

CLOUD COMPUTING LAB

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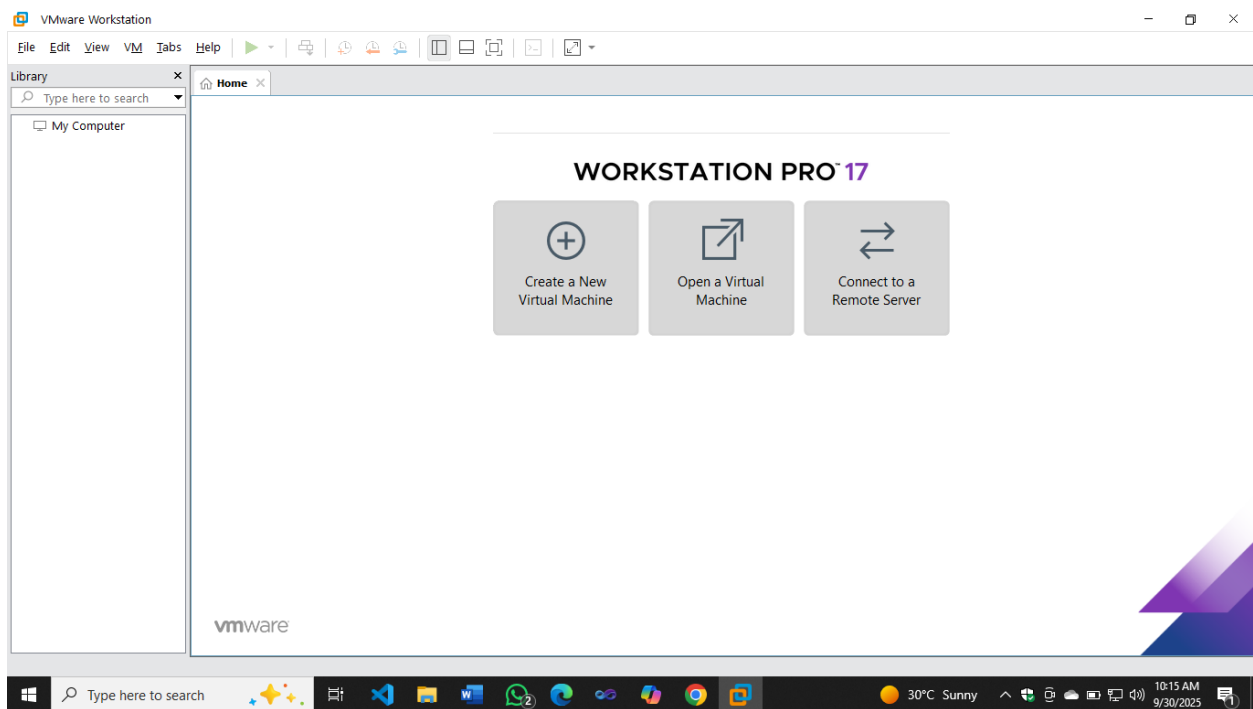
Reg No: 2023-BSE-076

Submitted to: Sir Muhammad Shoaib

Class: 5B

LAB #04

• Task 1: Verify VM resources in VMware



vm_settings.png

Task 2 – Start VM and log in

```
Ubuntu 64-bit (3) x
maria076 login: maria06
Password:
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.8.0-71-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Thu Oct  2 02:42:10 PM UTC 2025

System load:  0.0          Processes:      211
Usage of /:   9.3% of 47.93GB Users logged in:   0
Memory usage: 12%         IPv4 address for ens33: 192.168.153.134
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
```

