gabriel@gabriel-Lenovo-920-13IKB: ~/demo

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```
gabriel@gabriel-Lenovo-920-13IKB:~$ hostname
gabriel-Lenovo-920-13IKB
gabriel@gabriel-Lenovo-920-13IKB:~$ env
CLUTTER_IM_MODULE=xim
LS_COLORS=rs=0:di=01;34:ln=01;36:mh=00:pi=40;33:so=01;35:do=01;35:bd=40;33;01:cd=40;33;01:or=40;31;01:mi=00:su=37;41:sg=30;43:ca=30;41:tw=30;42:ow=34;42:st=37;44:ex=01;32:*.tar=01;31:*.tgz=01;31:*.arc=01;31:*.ar
j=01;31:*.taz=01;31:*.lha=01;31:*.lz4=01;31:*.lzh=01;31:*.lzma=01;31:*.tlz=01;31:*.txz=01;31:*.tzo=01;31:*.t7z=01;31:*.zip=01;31:*.z=01;31:*.Z=01;31:*.dz=01;31:*.gz=01;31:*.lrz=01;31:*.lz=01;31:*.lzo=01;31:*.xz=
01;31:*.zst=01;31:*.tzst=01;31:*.bz2=01;31:*.bz=01;31:*.tbz=01;31:*.tbz2=01;31:*.tz=01;31:*.deb=01;31:*.rpm=01;31:*.jar=01;31:*.war=01;31:*.ear=01;31:*.sar=01;31:*.rar=01;31:*.alz=01;31:*.ace=01;31:*.zoo=01;31:*
.cpio=01;31:*.7z=01;31:*.rz=01;31:*.cab=01;31:*.wlm=01;31:*.swm=01;31:*.dwm=01;31:*.esd=01;31:*.jpg=01;35:*.jpeg=01;35:*.mjpg=01;35:*.mjpeg=01;35:*.gif=01;35:*.bmp=01;35:*.pbm=01;35:*.pgm=01;35:*.ppm=01;35:*.tga
=01;35:*.xbm=01;35:*.xpm=01;35:*.tiff=01;35:*.tif=01;35:*.png=01;35:*.svg=01;35:*.svgz=01;35:*.mng=01;35:*.pcx=01;35:*.mov=01;35:*.mpg=01;35:*.mpeg=01;35:*.m2v=01;35:*.mkv=01;35:*.webm=01;35:*.ogm=01;35:*.mp4=01
;35:*.m4v=01;35:*.mp4v=01;35:*.vob=01;35:*.qt=01;35:*.nuv=01;35:*.wmv=01;35:*.asf=01;35:*.rm=01;35:*.rmvb=01;35:*.flc=01;35:*.avi=01;35:*.fli=01;35:*.flv=01;35:*.gl=01;35:*.dl=01;35:*.xcf=01;35:*.xwd=01;35:*.yuv
=01;35:*.cgm=01;35:*.emf=01;35:*.ogv=01;35:*.ogx=01;35:*.aac=00;36:*.au=00;36:*.flac=00;36:*.m4a=00;36:*.mid=00;36:*.midi=00;36:*.mka=00;36:*.mp3=00;36:*.mpc=00;36:*.ogg=00;36:*.ra=00;36:*.wav=00;36:*.oga=00;36:
*.opus=00;36:*.spx=00;36:*.xspf=00;36:
LESSCLOSE=/usr/bin/lesspipe %s %s
XDG_MENU_PREFIX=gnome-
LANG=en_US.UTF-8
DISPLAY=:0
GNOME_SHELL_SESSION_MODE=ubuntu
COLORTERM=truecolor
USERNAME=gabriel
XDG_VTNR=2
SSH_AUTH_SOCK=/run/user/1000/keyring/ssh
MANDATORY_PATH=/usr/share/gconf/ubuntu.mandatory.path
XDG_SESSION_ID=6
USER=gabriel
DESKTOP_SESSION=ubuntu
QT4_IM_MODULE=xim
TEXTDOMAINDIR=/usr/share/locale/
GNOME_TERMINAL_SCREEN=/org/gnome/Terminal/screen/e9ace33d_2eb5_4806_a097_cde725f47dcb
DEFAULTS_PATH=/usr/share/gconf/ubuntu.default.path
