

Wesley Monteiro Freitas de Souza

Ra:01212094

1. Informe sobre sua máquina

SO, CPU, RAM, Tipo de FileSystem, Tamanho Disco, Tamanho Memória Estendida.

```
CPU[|||||||103.2%] Tasks: 6, 0 thr; 1 running
Mem[|| 5.90M/246M] Load average: 0.13 0.21 0.10
Swp[ 0K/0K] Uptime: 00:06:21
```

PID	USER	PRI	NI	VIRT	RES	SHR	S	CPU%	MEM%	TIME+	Command
93	root	20	0	3512	1916	1392	R	3.8	0.8	0:01.20	htop
1	root	20	0	2896	1424	1164	S	0.0	0.6	0:01.10	/bin/sh /sbin/init
42	root	20	0	1948	1048	772	S	0.0	0.4	0:00.05	dhcpcd
47	root	20	0	6088	2156	1648	S	0.0	0.9	0:02.43	sh -l
89	root	20	0	3580	1960	1392	T	0.0	0.8	0:21.05	htop
92	root	20	0	3580	1960	1392	T	0.0	0.8	0:00.70	htop

Comando: htop

2. Veja os comandos a seguir, descreva para que serve e liste as informações importantes que trazem (print):

Faça a comparação entre dois ambiente linux

Man

- Serve para criar um manua para o usuario

Exemplo:

Linux

NAME

man - an interface to the on-line reference manuals

SYNOPSIS

```
man [-C file] [-d] [-D] [--warnings[=warnings]] [-R encoding] [-L
locale] [-m system[,...]] [-M path] [-S list] [-e extension] [-i|-I]
[--regex|--wildcard] [--names-only] [-a] [-u] [--no-subpages] [-P
pager] [-r prompt] [-7] [-E encoding] [--no-hyphenation] [--no-justifi-
cation] [-p string] [-t] [-T[device]] [-H[browser]] [-X[dpi]] [-Z]
[[section] page[.section] ...] ...
man -k [apropos options] regexp ...
man -K [-w|-W] [-S list] [-i|-I] [--regex] [section] term ...
man -f [whatis options] page ...
man -l [-C file] [-d] [-D] [--warnings[=warnings]] [-R encoding] [-L
locale] [-P pager] [-r prompt] [-7] [-E encoding] [-p string] [-t]
[-T[device]] [-H[browser]] [-X[dpi]] [-Z] file ...
man -w|-W [-C file] [-d] [-D] page ...
man -c [-C file] [-d] [-D] page ...
man [-?V]
```

DESCRIPTION

man is the system's manual pager. Each page argument given to man is normally the name of a program, utility or function. The manual page associated with each of these arguments is then found and displayed. A section, if provided, will direct man to look only in that section of the manual. The default action is to search in all of the available sections following a pre-defined order ("1 lp 8 2 3 3p 4 5 6 7 9 0p n l

Manual page man(1) line 1 (press h for help or q to quit)

CMD:

```
MAN(1)                                Manual pager utils                                MAN(1)

NAME
    man - an interface to the system reference manuals

SYNOPSIS
    man [man options] [[section] page ...] ...
    man -k [apropos options] regexp ...
    man -K [man options] [section] term ...
    man -f [whatIs options] page ...
    man -l [man options] file ...
    man -w|-W [man options] page ...

DESCRIPTION
    man is the system's manual pager. Each page argument given to man is normally the name of a program, utility or function. The manual page associated with each of these arguments is then found and displayed. A section, if provided, will direct man to look only in that section of the manual. The default action is to search in all of the available sections following a pre-defined order (see DEFAULTS), and to show only the first page found, even if page exists in several sections.

    The table below shows the section numbers of the manual followed by the Manual page man(1) line 1 (press h for help or q to quit)
```

No CMD quando o comando e aplicado ele sugere uma alternativa

```
(base) aluno@SPHDK1274:~$ man
What manual page do you want?
For example, try 'man man'.
```

lsb_release -a

- exibe informações de LSB (Linux Standard Base) sobre sua distribuição específica do Linux

Exemplos:

Linux

```
[root@localhost ~]# lsb_release -a
sh: lsb_release: command not found
```