Vm.login.png

```
maria06@maria076:~$ pwd
/home/maria06
```

Whoami_pwd.png

Task 3 – Filesystem exploration — root tree and dotfiles

```
maria06@maria076:~$ ls -la /
total 1944668
drwxr-xr-x 23 root root      4096 Oct 11 06:20 .
drwxr-xr-x 23 root root      4096 Oct 11 06:20 ..
lrwxrwxrwx 1 root root         7 Apr 22 2024 bin -> usr/bin
drwxr-xr-x 2 root root      4096 Feb 26 2024 bin.usr-is-merged
drwxr-xr-x 4 root root      4096 Oct 11 06:20 boot
dr-xr-xr-x 2 root root      4096 Aug  5 23:53 cdrom
drwxr-xr-x 20 root root     4120 Oct 17 05:54 dev
drwxr-xr-x 108 root root     4096 Oct 17 03:24 etc
drwxr-xr-x 3 root root      4096 Oct 11 06:28 home
lrwxrwxrwx 1 root root         7 Apr 22 2024 lib -> usr/lib
lrwxrwxrwx 1 root root         9 Apr 22 2024 lib64 -> usr/lib64
drwxr-xr-x 2 root root      4096 Feb 26 2024 lib.usr-is-merged
drwx----- 2 root root    16384 Oct 11 06:05 lost+found
drwxr-xr-x 2 root root      4096 Aug  5 16:54 media
drwxr-xr-x 2 root root      4096 Aug  5 16:54 mnt
drwxr-xr-x 2 root root      4096 Aug  5 16:54 opt
dr-xr-xr-x 306 root root       0 Oct 17 05:54 proc
drwx----- 3 root root      4096 Oct 17 03:26 root
drwxr-xr-x 27 root root       800 Oct 17 05:55 run
lrwxrwxrwx 1 root root         8 Apr 22 2024 sbin -> usr/sbin
drwxr-xr-x 2 root root      4096 Dec 11 2024 sbin.usr-is-merged
drwxr-xr-x 2 root root      4096 Oct 11 06:28 snap
drwxr-xr-x 2 root root      4096 Aug  5 16:54 srv
-rw----- 1 root root 1991245824 Oct 11 06:20 swap.img
dr-xr-xr-x 13 root root       0 Oct 17 05:54 sys
drwxrwxrwt 13 root root      4096 Oct 17 05:55 tmp
drwxr-xr-x 12 root root      4096 Aug  5 16:54 usr
drwxr-xr-x 13 root root      4096 Oct 11 06:28 var
maria06@maria076:~$ pwd
```

Ls_root.png

```
maria06@maria076:~$ ls -la /bin
lrwxrwxrwx 1 root root 7 Apr 22  2024 /bin -> usr/bin
maria06@maria076:~$ _
```

Ls_bin.png

```
nayab046@nayab046:~$ ls -la /sbin
lrwxrwxrwx 1 root root 8 Apr 22  2024 /sbin -> usr/sbin
nayab046@nayab046:~$
```

Ls_sbin.png

```
nayab046@nayab046:~$ ls -la /usr
total 96
drwxr-xr-x 12 root root 4096 Aug  5 16:54 .
drwxr-xr-x 23 root root 4096 Sep 26 05:01 ..
drwxr-xr-x  2 root root 36864 Sep 26 05:02 bin
drwxr-xr-x  2 root root 4096 Apr 22  2024 games
drwxr-xr-x 33 root root 4096 Sep 26 05:01 include
drwxr-xr-x 78 root root 4096 Sep 26 05:02 lib
drwxr-xr-x  2 root root 4096 Aug  5 17:01 lib64
drwxr-xr-x 11 root root 4096 Sep 26 05:01 libexec
drwxr-xr-x 10 root root 4096 Aug  5 16:54 local
drwxr-xr-x  2 root root 20480 Sep 26 05:02 sbin
drwxr-xr-x 124 root root 4096 Sep 26 05:02 share
drwxr-xr-x  4 root root 4096 Sep 26 05:01 src
nayab046@nayab046:~$
```

Ls_usr.png

```
nayab046@nayab046:~$ ls -la /opt
total 8
drwxr-xr-x  2 root root 4096 Aug  5 16:54 .
drwxr-xr-x 23 root root 4096 Sep 26 05:01 ..
nayab046@nayab046:~$ _
```