PWD=/home/gabriel
HOME=/home/gabriel
TEXTDOMAIN=im-config
SSH_AGENT_PID=4580
QT_ACCESSIBILITY=1
XDG_SESSION_TYPE=x11
XDG_DATA_DIRS=/usr/share/ubuntu:/usr/local/share/:/usr/share/:/var/lib/snapd/desktop
XDG_SESSION_DESKTOP=ubuntu
GJS_DEBUG_OUTPUT=stderr
GTK_MODULES=gail:atk-bridge
WINDOWPATH=2
TERM=xterm-256color
SHELL=/bin/bash
VTE_VERSION=5202
QT_IM_MODULE=ibus
XMODIFIERS=@im=ibus
IM_CONFIG_PHASE=2
XDG_CURRENT_DESKTOP=ubuntu:GNOME
GPG_AGENT_INFO=/run/user/1000/gnupg/S.gpg-agent:0:1
GNOME_TERMINAL_SERVICE=:1.78
XDG_SEAT=seat0
SHLVL=1
GDMSESSION=ubuntu
```

---

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```
XDG_DATA_DIRS=/usr/share/ubuntu:/usr/local/share/:/usr/share/:/var/lib/snapd/desktop
XDG_SESSION_DESKTOP=ubuntu
GJS_DEBUG_OUTPUT=stderr
GTK_MODULES=gail:atk-bridge
WINDOWPATH=2
TERM=xterm-256color
SHELL=/bin/bash
VTE_VERSION=5202
QT_IM_MODULE=ibus
XMODIFIERS=@im=ibus
IM_CONFIG_PHASE=2
XDG_CURRENT_DESKTOP=ubuntu:GNOME
GPG_AGENT_INFO=/run/user/1000/gnupg/S.gpg-agent:0:1
GNOME_TERMINAL_SERVICE=:1.78
XDG_SEAT=seat0
SHLVL=1
GDMSESSION=ubuntu
GNOME_DESKTOP_SESSION_ID=this-is-deprecated
LOGNAME=gabriel
DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/1000/bus
XDG_RUNTIME_DIR=/run/user/1000
XAUTHORITY=/run/user/1000/gdm/Xauthority
XDG_CONFIG_DIRS=/etc/xdg/xdg-ubuntu:/etc/xdg
PATH=/home/gabriel/omnetpp-5.7/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
GJS_DEBUG_TOPICS=JS ERROR;JS LOG
SESSION_MANAGER=local/gabriel-Lenovo-920-13IKB:@/tmp/.ICE-unix/4372,unix/gabriel-Lenovo-920-13IKB:/tmp/.ICE-unix/4372
LESSOPEN=| /usr/bin/lesspipe %s
GTK_IM_MODULE=ibus
_=/usr/bin/env
gabriel@gabriel-Lenovo-920-13IKB:~$ ps
  PID TTY          TIME CMD
 8123 pts/0    00:00:00 bash
 8135 pts/0    00:00:00 ps
gabriel@gabriel-Lenovo-920-13IKB:~$ pwd
/home/gabriel
gabriel@gabriel-Lenovo-920-13IKB:~$ git clone https://github.com/kevinwlu/iot.git
Cloning into 'iot'...
remote: Enumerating objects: 11909, done.
remote: Counting objects: 100% (1802/1802), done.
remote: Compressing objects: 100% (767/767), done.
remote: Total 11909 (delta 1189), reused 1444 (delta 955), pack-reused 10107
Receiving objects: 100% (11909/11909), 9.12 MiB | 6.73 MiB/s, done.
Resolving deltas: 100% (7969/7969), done.
