali㉿kali)-[~/Music]
└─$ ps
    PID TTY          TIME CMD
  36858 pts/1    00:00:00 zsh
  39880 pts/1    00:00:00 ps

┌──(kali㉿kali)-[~/Music]
└─$ ps aux
USER         PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1  0.0  0.7  24512 14964 ?        Ss   Jan10   0:00 /sbin/init splash
root           2  0.0  0.0      0     0 ?        S    Jan10   0:00 [kthreadd]
root           3  0.0  0.0      0     0 ?        S    Jan10   0:00 [pool_workqueue_release]
root           4  0.0  0.0      0     0 ?        I<   Jan10   0:00 [kworker/R-rcu_gp]
root           5  0.0  0.0      0     0 ?        I<   Jan10   0:00 [kworker/R-sync_wq]
root           6  0.0  0.0      0     0 ?        I<   Jan10   0:00 [kworker/R-kvfree_rcu_rec
root           7  0.0  0.0      0     0 ?        I<   Jan10   0:00 [kworker/R-slub_flushwq]
root           8  0.0  0.0      0     0 ?        I<   Jan10   0:00 [kworker/R-netns]
root          12  0.0  0.0      0     0 ?        I    Jan10   0:00 [kworker/u8:0-ipv6_addrco
root          13  0.0  0.0      0     0 ?        I<   Jan10   0:00 [kworker/R-mm_percpu_wq]
root          14  0.0  0.0      0     0 ?        S    Jan10   0:00 [ksoftirqd/0]
root          15  0.0  0.0      0     0 ?        I    Jan10   0:01 [rcu_preempt]
root          16  0.0  0.0      0     0 ?        S    Jan10   0:00 [rcu_exp_par_gp_kthread_w
root          17  0.0  0.0      0     0 ?        S    Jan10   0:00 [rcu_exp_gp_kthread_worke
root          18  0.0  0.0      0     0 ?        S    Jan10   0:00 [migration/0]
root          19  0.0  0.0      0     0 ?        S    Jan10   0:00 [idle_inject/0]
root          20  0.0  0.0      0     0 ?        S    Jan10   0:00 [cpuhp/0]
root          21  0.0  0.0      0     0 ?        S    Jan10   0:00 [cpuhp/1]
root          22  0.0  0.0      0     0 ?        S    Jan10   0:00 [idle_inject/1]
root          23  0.0  0.0      0     0 ?        S    Jan10   0:00 [migration/1]
root          24  0.0  0.0      0     0 ?        S    Jan10   0:00 [ksoftirqd/1]
root          26  0.0  0.0      0     0 ?        I<   Jan10   0:00 [kworker/1:0H-events_high
root          27  0.0  0.0      0     0 ?        I    Jan10   0:01 [kworker/u9:0-events_unbo
root          30  0.0  0.0      0     0 ?        I    Jan10   0:00 [kworker/u10:1-writeback]
root          31  0.0  0.0      0     0 ?        S    Jan10   0:00 [kdevtmpfs]
root          32  0.0  0.0      0     0 ?        I<   Jan10   0:00 [kworker/R-inet_frag_wq]
root          33  0.0  0.0      0     0 ?        I    Jan10   0:00 [rcu_tasks_kthread]
root          34  0.0  0.0      0     0 ?        I    Jan10   0:00 [rcu_tasks_rude_kthread]
root          35  0.0  0.0      0     0 ?        I    Jan10   0:00 [rcu_tasks_trace_kthread]
root          36  0.0  0.0      0     0 ?        S    Jan10   0:00 [kauditd]
root          37  0.0  0.0      0     0 ?        S    Jan10   0:00 [khungtaskd]
root          38  0.0  0.0      0     0 ?        S    Jan10   0:00 [oom_reaper]
root          40  0.0  0.0      0     0 ?        I<   Jan10   0:00 [kworker/R-writeback]
root          41  0.0  0.0      0     0 ?        I    Jan10   0:00 [kworker/u9:2-kvfree_rcu_
root          42  0.0  0.0      0     0 ?        S    Jan10   0:00 [kcompactd0]
```