Ls_opt.png

```

-rw-r--r-- 1 root root      0 Aug  5 16:54 subuid-
-rw-r--r-- 1 root root 4343 Jun 25 12:42 sudo.conf
-r--r----- 1 root root 1800 Jan 29 2024 sudoers
drwxr-xr-x 2 root root 4096 Aug  5 17:02 sudoers.d
-rw-r--r-- 1 root root 9804 Jun 25 12:42 sudo_logsrvd.conf
drwxr-xr-x 2 root root 4096 Aug  5 17:14 supercat
-rw-r--r-- 1 root root 2209 Mar 24 2024 sysctl.conf
drwxr-xr-x 2 root root 4096 Aug  5 17:02 sysctl.d
drwxr-xr-x 2 root root 4096 Aug  5 17:14 sysstat
drwxr-xr-x 6 root root 4096 Aug  5 16:49 systemd
drwxr-xr-x 2 root root 4096 Aug  5 17:00 terminfo
drwxr-xr-x 2 root root 4096 Oct 11 06:19 thermalid
-rw-r--r-- 1 root root      8 Aug  5 17:02 timezone
drwxr-xr-x 2 root root 4096 Aug  5 17:14 tmpfiles.d
drwxr-xr-x 2 root root 4096 Aug  5 17:14 ubuntu-advantage
-rw-r--r-- 1 root root 1260 Jan 27 2023 ucf.conf
drwxr-xr-x 4 root root 4096 Aug  5 17:02 udev
drwxr-xr-x 2 root root 4096 Aug  5 17:14 udisks2
drwxr-xr-x 3 root root 4096 Aug  5 17:14 ufw
-rw-r--r-- 1 root root   208 Aug  5 16:54 .updated
drwxr-xr-x 3 root root 4096 Aug  5 17:02 update-manager
drwxr-xr-x 2 root root 4096 Aug  5 17:14 update-notd.d
drwxr-xr-x 2 root root 4096 Aug  5 17:14 update-notifier
drwxr-xr-x 2 root root 4096 Oct 11 06:19 UPower
-rw-r--r-- 1 root root 1523 Aug  5 17:14 usb_modeswitch.conf
drwxr-xr-x 2 root root 4096 Aug  5 17:14 usb_modeswitch.d
lrwxrwxrwx 1 root root   16 Aug  5 17:02 vconsole.conf -> default/keyboard
drwxr-xr-x 2 root root 4096 Aug  5 17:14 vim
drwxr-xr-x 4 root root 4096 Aug  5 17:14 vmware-tools
lrwxrwxrwx 1 root root   23 Feb 26 2024 vtrgb -> /etc/alternatives/vtrgb
-rw-r--r-- 1 root root 4942 Aug  5 17:14 wgetrc
drwxr-xr-x 4 root root 4096 Aug  5 17:02 x11
-rw-r--r-- 1 root root   681 Apr  8 2024 xattr.conf
drwxr-xr-x 4 root root 4096 Aug  5 17:02 xdg
drwxr-xr-x 2 root root 4096 Aug  5 17:02 xmi
-rw-r--r-- 1 root root   460 Aug  5 17:14 zsh_command_not_found
maria06@maria076:~$