gabriel@gabriel-Lenovo-920-13IKB:~$ cd iot
gabriel@gabriel-Lenovo-920-13IKB:~/iot$ ls
lesson1  lesson10  lesson2  lesson3  lesson4  lesson5  lesson6  lesson7  lesson8  lesson9  projects  README.md  special_problems  standards
gabriel@gabriel-Lenovo-920-13IKB:~/iot$ cd
gabriel@gabriel-Lenovo-920-13IKB:~$ df
Filesystem      1K-blocks      Used Available Use% Mounted on
udev              3922500         0   3922500   0% /dev
tmpfs              789516      2248    787268   1% /run
/dev/nvme0n1p6   17154848  14556212   1704172  90% /
```

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```
gabriel@gabriel-Lenovo-13IKB:~/iot$ cd
gabriel@gabriel-Lenovo-920-13IKB:~$ df
Filesystem      1K-blocks      Used Available Use% Mounted on
udev             3922500         0   3922500   0% /dev
tmpfs             789516      2248    787268   1% /run
/dev/nvme0n1p6  17154848  14556212   1704172  90% /
tmpfs            3947576    172020   3775556   5% /dev/shm
tmpfs               5120         4      5116   1% /run/lock
tmpfs            3947576         0   3947576   0% /sys/fs/cgroup
/dev/loop0        217344    217344         0 100% /snap/code/88
/dev/loop1        166784    166784         0 100% /snap/gnome-3-28-1804/145
/dev/loop2         66816     66816         0 100% /snap/gtk-common-themes/1519
/dev/loop3        224256    224256         0 100% /snap/gnome-3-34-1804/77
/dev/loop4         63488     63488         0 100% /snap/core20/1328
/dev/loop5        168832    168832         0 100% /snap/gnome-3-28-1804/161
/dev/loop6         84992     84992         0 100% /snap/discord/130
/dev/loop7         56832     56832         0 100% /snap/core18/2253
/dev/nvme0n1p1    262144     36144    226000  14% /boot/efi
/dev/loop8        961024    961024         0 100% /snap/android-studio/119
/dev/loop10       255616    255616         0 100% /snap/zoom-client/167
/dev/loop9        256000    256000         0 100% /snap/zoom-client/168
/dev/loop11        63488     63488         0 100% /snap/core20/1270
/dev/loop12       221056    221056         0 100% /snap/code/87
/dev/nvme0n1p8  70522048  33159892  33736788  50% /home
/dev/loop13       961024    961024         0 100% /snap/android-studio/118
/dev/loop14          128       128         0 100% /snap/bare/5
/dev/loop15        84992     84992         0 100% /snap/discord/131
/dev/loop16        56960     56960         0 100% /snap/core18/2284
/dev/loop17       215168    215168         0 100% /snap/eclipse/48
tmpfs             789512        40    789472   1% /run/user/1000
/dev/loop18       144128    144128         0 100% /snap/gnome-3-26-1604/104
tmpfs             789512        16    789496   1% /run/user/121
/dev/loop19       101888    101888         0 100% /snap/core/11993
/dev/loop20       171392    171392         0 100% /snap/spotify/56
/dev/loop21          640       640         0 100% /snap/gnome-logs/106
/dev/loop22       224256    224256         0 100% /snap/gnome-3-34-1804/72
/dev/loop23          640       640         0 100% /snap/gnome-logs/103
/dev/loop24       113152    113152         0 100% /snap/core/12603
/dev/loop25        66688     66688         0 100% /snap/gtk-common-themes/1515
/dev/loop26       144128    144128         0 100% /snap/gnome-3-26-1604/102
/dev/loop27       172288    172288         0 100% /snap/spotify/57
gabriel@gabriel-Lenovo-920-13IKB:~$ mkdir demo
gabriel@gabriel-Lenovo-920-13IKB:~$ cd demo
gabriel@gabriel-Lenovo-920-13IKB:~/demo$ vim file
gabriel@gabriel-Lenovo-920-13IKB:~/demo$ cat file
test

gabriel@gabriel-Lenovo-920-13IKB:~/demo$ cp file file1
gabriel@gabriel-Lenovo-920-13IKB:~/demo$ mv file file2
gabriel@gabriel-Lenovo-920-13IKB:~/demo$ rm file2
gabriel@gabriel-Lenovo-920-13IKB:~/demo$
```

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```
UNAME(1)                              User Commands                              UNAME(1)

NAME
       uname - print system information

SYNOPSIS
       uname [OPTION]...

DESCRIPTION
       Print certain system information.  With no OPTION, same as -s.

       -a, --all
              print all information, in the following order, except omit -p and -i if unknown:

       -s, --kernel-name
              print the kernel name

       -n, --nodename
              print the network node hostname

       -r, --kernel-release
              print the kernel release

       -v, --kernel-version
              print the kernel version

       -m, --machine
              print the machine hardware name

       -p, --processor
              print the processor type (non-portable)

       -i, --hardware-platform
              print the hardware platform (non-portable)

       -o, --operating-system
              print the operating system

       --help display this help and exit

       --version
              output version information and exit

AUTHOR
       Written by David MacKenzie.