CMD

```
(base) aluno@SPHDK1274:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:    Ubuntu 20.04.3 LTS
Release:        20.04
Codename:       focal
```

No emulador o comando não funciona pois é necessário uma extensão

cat /proc/cpuinfo

- envia um conteúdo para a saída padrão de modo não interativo

Exemplo:

Linux

```
[root@localhost ~]# cat /proc/cpuinf
cat: /proc/cpuinf: No such file or directory
[root@localhost ~]#
```

CMD

```
(base) aluno@SPHDK1274:~$ cat /proc/cpuinfo
processor       : 0
vendor_id      : GenuineIntel
cpu family     : 6
model          : 142
model name     : Intel(R) Core(TM) i3-7020U CPU @ 2.30GHz
stepping       : 9
microcode      : 0xea
cpu MHz        : 900.020
cache size     : 3072 KB
physical id    : 0
siblings       : 4
core id        : 0
cpu cores      : 2
apicid         : 0
initial apicid : 0
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 dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb
rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nons
top_tsc cpuid aperfmperf pni pclmulqdq dtes64 monitor ds_cpl vmx est tm2 ssse3
```

cpuid | more

- O comando more permite fazer a paginação de arquivos. O mesmo também permite a leitura de arquivos longos. Também pode usar o | (pipe) para redirecionar a saída de um comando para o more. Enter ou espaço para correr a página e q para sair

Exemplo:

Linux

```
[root@localhost ~]# cpuid | more
sh: cpuid: command not found
```

CMD

```
(base) aluno@SPHDK1274:~$ cquid|more

Command 'cquid' not found, did you mean:

  command 'squid' from deb squid (4.10-1ubuntu1.5)
  command 'cpuid' from deb cpuid (20200211-1)

Try: apt install <deb name>
```

Df

- analisa as partições físicas e virtuais e informa a quantidade de espaço disponível em disco e mostra o espaço utilizado em cada partição

Exemplo:

Linux

```
[root@localhost ~]# df
Filesystem      1K-blocks    Used Available Use% Mounted on
/dev/root        3145728 2408860    736868  77% /
devtmpfs         125948      0    125948   0% /dev
```

CMD

```
(base) aluno@SPHDK1274:~$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
udev            1925744      0    1925744   0% /dev
tmpfs           391844      1956    389888   1% /run
/dev/sda2       959864368 48368328 862667860   6% /
tmpfs           1959208    76636    1882572   4% /dev/shm
tmpfs           5120        4        5116    1% /run/lock
tmpfs           1959208      0    1959208   0% /sys/fs/cgroup
/dev/loop1       56832     56832      0 100% /snap/core18/2253
/dev/loop0        128       128      0 100% /snap/bare/5
/dev/loop2       56960     56960      0 100% /snap/core18/2284
/dev/loop5       224256    224256      0 100% /snap/gnome-3-34-1804/72
/dev/loop4        63488     63488      0 100% /snap/core20/1328
/dev/loop6       224256    224256      0 100% /snap/gnome-3-34-1804/77
/dev/loop7       253952    253952      0 100% /snap/gnome-3-38-2004/87
/dev/loop8       254848    254848      0 100% /snap/gnome-3-38-2004/99
/dev/loop11      844544    844544      0 100% /snap/intellij-idea-community
/342
/dev/loop10       66688     66688      0 100% /snap/gtk-common-themes/1515
/dev/loop9        66816     66816      0 100% /snap/gtk-common-themes/1519
/dev/loop15       55552     55552      0 100% /snap/snap-store/558
/dev/loop16       44672     44672      0 100% /snap/snapd/14978
/dev/loop13       172288    172288      0 100% /snap/postman/149
/dev/loop14       52224     52224      0 100% /snap/snap-store/547
```

Free

- Nos sistemas operacionais do tipo Unix, o comando free exibe a quantidade total de memória física e de troca livre e usada e os buffers usados pelo kernel

Exemplo:

Linux

```
[root@localhost ~]# free
              total        used        free      shared  buff/cache   available
Mem:          251980         6636       241584          0         3760       240460
Swap:           0           0           0
```