```

Ls_etc.png

```

-rw-rw-r-- 1 root kvm      10, 124 Oct 17 05:54 udmabuf
-rw-rw-r-- 1 root root     10, 239 Oct 17 05:54 uhid
-rw-rw-r-- 1 root root     10, 223 Oct 17 05:54 uinput
-rw-rw-rw- 1 root root      1,  9 Oct 17 05:54 urandom
-rw-rw-r-- 1 root root     10, 126 Oct 17 05:54 userfaultfd
-rw-rw-r-- 1 root root     10, 240 Oct 17 05:54 userio
-rw-rw-r-- 1 root tty       7,  0 Oct 17 05:54 vcs
-rw-rw-r-- 1 root tty       7,  1 Oct 17 05:54 vcs1
-rw-rw-r-- 1 root tty       7,  2 Oct 17 05:54 vcs2
-rw-rw-r-- 1 root tty       7,  3 Oct 17 05:54 vcs3
-rw-rw-r-- 1 root tty       7,  4 Oct 17 05:54 vcs4
-rw-rw-r-- 1 root tty       7,  5 Oct 17 05:54 vcs5
-rw-rw-r-- 1 root tty       7,  6 Oct 17 05:54 vcs6
-rw-rw-r-- 1 root tty       7, 128 Oct 17 05:54 vcsa
-rw-rw-r-- 1 root tty       7, 129 Oct 17 05:54 vcsa1
-rw-rw-r-- 1 root tty       7, 130 Oct 17 05:54 vcsa2
-rw-rw-r-- 1 root tty       7, 131 Oct 17 05:54 vcsa3
-rw-rw-r-- 1 root tty       7, 132 Oct 17 05:54 vcsa4
-rw-rw-r-- 1 root tty       7, 133 Oct 17 05:54 vcsa5
-rw-rw-r-- 1 root tty       7, 134 Oct 17 05:54 vcsa6
-rw-rw-r-- 1 root tty       7,  64 Oct 17 05:54 vcsu
-rw-rw-r-- 1 root tty       7,  65 Oct 17 05:54 vcsu1
-rw-rw-r-- 1 root tty       7,  66 Oct 17 05:54 vcsu2
-rw-rw-r-- 1 root tty       7,  67 Oct 17 05:54 vcsu3
-rw-rw-r-- 1 root tty       7,  68 Oct 17 05:54 vcsu4
-rw-rw-r-- 1 root tty       7,  69 Oct 17 05:54 vcsu5
-rw-rw-r-- 1 root tty       7,  70 Oct 17 05:54 vcsu6
drwxr-xr-x 2 root root      60 Oct 17 05:54 vfiio
-rw-rw-r-- 1 root root     10, 127 Oct 17 05:54 vga_arbiter
-rw-rw-r-- 1 root root     10, 137 Oct 17 05:54 vhci
-rw-rw-r-- 1 root kvm     10, 238 Oct 17 05:54 vhost-net
-rw-rw-r-- 1 root kvm     10, 241 Oct 17 05:54 vhost-vsock
-rw-rw-r-- 1 root root     10, 122 Oct 17 05:54 vmci
-rw-rw-rw- 1 root root     10, 121 Oct 17 05:54 vsock
-rw-rw-rw- 1 root root      1,  5 Oct 17 05:54 zero
-rw-rw-r-- 1 root root     10, 249 Oct 17 05:54 zfs
maria06@maria076:~$

```

Ls_dev.png

```

maria06@maria076:~$ ls -la /var
total 56
drwxr-xr-x 13 root root 4096 Oct 11 06:28 .
drwxr-xr-x 23 root root 4096 Oct 11 06:20 ..
drwxr-xr-x 2 root root 4096 Oct 17 05:51 backups
drwxr-xr-x 16 root root 4096 Oct 11 07:15 cache
drwxrwsrwt 2 root root 4096 Aug 5 17:02 crash
drwxr-xr-x 45 root root 4096 Oct 11 07:15 lib
drwxrwsr-x 2 root staff 4096 Apr 22 2024 local
drwxrwxrwx 1 root root 9 Aug 5 16:54 lock -> /run/lock
drwxrwxr-x 10 root syslog 4096 Oct 17 05:54 log
drwxrwsr-x 2 root mail 4096 Aug 5 16:54 mail
drwxr-xr-x 2 root root 4096 Aug 5 16:54 opt
drwxrwxrwx 1 root root 4 Aug 5 16:54 run -> /run
drwxr-xr-x 2 root root 4096 May 21 15:46 snap
drwxr-xr-x 4 root root 4096 Aug 5 17:14 spool
drwxrwxrwt 9 root root 4096 Oct 17 06:04 tmp
-rw-r--r-- 1 root root 208 Aug 5 16:54 .updated
maria06@maria076:~$