REPORTING BUGS
       GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
       Report uname translation bugs to <http://translationproject.org/team/>

 Manual page uname(1) line 1/61 72% (press h for help or q to quit)
```

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```
gabriel@gabriel-Lenovo-920-13IKB:~/demo$ rm file2
gabriel@gabriel-Lenovo-920-13IKB:~/demo$ clear

gabriel@gabriel-Lenovo-920-13IKB:~/demo$ man uname
gabriel@gabriel-Lenovo-920-13IKB:~/demo$
gabriel@gabriel-Lenovo-920-13IKB:~/demo$ uname -a
Linux gabriel-Lenovo-920-13IKB 5.4.0-91-generic #102~18.04.1-Ubuntu SMP Thu Nov 11 14:46:36 UTC 2021 x86_64 x86_64 x86_64 GNU/Linux
gabriel@gabriel-Lenovo-920-13IKB:~/demo$ ifconfig
```

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```
64 bytes from localhost (127.0.0.1): icmp_seq=215 ttl=64 time=0.047 ms
64 bytes from localhost (127.0.0.1): icmp_seq=216 ttl=64 time=0.046 ms
64 bytes from localhost (127.0.0.1): icmp_seq=217 ttl=64 time=0.047 ms
64 bytes from localhost (127.0.0.1): icmp_seq=218 ttl=64 time=0.049 ms
64 bytes from localhost (127.0.0.1): icmp_seq=219 ttl=64 time=0.046 ms
64 bytes from localhost (127.0.0.1): icmp_seq=220 ttl=64 time=0.051 ms
64 bytes from localhost (127.0.0.1): icmp_seq=221 ttl=64 time=0.047 ms
64 bytes from localhost (127.0.0.1): icmp_seq=222 ttl=64 time=0.050 ms
64 bytes from localhost (127.0.0.1): icmp_seq=223 ttl=64 time=0.047 ms
64 bytes from localhost (127.0.0.1): icmp_seq=224 ttl=64 time=0.050 ms
64 bytes from localhost (127.0.0.1): icmp_seq=225 ttl=64 time=0.054 ms
64 bytes from localhost (127.0.0.1): icmp_seq=226 ttl=64 time=0.054 ms
64 bytes from localhost (127.0.0.1): icmp_seq=227 ttl=64 time=0.046 ms
64 bytes from localhost (127.0.0.1): icmp_seq=228 ttl=64 time=0.050 ms
64 bytes from localhost (127.0.0.1): icmp_seq=229 ttl=64 time=0.053 ms
64 bytes from localhost (127.0.0.1): icmp_seq=230 ttl=64 time=0.067 ms
64 bytes from localhost (127.0.0.1): icmp_seq=231 ttl=64 time=0.047 ms
64 bytes from localhost (127.0.0.1): icmp_seq=232 ttl=64 time=0.047 ms
64 bytes from localhost (127.0.0.1): icmp_seq=233 ttl=64 time=0.051 ms
64 bytes from localhost (127.0.0.1): icmp_seq=234 ttl=64 time=0.021 ms
64 bytes from localhost (127.0.0.1): icmp_seq=235 ttl=64 time=0.052 ms
64 bytes from localhost (127.0.0.1): icmp_seq=236 ttl=64 time=0.051 ms
64 bytes from localhost (127.0.0.1): icmp_seq=237 ttl=64 time=0.033 ms
64 bytes from localhost (127.0.0.1): icmp_seq=238 ttl=64 time=0.046 ms
64 bytes from localhost (127.0.0.1): icmp_seq=239 ttl=64 time=0.051 ms
64 bytes from localhost (127.0.0.1): icmp_seq=240 ttl=64 time=0.050 ms
64 bytes from localhost (127.0.0.1): icmp_seq=241 ttl=64 time=0.046 ms
64 bytes from localhost (127.0.0.1): icmp_seq=242 ttl=64 time=0.048 ms
64 bytes from localhost (127.0.0.1): icmp_seq=243 ttl=64 time=0.056 ms
64 bytes from localhost (127.0.0.1): icmp_seq=244 ttl=64 time=0.046 ms
64 bytes from localhost (127.0.0.1): icmp_seq=245 ttl=64 time=0.056 ms
64 bytes from localhost (127.0.0.1): icmp_seq=246 ttl=64 time=0.052 ms
64 bytes from localhost (127.0.0.1): icmp_seq=247 ttl=64 time=0.072 ms
64 bytes from localhost (127.0.0.1): icmp_seq=248 ttl=64 time=0.048 ms
64 bytes from localhost (127.0.0.1): icmp_seq=249 ttl=64 time=0.070 ms
64 bytes from localhost (127.0.0.1): icmp_seq=250 ttl=64 time=0.052 ms
64 bytes from localhost (127.0.0.1): icmp_seq=251 ttl=64 time=0.050 ms
64 bytes from localhost (127.0.0.1): icmp_seq=252 ttl=64 time=0.050 ms
64 bytes from localhost (127.0.0.1): icmp_seq=253 ttl=64 time=0.035 ms
64 bytes from localhost (127.0.0.1): icmp_seq=254 ttl=64 time=0.049 ms
64 bytes from localhost (127.0.0.1): icmp_seq=255 ttl=64 time=0.054 ms
64 bytes from localhost (127.0.0.1): icmp_seq=256 ttl=64 time=0.048 ms
64 bytes from localhost (127.0.0.1): icmp_seq=257 ttl=64 time=0.052 ms
