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Submitted To

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➤ Using desired Open Source Software display an overview of all the hardware and operating system detail; also do live monitoring to show the temperature and current usage of various hardware components.

Introduction:

The purpose of this report is to provide instructions on how to use an open-source software tool to display an overview of system information and live monitoring of hardware components, including temperature and current usage. The recommended tool is hwinfo, which is available on Linux-based systems and is free to use.

System Overview:

To display an overview of your system hardware components.

```
cpu:
                        Intel(R) Core(TM) i3-6006U CPU @ 2.00GHz, 1991 MHz
keyboard:
  /dev/input/event0    AT Translated Set 2 keyboard
mouse:
  /dev/input/mice      VirtualBox USB Tablet
  /dev/input/mice      Mouse
  /dev/input/mice      VirtualBox mouse integration
graphics card:
                        VMware VMWARE0405
sound:
                        Intel 82801AA AC'97 Audio Controller
storage:
                        Intel 82801HM/HEM (ICH8M/ICH8M-E) SATA Controller [A
HCI mode]
                        Intel 82371AB/EB/MB PIIX4 IDE
network:
  eth0                 Intel PRO/1000 MT Desktop Adapter
network interface:
  lo                   Loopback network interface
  eth0                 Ethernet network interface
disk:
  /dev/sda             VBOX HARDDISK
partition:
  /dev/sda1            Partition
  /dev/sda2            Partition
  /dev/sda5            Partition
  /dev/sda6            Partition
cdrom:
  /dev/sr0             VBOX CD-ROM
usb controller:
                        Apple KeyLargo/Intrepid USB
                        Intel 82801FB/FBM/FR/FW/FRW (ICH6 Family) USB2 EHCI
Controller
```

```
Controller
bios:
                         BIOS

bridge:
                         Intel 82371SB PIIX3 ISA [Natoma/Triton II]
                         Intel 82371AB/EB/MB PIIX4 ACPI
                         Intel 440FX - 82441FX PMC [Natoma]

hub:
                         Linux Foundation 2.0 root hub
                         Linux Foundation 1.1 root hub

memory:
                         Main Memory

unknown:
                         FPU
                         DMA controller
                         PIC
                         Keyboard controller
                         PS/2 Controller
   /dev/input/mice       InnoTek Systemberatung VirtualBox Guest Service
```

This will provide a summary of your system's CPU, memory, storage, and network devices.

Hardware Monitoring:

To monitor the temperature and current usage of various hardware components.

```
Every 2.0s: hwinfo --sensors                                                    kali: Sun Apr  9 08:05:01 2023

Usage: hwinfo [OPTIONS]
Probe for hardware.
Options:
    --<HARDWARE_ITEM>
        This option can be given more than once. Probe for a particular
        HARDWARE_ITEM. Available hardware items are:
        all, arch, bios, block, bluetooth, braille, bridge, camera,
        cdrom, chipcard, cpu, disk, dsl, dvb, fingerprint, floppy,
        framebuffer, gfxcard, hub, ide, isapnp, isdn, joystick, keyboard,
        memory, mmc-ctrl, modem, monitor, mouse, netcard, network, partition,
        pci, pcmcia, pcmcia-ctrl, pppoe, printer, redasd,
        reallyall, scanner, scsi, smp, sound, storage-ctrl, sys, tape,
        tv, uml, usb, usb-ctrl, vbe, wlan, xen, zip
    --short
        Show only a summary. Use this option in addition to a hardware
        probing option.
    --listmd
        Normally hwinfo does not report RAID devices. Add this option to
        see them.
    --only DEVNAME
        This option can be given more than once. If you add this option
        only entries in the device list matching DEVNAME will be shown.
        Note that you also have to specify --<HARDWARE_ITEM> to trigger
        any device probing.
    --save-config SPEC
        Store config for a particular device below /var/lib/hardware.
        SPEC can be a device name, an UDI, or 'all'. This option must be
        given in addition to a hardware probing option.
    --show-config UDI
        Show saved config data for a particular device.
    --map
        If disk names have changed (e.g. after a kernel update) this
        prints a list of disk name mappings. Note that you must have
```

This will display real-time monitoring of various sensors, including CPU and GPU temperature, fan speed, and power consumption. The -n 2 flag indicates that the monitoring will be refreshed every two seconds.

```
  0[                                                      0.0%]   4[                                                          0.0%]
  1[                                                      0.0%]   5[                                                          0.0%]
  2[                                                      0.0%]   6[                                                          0.0%]
  3[                                                      0.0%]   7[                                                          0.0%]
  Mem[||||||||                                       94.2M/1.81G]   Tasks: 8, 2 thr; 1 running
  Swp[                                                  0K/1.00G]   Load average: 0.00 0.01 0.00
                                                                    Uptime: 02:11:12

  PID USER       PRI  NI  VIRT   RES   SHR S CPU%▽MEM%   TIME+  Command
    1 root        20   0  1816  1184  1108 S  0.0  0.1  0:00.20 /init
    5 root        20   0  1816  1184  1108 S  0.0  0.1  0:00.00 /init
    6 root        20   0  1816  1184  1108 S  0.0  0.1  0:00.00 /init
    8 root        20   0  2164   360     0 S  0.0  0.0  0:00.00 /init
    9 root        20   0  2172   360     0 S  0.0  0.0  0:00.00 /init
   10 root        20   0  6072  5036  3372 S  0.0  0.3  0:00.24 -bash
   27 root        20   0  2164   360     0 S  0.0  0.0  0:00.00 /init
   28 root        20   0  2172   360     0 S  0.0  0.0  0:00.21 /init
   29 root        20   0  6072  5012  3320 S  0.0  0.3  0:00.43 -bash
  409 root        20   0  5656  4164  3272 R  0.0  0.2  0:00.32 htop

F1Help  F2Setup F3Search F4Filter F5Tree  F6SortBy F7Nice -F8Nice +F9Kill  F10Quit
```

Conclusion:

Using open-source software such as hwinfo, you can easily display an overview of your hardware and operating system details and monitor the temperature and current usage of various hardware components. This can be useful for troubleshooting hardware issues or optimizing system performance.