```

Ls_var.png

```

total 60
drwxrwxrwt 15 root root 4096 Oct 17 06:04 .
drwxr-xr-x 23 root root 4096 Oct 11 06:20 ..
drwxrwxrwt 2 root root 4096 Oct 17 05:54 .font-unix
drwxrwxrwt 2 root root 4096 Oct 17 05:54 .ICE-unix
drwx----- 2 root root 4096 Oct 17 05:54 snap-private-tmp
drwx----- 3 root root 4096 Oct 17 06:04 systemd-private-1f31bdadfc254a0e9653e57e11b72264-4
drwx----- 3 root root 4096 Oct 17 05:54 systemd-private-1f31bdadfc254a0e9653e57e11b72264-4
drwx----- 3 root root 4096 Oct 17 05:54 systemd-private-1f31bdadfc254a0e9653e57e11b72264-p
drwx----- 3 root root 4096 Oct 17 05:54 systemd-private-1f31bdadfc254a0e9653e57e11b72264-4
drwx----- 3 root root 4096 Oct 17 05:54 systemd-private-1f31bdadfc254a0e9653e57e11b72264-4
drwx----- 3 root root 4096 Oct 17 05:54 systemd-private-1f31bdadfc254a0e9653e57e11b72264-4
drwx----- 3 root root 4096 Oct 17 06:04 systemd-private-1f31bdadfc254a0e9653e57e11b72264-4
drwx----- 2 root root 4096 Oct 17 05:54 vmware-root_737-4257003961
drwxrwxrwt 2 root root 4096 Oct 17 05:54 .X11-unix
drwxrwxrwt 2 root root 4096 Oct 17 05:54 .XIM-unix
maria06@maria076:~$

```

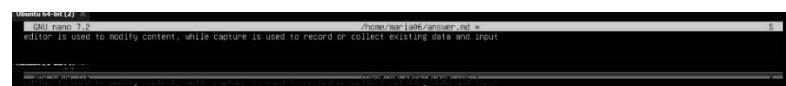
Ls_temp.png

```

maria06@maria076:~$ ls -la ~
total 28
drwxr-x-- 4 maria06 maria06 4096 Oct 11 07:01 .
drwxr-xr-x 3 root root 4096 Oct 11 06:28 ..
-rw-r--r-- 1 maria06 maria06 220 Mar 31 2024 .bash_logout
-rw-r--r-- 1 maria06 maria06 3771 Mar 31 2024 .bashrc
drwx----- 2 maria06 maria06 4096 Oct 11 06:29 .cache
-rw-r--r-- 1 maria06 maria06 807 Mar 31 2024 .profile
drwx----- 2 maria06 maria06 4096 Oct 17 03:26 .ssh
-rw-r--r-- 1 maria06 maria06 0 Oct 11 07:01 .sudo_as_admin_successful

```

home_ls.png



answers_md.png

Task 4 – Essential CLI tasks — navigation and file operations

```
maria06@maria076:~$ mkdir -p ~/lab4/workspace/python_project
```


mkdir_workspace.png

```
maria06@maria076:~$ cd ~/lab4/workspace/python_project
maria06@maria076:~/lab4/workspace/python_project$
```

cd_workspace.png

```
maria06@maria076:~/lab4/workspace/python_project$ pwd
/home/maria06/lab4/workspace/python_project
```

pwd_workspace.png

```
GNU nano 7.2
Lab 4 README
```

nano_readme.png

```
GNU nano 7.2
print("hello lab4")
```

nano_main.png

```
GNU nano 7.2
ENV=lab4
```

nano_env.png

```
maria06@maria076:~/lab4/workspace/python_project$ ls -la
total 20
drwxrwxr-x 2 maria06 maria06 4096 Oct 17 07:21 .
drwxrwxr-x 3 maria06 maria06 4096 Oct 17 06:27 ..
-rw-rw-r-- 1 maria06 maria06   9 Oct 17 07:21 .env
-rw-rw-r-- 1 maria06 maria06  20 Oct 17 07:19 main.py
-rw-rw-r-- 1 maria06 maria06  13 Oct 17 07:15 README.md
```

workspace_ls.png

```
maria06@maria076:~/lab4/workspace/python_project$ cp README.md README.copy.md
```