64 bytes from localhost (127.0.0.1): icmp_seq=258 ttl=64 time=0.052 ms
64 bytes from localhost (127.0.0.1): icmp_seq=259 ttl=64 time=0.049 ms
64 bytes from localhost (127.0.0.1): icmp_seq=260 ttl=64 time=0.047 ms
^C
--- localhost ping statistics ---
260 packets transmitted, 260 received, 0% packet loss, time 265216ms
rtt min/avg/max/mdev = 0.021/0.051/0.082/0.007 ms
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```

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```
unix  3      [ ]         STREAM     CONNECTED     37684
unix  3      [ ]         STREAM     CONNECTED     25408     /var/run/dbus/system_bus_socket
unix  3      [ ]         STREAM     CONNECTED     52269
unix  3      [ ]         STREAM     CONNECTED     42787     @/tmp/.X11-unix/X0
unix  3      [ ]         STREAM     CONNECTED     43993
unix  3      [ ]         STREAM     CONNECTED     42384
unix  3      [ ]         STREAM     CONNECTED     36477     /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     32082
unix  3      [ ]         STREAM     CONNECTED     43996     /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     41700
unix  3      [ ]         STREAM     CONNECTED     38762
unix  3      [ ]         STREAM     CONNECTED     34648
unix  3      [ ]         STREAM     CONNECTED     25504     /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     34203     /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     42641     /run/user/1000/bus
unix  3      [ ]         STREAM     CONNECTED     46357
unix  3      [ ]         STREAM     CONNECTED     40739
unix  3      [ ]         STREAM     CONNECTED     33429     @/tmp/.X11-unix/X1
unix  3      [ ]         STREAM     CONNECTED     36792     /run/user/1000/bus
unix  3      [ ]         STREAM     CONNECTED     43315
unix  3      [ ]         STREAM     CONNECTED     37635
unix  3      [ ]         STREAM     CONNECTED     25558     /run/user/121/bus
unix  3      [ ]         STREAM     CONNECTED     51886     /run/user/1000/bus
unix  3      [ ]         STREAM     CONNECTED     42559     /run/user/1000/bus
unix  3      [ ]         STREAM     CONNECTED     48296     @/tmp/dbus-uSC1THfY
unix  3      [ ]         STREAM     CONNECTED     47200     /run/user/1000/bus
unix  3      [ ]         STREAM     CONNECTED     43323
unix  3      [ ]         STREAM     CONNECTED     35357     /run/user/121/bus
unix  3      [ ]         STREAM     CONNECTED     55818
unix  3      [ ]         SEQPACKET  CONNECTED     46700
unix  3      [ ]         STREAM     CONNECTED     41691
unix  3      [ ]         STREAM     CONNECTED     33530     /run/user/121/bus
unix  3      [ ]         STREAM     CONNECTED     36228     /run/systemd/journal/stdout
unix  3      [ ]         STREAM     CONNECTED     35718
unix  3      [ ]         STREAM     CONNECTED     38286     @/tmp/dbus-ICG4zjwB1T
unix  3      [ ]         STREAM     CONNECTED     49654
unix  3      [ ]         STREAM     CONNECTED     39032     /run/systemd/journal/stdout
unix  2      [ ]         DGRAM                    25384
unix  3      [ ]         DGRAM                    20426
unix  3      [ ]         STREAM     CONNECTED     48210
unix  3      [ ]         STREAM     CONNECTED     43219
unix  3      [ ]         STREAM     CONNECTED     37658     @/tmp/.X11-unix/X1024
unix  3      [ ]         STREAM     CONNECTED     39962
unix  3      [ ]         STREAM     CONNECTED     22396
unix  3      [ ]         STREAM     CONNECTED     46728     /run/user/1000/bus
unix  3      [ ]         STREAM     CONNECTED     44356
unix  3      [ ]         STREAM     CONNECTED     43895
unix  3      [ ]         STREAM     CONNECTED     43306     /var/run/dbus/system_bus_socket
unix  3      [ ]         STREAM     CONNECTED     31653     @/tmp/dbus-ICG4zjwB1T
unix  3      [ ]         STREAM     CONNECTED     32686
gabriel@gabriel-Lenovo-920-13IKB:~/demo$
```