

Hints: Hardware Identification: ● Begin by identifying the hardware components of the system.

1.lscpu:

Threads= Per core so it is doing only one task per core

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1/1 + [ ] [ ] TiliX: mina@mina-VirtualBox: ~
1: mina@mina-VirtualBox: ~
mina@mina-VirtualBox:~$ lscpu
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:          39 bits physical, 48 bits virtual
Byte Order:             Little Endian
CPU(s):                 4
On-line CPU(s) list:   0-3
Vendor ID:              GenuineIntel
Model name:             Intel(R) Core(TM) i5-10300H CPU @ 2.50GHz
CPU family:             6
Model:                 165
Thread(s) per core:     1
Core(s) per socket:     4
Socket(s):              1
Stepping:               2
BogoMIPS:               4992.00
Flags:                  fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mc
a cmov pat pse36 clflush mmx fxsr sse sse2 ht syscall n
x rdtscp lm constant_tsc rep_good nopl xtopology nonsto
p_tsc cpuid tsc_known_freq pni pclmulqdq ssse3 cx16 pci
d sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx rdtrn
d hypervisor lahf_lm abm 3dnowprefetch invpcid_single f
sgsbase bmi1 avx2 bmi2 invpcid rdseed clflushopt arat m
d_clear flush_l1d arch_capabilities

Virtualization features:
Hypervisor vendor:     KVM
Virtualization type:   full
Caches (sum of all):
L1d:                   128 KiB (4 instances)
L1i:                   128 KiB (4 instances)
L2:                    1 MiB (4 instances)
L3:                   32 MiB (4 instances)
NUMA:
NUMA node(s):          1
NUMA node0 CPU(s):     0-3
Vulnerabilities:
Gather data sampling:   Unknown: Dependent on hypervisor status
Itlb multihit:          KVM: Mitigation: VMX unsupported
L1tf:                   Not affected
Mds:                    Not affected
Meltdown:               Not affected
Mmio stale data:        Vulnerable: Clear CPU buffers attempted, no microcode;
                        SMT Host state unknown
Retbleed:               Vulnerable
Spec rstack overflow:   Not affected
Spec store bypass:      Vulnerable
```

2. Df -h : CPU's Usage

```
mina@mina-VirtualBox:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs           794M  1.6M  792M   1% /run
/dev/sda3       24G   15G   7.9G  66% /
tmpfs           3.9G    0   3.9G   0% /dev/shm
tmpfs           5.0M  4.0K  5.0M   1% /run/lock
/dev/sda2       512M  6.1M  506M   2% /boot/efi
tmpfs           794M  120K  794M   1% /run/user/1000
/dev/sr0        52M   52M    0 100% /media/mina/VBox_GAs_7.0.14
mina@mina-VirtualBox:~$
```

3. lsmem: command in Linux lists the ranges of available memory along with their online status

```
mina@mina-VirtualBox:~$ lsmem
RANGE                                SIZE  STATE REMOVABLE BLOCK
0x0000000000000000-0x00000000dfffffff 3.5G online      yes  0-27
0x0000000010000000-0x000000021fffffff 4.5G online      yes 32-67