cp_readme.png

```
maria06@maria076:~/lab4/workspace/python_project$ mv README.copy.md
mv: missing destination file operand after 'README.copy.md'
Try 'mv --help' for more information.
```

mv_readme.png

```
maria06@maria076:~/lab4/workspace/python_project$ rm README.dev.md
rm: cannot remove 'README.dev.md': No such file or directory
```

rm_readme.png

```
maria06@maria076:~/lab4/workspace/python_project$ mkdir -p ~/lab4/workspace/java_app
maria06@maria076:~/lab4/workspace/python_project$
```

mkdir_java_app.png

```
maria06@maria076:~/lab4/workspace/python_project$ cp -r ~/lab4/workspace/python_project ~/lab4/workspace/java_app
maria06@maria076:~/lab4/workspace/python_project$
```

cp_recursive.png

```
maria06@maria076:~/lab4/workspace/python_project$ cp -r ~/lab4/workspace/python_project ~/lab4/workspace/java_app
maria06@maria076:~/lab4/workspace/python_project$ la -la ~/lab4/workspace

08:07 ..
06:27 ..
08:02 java_app
08:07 java_app_copy
07:27 python_project
maria06@maria076:~/lab4/workspace/python_project$
```

copy_verify.png

```
drwxrwxr-x 2 maria06 maria06 4096 Oct 17 07:27 python_project
maria06@maria076:~/lab4/workspace/python_project$ history
 1 pwd
 2 ls -la /
 3 cat /etc/os-release
 4 ls -la /bin
 5 ls -la /sbin
 6 ls -la /usr
 7 ls -la /opt
 8 ls -la /etc
 9 ls -la /dev
10 ls -la /var
11 ls -la /tmp
12*
13 ls -la ~
14 nano ~/answer.md
15 mkdir -p ~/lab4/workspace/python_project
16 cd ~/lab4/workspace/python_project
17 pwd
18 nano README.md
19 nano main.py
20 nano .env
21 ls -la
22 cp README.md README.copy.md
23 mv README.copy.md
24 rm README.dev.md
25 mkdir -p ~/lab4/workspace/java_app
26 cp -r ~/lab4/workspace/python_project ~/lab4/workspace/java_app_copy
27 la -la ~/lab4/workspace
28 history
maria06@maria076:~/lab4/workspace/python_project$
```

history.png

Task 5 – System info, resources & processes

```
28 history
maria06@maria076:~/lab4/workspace/python_project$ uname -a
Linux maria076 6.8.0-71-generic #71-Ubuntu SMP PREEMPT_DYNAMIC Tue Jul 22 16:52:38 UTC 2025 x86_64 x86_64 x86_64 GNU/Linux
maria06@maria076:~/lab4/workspace/python_project$
```

uname.png

```
Ubuntu 64-bit (2) X
root@ubuntu:~# cat /proc/cpuinfo
bugs          : cpu_meltdown spectre_v1 spectre_v2 spec_store_bypass l1tf mds swapgs itlb_multihit srbds mmio_stale_data retbleed gds bhi
bogomips      : 4992.00
clflush_size  : 64
cache_alignm  : 64
address sizes : 45 bits physical, 48 bits virtual
power manage  :

processor      : 1
vendor_id     : GenuineIntel
cpu family    : 6
model         : 78
model name    : Intel(R) Core(TM) i5-6300U CPU @ 2.40GHz
stepping      : 3
microcode    : 0xd4
cpu MHz       : 2496.000
cache size    : 3072 KB
physical id   : 2
siblings      : 1
core id       : 0
cpu cores     : 1
apicid        : 2
initial apicid : 2
fpu           : yes
fpu_exception : yes
cpuid level   : 22
wp            : yes
flags         : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 ss syscall nx pdpe1gb rdtscp lm constant_tsc
arch_perfmon nopl xtopology tsc_reliable nonstop_tsc cpuid tsc_known_freq pni pclmulqdq ssse3 fma cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_time
r_aes xsave avx f16c rdrand hypervisor lahf_lm abm 3dnowprefetch pt1 srbds lbrs lbrp stibp fsgsbase tsc_adjust bmi1 avx2 smep bmi2 invpcid rdseed adx smap clflush
root@ubuntu:~# cat /proc/meminfo
bugs          : cpu_meltdown spectre_v1 spectre_v2 spec_store_bypass l1tf mds swapgs itlb_multihit srbds mmio_stale_data retbleed gds bhi
bogomips      : 4992.00
clflush_size  : 64
cache_alignm  : 64
address sizes : 45 bits physical, 48 bits virtual
power manage  :

meminfo
total        : 1920M
used         : 369M
free         : 1451M
shared       : 128M
buff/cache   : 228M
available    : 1523M

root@ubuntu:~#
```

