

1-Identify the current USB devices

```
samar@samar-VirtualBox:~$ lsusb
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 002 Device 022: ID 80ee:0021 VirtualBox USB Tablet
Bus 002 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
samar@samar-VirtualBox:~$
```

2-Count how many CPUs (cores) on your device.

```
samar@samar-VirtualBox:~$ cat /proc/cpuinfo
processor       : 0
vendor_id      : GenuineIntel
cpu family     : 6
model          : 60
model name     : Intel(R) Core(TM) i7-4810MQ CPU @ 2.80GHz
stepping       : 3
cpu MHz        : 2793.542
cache size     : 6144 KB
physical id    : 0
siblings       : 1
core id        : 0
cpu cores      : 1
apicid         : 0
initial apicid : 0
fpu            : yes
fpu_exception  : yes
cpuid level    : 13
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 ht syscall nx rdtscp lm constant_tsc rep_g
ood nopl xtopology nonstop_tsc cpuid tsc_known_freq pni pclmulqdq monitor ssse3
cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx rdrand hypervisor la
hf_lm abm invpcid_single pti fsgsbase bmi1 avx2 bmi2 invpcid md_clear flush_l1d
bugs           : cpu_meltdown spectre_v1 spectre_v2 spec_store_bypass l1tf mds
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```

3-Take a snapshot of current disk statistics 5 times with 2 seconds interval.

```
samar@samar-VirtualBox:~$ sudo apt-get install sysstat
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Suggested packages:
  isag
The following NEW packages will be installed:
  sysstat
0 upgraded, 1 newly installed, 0 to remove and 248 not upgraded.
Need to get 487 kB of archives.
After this operation, 1,507 kB of additional disk space will be used.
Get:1 http://eg.archive.ubuntu.com/ubuntu jammy-updates/main amd64 sysstat amd6
4 12.5.2-2ubuntu0.1 [487 kB]
Fetched 487 kB in 2s (305 kB/s)
Preconfiguring packages ...
```

```
samar@samar-VirtualBox:~$ iostat sda 2 5
Linux 5.15.0-43-generic (samar-VirtualBox)      30 2023 مار, _x86_64_ (
1 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           5.79    2.09   1.76    0.35    0.00   90.01

Device            tps    kB_read/s    kB_wrtn/s    kB_dscd/s    kB_read    kB_
wrtn          kB_dscd
sda              7.92       128.38       239.12         0.00   8894964    1656
7353              0

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           8.00   77.00   15.00    0.00    0.00    0.00

Device            tps    kB_read/s    kB_wrtn/s    kB_dscd/s    kB_read    kB_
wrtn          kB_dscd
sda              1.50       134.00         0.00         0.00       268
0              0

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           3.00   84.50   12.50    0.00    0.00    0.00

Device            tps    kB_read/s    kB_wrtn/s    kB_dscd/s    kB_read    kB_
wrtn          kB_dscd
sda              1.00         0.00       14.00         0.00         0
0              0
```

4-measure the network activities using

```
samar@samar-VirtualBox:~$ sudo apt install nicstat
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  nicstat
0 upgraded, 1 newly installed, 0 to remove and 248 not upgraded.
Need to get 18.2 kB of archives.
After this operation, 54.3 kB of additional disk space will be used.
Get:1 http://eg.archive.ubuntu.com/ubuntu jammy/main amd64 nicstat amd64 1.95-1build3 [18.2 kB]
Fetched 18.2 kB in 1s (24.8 kB/s)
Selecting previously unselected package nicstat.
(Reading database ... 175767 files and directories currently installed.)
Preparing to unpack .../nicstat_1.95-1build3_amd64.deb ...
Unpacking nicstat (1.95-1build3) ...
Setting up nicstat (1.95-1build3) ...

0 upgraded, 0 newly installed, 0 to remove and 248 not upgraded.
samar@samar-VirtualBox:~$ nicstat
Time      Int    rKB/s    wKB/s    rPk/s    wPk/s    rAvs    wAvs %Util    Sat
13:33:48  lo     0.09     0.09     1.24     1.24     73.41    73.41  0.00     0.00
13:33:48  enp0s3 30.43    0.31    21.46     5.08   1451.6    63.24  0.02     0.00
```

5-List current PCI devices on your device

```
samar@samar-VirtualBox:~$ lspci
00:00.0 Host bridge: Intel Corporation 440FX - 82441FX PMC [Natoma] (rev 02)
00:01.0 ISA bridge: Intel Corporation 82371SB PIIX3 ISA [Natoma/Triton II]
00:01.1 IDE interface: Intel Corporation 82371AB/EB/MB PIIX4 IDE (rev 01)
00:02.0 VGA compatible controller: VMware SVGA II Adapter
00:03.0 Ethernet controller: Intel Corporation 82540EM Gigabit Ethernet Controller (rev 02)
00:04.0 System peripheral: InnoTek Systemberatung GmbH VirtualBox Guest Service
00:05.0 Multimedia audio controller: Intel Corporation 82801AA AC'97 Audio Controller (rev 01)
00:06.0 USB controller: Apple Inc. KeyLargo/Intrepid USB
00:07.0 Bridge: Intel Corporation 82371AB/EB/MB PIIX4 ACPI (rev 08)
00:0b.0 USB controller: Intel Corporation 82801FB/FBM/FR/FW/FRW (ICH6 Family) USB2 EHCI Controller
00:0d.0 SATA controller: Intel Corporation 82801HM/HEM (ICH8M/ICH8M-E) SATA Controller [AHCI mode] (rev 02)
```

6-List all files which are compressed by ZIP utilities

```
samar@samar-VirtualBox:~$ touch myfile.zip
samar@samar-VirtualBox:~$ ls *.zip
myfile.zip
samar@samar-VirtualBox:~$ ls -l *.zip
-rw-rw-r-- 1 samar samar 0 13:35 30 مار myfile.zip
samar@samar-VirtualBox:~$
```

7-Using grep and regex list all lines containing hex numbers on a /var/log/syslog

```
samar@samar-VirtualBox:~$ grep -e "0x" /var/log/syslog
Mar 30 11:41:51 samar-VirtualBox kernel: [62701.082428] audit: type=1326 audit(1680169311.047:132): auid=1000 uid=1000 gid=1000 ses=24 subj=? pid=15663 comm="pool-org.gnome." exe="/snap/snap-store/638/usr/bin/snap-store" sig=0 arch=c000003e syscall=93 compat=0 ip=0x7f3ac587339b code=0x50000
Mar 30 12:06:26 samar-VirtualBox kernel: [64176.842992] audit: type=1326 audit(1680170786.730:198): auid=1000 uid=1000 gid=1000 ses=24 subj=? pid=78540 comm="snapd-desktop-i" exe="/snap/snapd-desktop-integration/57/usr/bin/snapd-desktop-integration" sig=0 arch=c000003e syscall=314 compat=0 ip=0x7f103539ea3d code=0x50000
Mar 30 13:23:01 samar-VirtualBox kernel: [68771.767284] audit: type=1326 audit(1680175381.823:233): auid=1000 uid=1000 gid=1000 ses=24 subj=? pid=83856 comm="firefox" exe="/snap/firefox/2487/usr/lib/firefox/firefox" sig=0 arch=c000003e syscall=314 compat=0 ip=0x7f9fb055073d code=0x50000
samar@samar-VirtualBox:~$
```