CMD

```
(base) aluno@SPHDK1274:~$ free
              total        used        free      shared  buff/cache   available
Mem:          3918420       2375852       694132       269236       848436       102764
Swap:          2097148       1010456       1086692
```

sudo dmidecode

- sem parâmetros apresenta as informações de todas as tabelas DMI

Exemplo:

Linux

```
[root@localhost ~]# sudo dmidecode
sudo: dmidecode: command not found
[root@localhost ~]#
```

CMD

```
(base) aluno@SPHDK1274:~$ sudo dmidecode
[sudo] password for aluno:
aluno is not in the sudoers file. This incident will be reported.
(base) aluno@SPHDK1274:~$
: command not found
(base) aluno@SPHDK1274:~$
(base) aluno@SPHDK1274:~$ sudo dm idecode
[sudo] password for aluno:
aluno is not in the sudoers file. This incident will be reported.
```

Hardinfo

- uma ferramenta que lê os arquivos no diretório /proc do sistema, organiza as informações coletadas sobre o hardware e software da máquina

Exemplo:

Linux

```
[root@localhost ~]# hardinfo
sh: hardinfo: command not found
[root@localhost ~]#
```

CMD

```
(base) aluno@SPHDK1274:~$ hardinfo
Command 'hardinfo' not found, but can be installed with:

apt install hardinfo
Please ask your administrator.
You will have to enable the component called 'universe'

(base) aluno@SPHDK1274:~$ apt install hardinfo
E: Could not open lock file /var/lib/dpkg/lock-frontent - open (13: Permission
denied)
E: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontent), are
you root?
```

inxi -C

- é uma série de scripts que detectam uma grande variedade de informações sobre hardware, incluindo informações de fornecedor, configuração de drivers, etc.

Exemplo:

Linux

```
[root@localhost ~]# inxi -C
sh: inxi: command not found
```

CMD

```
(base) aluno@SPHDK1274:~$ inxi -C
Command 'inxi' not found, but can be installed with:

apt install inxi
Please ask your administrator.
You will have to enable the component called 'universe'

(base) aluno@SPHDK1274:~$ apt install inxi
E: Could not open lock file /var/lib/dpkg/lock-frontent - open (13: Permission
denied)
E: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontent), are
you root?
```

likwid-topology

-

Exemplo

Linux

CMD

Lscpu

- os permite descobrir informações sobre a CPU (ou CPUs) instalada em seu computador. Podemos visualizar dados sobre uma CPU ou núcleo em particular, ou sobre todos os processadores e núcleos de processamento de uma vez

Exemplo:

Linux

```
[root@localhost ~]# lstopo
sh: lstopo: command not found
[root@localhost ~]# ls topo
ls: cannot access 'topo': No such file or directory
[root@localhost ~]# lscpu
Architecture:      riscv64
Byte Order:        Little Endian
CPU(s):            1
On-line CPU(s) list: 0
Thread(s) per core: 1
Core(s) per socket: 1
Socket(s):         1
```

CMD


```
(base) aluno@SPHDK1274:~$ lscpu
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:             Little Endian
Address sizes:          39 bits physical, 48 bits virtual
CPU(s):                 4
On-line CPU(s) list:    0-3
Thread(s) per core:     2
Core(s) per socket:     2
Socket(s):               1
NUMA node(s):           1
Vendor ID:              GenuineIntel
CPU family:              6
Model:                  142
Model name:              Intel(R) Core(TM) i3-7020U CPU @ 2.30GHz
Stepping:                9
CPU MHz:                 2300.000
CPU max MHz:             2300,0000
CPU min MHz:             400,0000
BogoMIPS:                4599.93
Virtualization:          VT-x
L1d cache:               64 KiB
L1i cache:               64 KiB
L2 cache:                512 KiB
L3 cache:                3 MiB
NUMA node0 CPU(s):       0-3
Vulnerability Itlb multihit: KVM: Mitigation: VMX disabled
Vulnerability L1tf:        Mitigation; PTE Inversion; VMX conditional cache flushes, SMT vulnerable
Vulnerability Mds:          Mitigation; Clear CPU buffers; SMT vulnerable
Vulnerability Meltdown:     Mitigation; PTI
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1:   Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:   Mitigation; Full generic retpoline, IBPB conditional, IBRS_FW, STIBP conditional, RSB filling
```

Lshw

- é uma pequena ferramenta para fornecer informações detalhadas da configuração de hardware da máquina. Pode relatar a configuração exata de memória, versão de firmware, configuração de placa-mãe, versão e velocidade de CPU, configuração de cache, velocidade de barramento, etc.