cpuinfo.png

```
maria06@maria076:~$ free -h
              total        used        free      shared  buff/cache   available
Mem:          1.9Gi        369Mi        1.4Gi         1.2Mi         228Mi        1.5Gi
Swap:          1.9Gi           0B         1.9Gi
maria06@maria076:~$
```

meminfo.png

```
maria06@maria076:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs           192M  1.3M  191M   1% /run
/dev/mapper/ubun--vg-ubuntu--lv 9.8G  4.6G  4.7G  50% /
tmpfs           960M    0  960M   0% /dev/shm
tmpfs           5.0M    0   5.0M   0% /run/lock
/dev/sda2       1.8G  100M  1.6G   7% /boot
tmpfs           192M  12K  192M   1% /run/user/1000
maria06@maria076:~$
```

diskinfo.png

```
maria06@maria076:~$ cat /etc/os-release
PRETTY_NAME="Ubuntu 24.04.3 LTS"
NAME="Ubuntu"
VERSION_ID="24.04"
VERSION="24.04.3 LTS (Noble Numbat)"
VERSION_CODENAME=noble
ID=ubuntu
ID_LIKE=debian
HOME_URL="https://www.ubuntu.com/"
SUPPORT_URL="https://help.ubuntu.com/"
BUG_REPORT_URL="https://bugs.launchpad.net/ubuntu/"
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-policy"
UBUNTU_CODENAME=noble
LOGO=ubuntu-logo
maria06@maria076:~$
```



```

systemd+ 624 0.0 0.4 19008 9344 ? Ss 08:54 0:00 /usr/lib/systemd/systemd-networkd
root 635 0.0 0.0 0 0 ? I 08:54 0:00 [kworker/u257:3-events_power_efficient]
systemd+ 641 0.0 0.6 21500 12672 ? Ss 08:54 0:00 /usr/lib/systemd/systemd-resolved
systemd+ 647 0.0 0.3 91024 7808 ? Ssl 08:54 0:00 /usr/lib/systemd/systemd-timesyncd
root 709 0.0 0.0 0 0 ? I< 08:54 0:00 [kworker/R-cfg808]
root 734 0.0 0.6 53464 12032 ? Ss 08:54 0:00 /usr/bin/VGAAuthService
root 735 0.4 0.4 242124 9340 ? Ssl 08:54 0:12 /usr/bin/vmtoolsd
root 759 0.0 0.0 0 0 ? S 08:54 0:00 [irq/57-vmmu_vmlci]
root 760 0.0 0.0 0 0 ? S 08:54 0:00 [irq/58-vmmu_vmlci]
root 762 0.0 0.0 0 0 ? S 08:54 0:00 [irq/59-vmmu_vmlci]
message+ 780 0.0 0.2 9708 5376 ? Ss 08:54 0:00 dbus-daemon --system --address=systemd: --nofork --nopidfile --system-activation --syslog-o
polkitd 803 0.0 0.3 308164 7808 ? Ssl 08:54 0:00 /usr/lib/polkit-1/polkitd --no-debug
root 811 0.0 0.4 18140 8704 ? Ss 08:54 0:00 /usr/lib/systemd/systemd-logind
root 812 0.0 0.0 0 0 ? S 08:54 0:00 [irq/16-vmmu_gfx]
root 813 0.0 0.6 468952 13568 ? Ssl 08:54 0:00 /usr/libexec/udisks2/udisksd
root 814 0.0 0.0 0 0 ? I< 08:54 0:00 [kworker/R-ttm]
syslog 829 0.0 0.3 222508 6016 ? Ssl 08:54 0:00 /usr/sbin/rsyslogd -n -iNONE
root 845 0.0 0.1 6824 2688 ? Ss 08:54 0:00 /usr/sbin/cron -f -P
root 864 0.0 0.6 352028 12800 ? Ssl 08:54 0:00 /usr/sbin/ModemManager
root 869 0.0 1.1 189664 23040 ? Ssl 08:54 0:00 /usr/bin/python3 /usr/share/unattended-upgrades/unattended-upgrade-shutdown --wait-for-signal
root 931 0.0 0.2 6940 4736 tty1 S 08:54 0:00 /bin/login -p --
root 1382 0.0 0.0 0 0 ? S 08:55 0:00 [ps1mon]
maria06 1384 0.0 0.5 20100 11008 ? Ss 08:55 0:00 /usr/lib/systemd/systemd --user
maria06 1385 0.0 0.1 21144 3512 ? S 08:55 0:00 (sd-pam)
maria06 1394 0.0 0.2 8652 5376 tty1 S 08:55 0:00 -bash
root 1413 0.0 0.0 0 0 ? I 09:00 0:00 [kworker/u257:0-events_power_efficient]
root 1414 0.3 0.0 0 0 ? I 09:04 0:06 [kworker/0:1-events]
root 1415 0.2 0.0 0 0 ? I 09:04 0:04 [kworker/1:1-events]
root 1432 0.0 0.0 0 0 ? I< 09:10 0:00 [kworker/0:0H]
root 1445 0.0 0.0 0 0 ? I 09:22 0:00 [kworker/u258:1-events_power_efficient]
root 1454 0.0 0.0 0 0 ? I 09:30 0:00 [kworker/0:2]
root 1455 0.0 0.0 0 0 ? I 09:32 0:00 [kworker/u258:0-events_power_efficient]
root 1483 0.0 0.0 0 0 ? I< 09:35 0:00 [kworker/R-tls-g]
root 1487 0.0 0.0 0 0 ? I 09:35 0:00 [kworker/1:0-cgroup_destroy]
root 1488 0.0 0.0 0 0 ? I 09:35 0:00 [kworker/u257:1-events_power_efficient]
root 1503 0.0 0.0 0 0 ? I 09:40 0:00 [kworker/u258:2-events_unbound]
maria06 1505 50.0 0.2 10084 4480 tty1 R+ 09:42 0:00 ps aux