Memory block size:      128M
Total online memory:    8G
Total offline memory:   0B
mina@mina-VirtualBox:~$
```

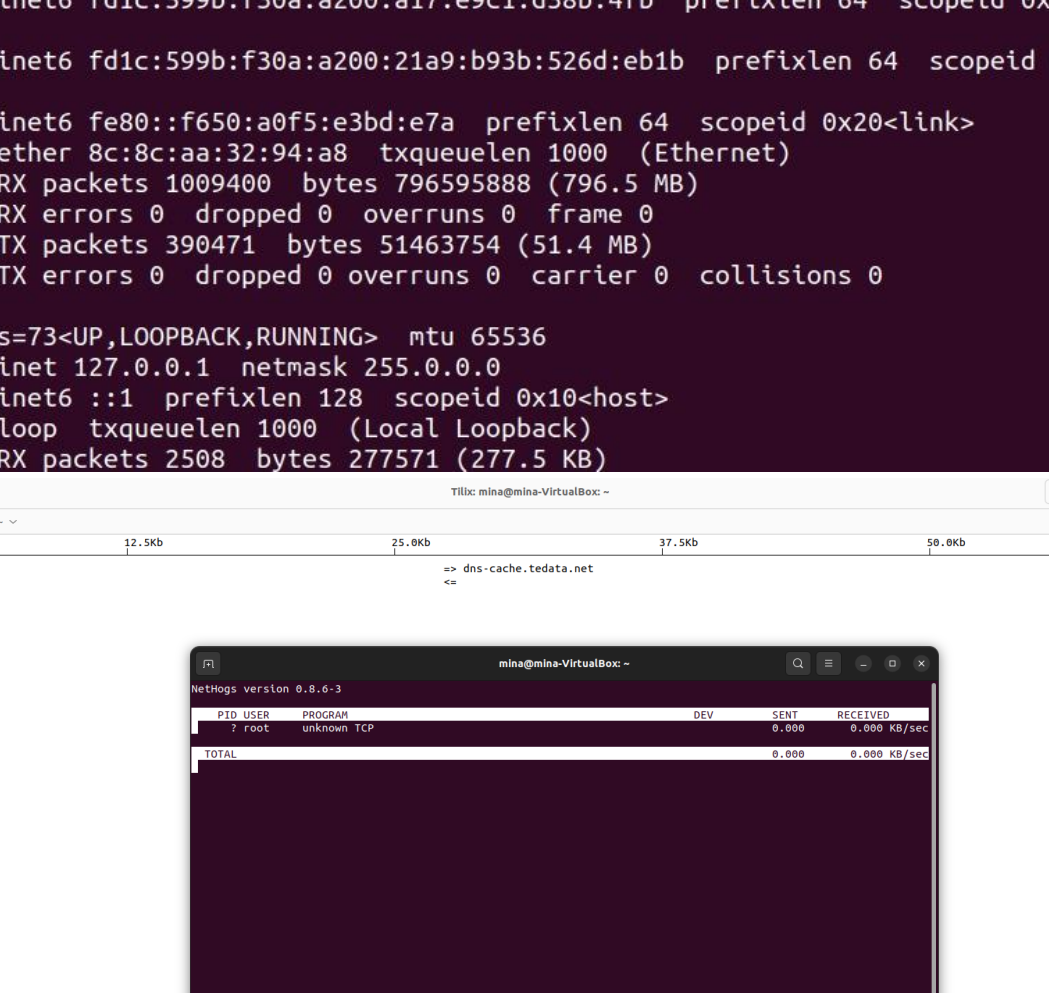
Ethernet:

1. To monitor network traffic and usage in the terminal, you can use the following commands:

Ifconfig, sudo iftop, sudo nethogs

```
Processing triggered for min 0.0 (2:10:12 1) ...
oscar@oscar:~$ ifconfig
enp7s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.1.9 netmask 255.255.255.0 broadcast 192.168.1.255
    inet6 fd1c:599b:f30a:a200:a17:e9c1:d38b:4fb prefixlen 64 scopeid 0x0<g
    lbal>
        inet6 fd1c:599b:f30a:a200:21a9:b93b:526d:eb1b prefixlen 64 scopeid 0x0
    <global>
        inet6 fe80::f650:a0f5:e3bd:e7a prefixlen 64 scopeid 0x20<link>
        ether 8c:8c:aa:32:94:a8 txqueuelen 1000 (Ethernet)
        RX packets 1009400 bytes 796595888 (796.5 MB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 390471 bytes 51463754 (51.4 MB)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 2508 bytes 277571 (277.5 KB)
```



The image shows a terminal window with the output of the 'ifconfig' command. It displays details for the 'enp7s0' interface (IP: 192.168.1.9, MTU: 1500) and the 'lo' loopback interface (IP: 127.0.0.1, MTU: 65536). Below the terminal, there is a NetHogs window titled 'mina@mina-VirtualBox: ~'. The NetHogs window shows a table of network traffic with columns for PID, USER, PROGRAM, DEV, SENT, and RECEIVED. The table shows a single entry for 'root' using 'unknown TCP' on 'DEV', with 'SENT' and 'RECEIVED' values of '0.000' and '0.000 KB/sec' respectively. The 'TOTAL' row also shows '0.000' for both 'SENT' and 'RECEIVED'.