Exemplo:

Linux

```
[root@localhost ~]# lshw
sh: lshw: command not found
```

CMD

```

aluno@SPHDK1274:~$ lsblw
WARNING: you should run this program as super-user.
sphdk1274
  description: Computer
  width: 64 bits
  capabilities: smp vsyscall32
*-core
  description: Motherboard
  physical id: 0
*-memory
  description: System memory
  physical id: 0
  size: 4GiB
*-cpu
  product: Intel(R) Core(TM) i3-7020U CPU @ 2.30GHz
  vendor: Intel Corp.
  physical id: 1
  bus info: cpu@0
  size: 1991MHz
  capacity: 2300MHz
  width: 64 bits
  capabilities: fpu fpu_exception wp vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse
sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp x86-64 constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmper
f pni pclmulqdq dtes64 monitor ds_cpl vmx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes
xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb invpcid_single pti ssbd tlbpb stibp tpr_shadow vnmi flexpriority ept vpid
ept_ad fsgsbase tsc_adjust bti avx2 smep bmi2 erms invpcid mpx rdseed adx snap clflushopt intel_pt xsaveopt xsavec xgetbv1 xsaves dtherm arat
pin pts hwp hwp_notify hwp_act_window hwp_epp nd_clear flush_l1d cpufreq
*-pci
  description: Host bridge
  product: Xeon E3-1200 v6/7th Gen Core Processor Host Bridge/DRAM Registers
  vendor: Intel Corporation
  physical id: 100
  bus info: pci@0000:00:00.0
  version: 03
  width: 32 bits
  clock: 33MHz
  configuration: driver=skl_uncore
  resources: irq:0

```

Lstopo

-

Exemplo

Linux

```

[root@localhost ~]# lstopo
sh: lstopo: command not found
[root@localhost ~]# ls topo

```

CMD

```

(base) aluno@SPHDK1274:~$ lstopo

Command 'lstopo' not found, but can be installed with:

apt install hwloc      # version 2.1.0+dfsg-4, or (You will have to enable com
ponent called 'universe')
apt install hwloc-nox  # version 2.1.0+dfsg-4 (You will have to enable compone
nt called 'universe')

Ask your administrator to install one of them.

(base) aluno@SPHDK1274:~$ ls topo
ls: cannot access 'topo': No such file or directory

```

TopT

- xibe os processos em execução no sistema. Uma das ferramentas mais importantes para um administrador do sistema

Exemplo :

Linux

```
top - 20:25:59 up 13 min, 0 users, load average: 0.02, 0.05, 0.04
Tasks: 20 total, 1 running, 19 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.3 us, 1.0 sy, 0.0 ni, 97.7 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 246.1 total, 237.9 free, 4.8 used, 3.3 buff/cache
MiB Swap: 0.0 total, 0.0 free, 0.0 used. 236.7 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
85	root	20	0	8848	2268	1692	R	3.2	0.9	0:01.00	top
1	root	20	0	2896	1424	1164	S	0.0	0.6	0:07.48	init
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
3	root	20	0	0	0	0	I	0.0	0.0	0:00.00	kworker/0+
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/0+
5	root	20	0	0	0	0	I	0.0	0.0	0:00.00	kworker/u+
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	mm_percpu+
7	root	20	0	0	0	0	S	0.0	0.0	0:00.14	ksftirqd+
8	root	20	0	0	0	0	S	0.0	0.0	0:01.04	kdevtmpfs
9	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	netns
10	root	20	0	0	0	0	S	0.0	0.0	0:00.00	oom_reaper
11	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	writeback
12	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	crypto
13	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kblockd
14	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kswapd0
15	root	20	0	0	0	0	I	0.0	0.0	0:00.01	kworker/0+
32	root	20	0	0	0	0	S	0.0	0.0	0:00.00	khvcd
42	root	20	0	1948	1048	772	S	0.0	0.4	0:00.06	dhcpcd
47	root	20	0	6088	2156	1648	S	0.0	0.9	0:02.35	sh
58	root	20	0	0	0	0	I	0.0	0.0	0:00.02	kworker/u+

CMD