```

Task 6 – Users and account verification (no sudo group change)

```

maria06@maria076:~$ sudo adduser lab4user
[sudo] password for maria06:
info: Adding user `lab4user' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group `lab4user' (1001) ...
info: Adding new user `lab4user' (1001) with group `lab4user (1001)' ...
info: Creating home directory `/home/lab4user' ...
info: Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for lab4user
Enter the new value, or press ENTER for the default
  Full Name []: maria
  Room Number []: 3
  Work Phone []: 3224
  Home Phone []: 5433
  Other []: 2245
Is the information correct? [Y/n] y
info: Adding new user `lab4user' to supplemental / extra groups `users' ...
info: Adding user `lab4user' to group `users' ...

```

```
maria06@maria076:~$ getent passwd lab4user
lab4user:x:1001:1001:maria,3,3224,5433,2245:/home/lab4user:/bin/bash
maria06@maria076:~$
```

```
maria06@maria076:~$ su -lab4user
su: invalid option -- 'a'
Try 'su --help' for more information.
```

su_lab4user.png

```
maria06@maria076:~$ sudo whoami
root
```

sudo_whoami.png

```
Ubuntu 24.04.3 LTS maria076 tty1
maria076 login:
```

exit_back.png

```
maria06@maria076:~$ sudo deluser --remove-home lab4user
[sudo] password for maria06:
info: Looking for files to backup/remove ...
info: Removing files ...
info: Removing crontab ...
info: Removing user `lab4user' ...
maria06@maria076:~$ _
```

deluser.png