```
top - 20:25:27 up 11:36, 1 user, load average: 0.63, 1.23, 1.20
Tasks: 249 total, 1 running, 248 sleeping, 0 stopped, 0 zombie
%Cpu(s): 6.3 us, 1.9 sy, 0.0 ni, 91.8 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 3826.6 total, 515.0 free, 2425.1 used, 886.5 buff/cache
MiB Swap: 2048.0 total, 1154.5 free, 893.5 used. 910.5 avail Mem
```

Locate string

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+
9723	aluno	20	0	34,4g	360752	89804	S	10,0	9,2	19:46.49
11134	aluno	20	0	32,4g	404488	99244	S	7,6	10,3	14:25.99
9119	aluno	20	0	16,6g	127420	65792	S	6,3	3,3	10:23.18
2080	aluno	20	0	862540	42092	13236	S	2,0	1,1	6:55.72
14073	aluno	20	0	24,4g	100784	84020	S	2,0	2,6	0:09.47
1470	mssql	20	0	13,2g	399120	14056	S	1,7	10,2	11:35.05
2232	aluno	20	0	4656284	184892	43416	S	1,3	4,7	8:48.74
12064	aluno	20	0	823424	37412	24248	S	1,0	1,0	0:09.75
868	mysql	20	0	2068944	183304	3724	S	0,7	4,7	1:38.35
9074	aluno	20	0	16,5g	204348	107576	S	0,7	5,2	5:39.22
14061	aluno	20	0	34,4g	446932	90080	S	0,7	11,4	0:30.48
32	root	20	0	0	0	0	S	0,3	0,0	0:01.67
194	root	-51	0	0	0	0	S	0,3	0,0	0:28.17
14396	root	20	0	0	0	0	I	0,3	0,0	0:00.10
14513	aluno	20	0	24,4g	117488	92608	S	0,3	3,0	0:03.14
14536	aluno	20	0	20,3g	38740	34204	S	0,3	1,0	0:00.03
14711	aluno	20	0	20624	3928	3280	R	0,3	0,1	0:00.81

Tentei finalizar os comando mas não estão funcionando:

```
PS C:\Users\samsung> htop
htop : O termo 'htop' não é reconhecido como nome de cmdlet, função, arquivo de script ou programa operável. Verifique
a grafia do nome ou, se um caminho tiver sido incluído, veja se o caminho está correto e tente novamente.
No linha:1 caractere:1
+ htop
+ ~~~~
+ CategoryInfo          : ObjectNotFound: (htop:String) [], CommandNotFoundException
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\samsung> htop
htop : O termo 'htop' não é reconhecido como nome de cmdlet, função, arquivo de script ou programa operável. Verifique
a grafia do nome ou, se um caminho tiver sido incluído, veja se o caminho está correto e tente novamente.
No linha:1 caractere:1
+ htop
+ ~~~~
+ CategoryInfo          : ObjectNotFound: (htop:String) [], CommandNotFoundException
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\samsung> cmdlet
cmdlet : O termo 'cmdlet' não é reconhecido como nome de cmdlet, função, arquivo de script ou programa operável.
Verifique a grafia do nome ou, se um caminho tiver sido incluído, veja se o caminho está correto e tente novamente.
No linha:1 caractere:1
+ cmdlet
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (cmdlet:String) [], CommandNotFoundException
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\samsung> data
>>
No linha:1 caractere:5
+ data
+ ~
Bloco de instrução ausente na seção Data.
+ CategoryInfo          : ParserError: (:) [], ParentContainsErrorRecordException
+ FullyQualifiedErrorId : MissingStatementBlockForDataSection

PS C:\Users\samsung> cmd
Microsoft Windows [versão 10.0.19042.1466]
(c) Microsoft Corporation. Todos os direitos reservados.

C:\Users\samsung>
```