

## LABORATÓRIO LINUX

```
aluno@LAB-DACC-07:/media/arquivos/aosp$ ls
Android.bp      desbugando.txt  libcore          screen.png
art             developers       libnativehelper   sdk
bionic          development     Makefile         system
bootable        device          out              test
bootstrap.bash  external        overlay         toolchain
build           frameworks     packages        tools
BUILD           hardware       palomakoba_kraken.mk WORKSPACE
compatibility   insertkeys.py jasd.txt        prebuilt
cts              kernel         platform_testing
dalvik          kernel         prebuilts

aluno@LAB-DACC-07:/media/arquivos/aosp$ pwd /home
/media/arquivos/aosp
aluno@LAB-DACC-07:/media/arquivos/aosp$ cat /etc/lsb-release
DISTRIB_ID=Ubuntu
DISTRIB_RELEASE=20.04
DISTRIB_CODENAME=focal
DISTRIB_DESCRIPTION="Ubuntu 20.04.4 LTS"
aluno@LAB-DACC-07:/media/arquivos/aosp$ ls -l /bin/ls
-rwxr-xr-x 1 root root 142144 set 5 2019 /bin/ls
aluno@LAB-DACC-07:/media/arquivos/aosp$ ls /etc/host*
/etc/host.conf  /etc/hostname  /etc/hosts.allow
/etc/hostid     /etc/hosts    /etc/hosts.deny
aluno@LAB-DACC-07:/media/arquivos/aosp$ ls -l /etc/host*
-rw-r--r-- 1 root root 92 dez 5 2019 /etc/host.conf
-rw-r--r-- 1 root root  4 fev 23 2022 /etc/hostid
-rw-r--r-- 1 root root 12 abr 18 20:27 /etc/hostname
-rw-r--r-- 1 root root 221 abr  2 19:42 /etc/hosts
-rw-r--r-- 1 root root 411 fev 23 2022 /etc/hosts.allow
-rw-r--r-- 1 root root 711 fev 23 2022 /etc/hosts.deny
aluno@LAB-DACC-07:/media/arquivos/aosp$ ls -lh /bin/ls
-rwxr-xr-x 1 root root 139K set 5 2019 /bin/ls
aluno@LAB-DACC-07:/media/arquivos/aosp$ ls -al
total 1076
drwxrwxrwx 1 root root  8192 jun  3 19:31 .
drwxrwxrwx 1 root root  4096 ago 15 20:00 ..
lrwxrwxrwx 1 root root    19 abr  3 23:35 Android.bp -> build/soong/root.bp
drwxrwxrwx 1 root root  8192 abr  3 23:41 art
drwxrwxrwx 1 root root  4096 abr  4 00:02 bionic
drwxrwxrwx 1 root root     0 abr  4 00:02 bootable
drwxrwxrwx 1 root root     0 abr  4 09:18 .bootstrap
lrwxrwxrwx 1 root root    26 abr  3 23:35 bootstrap.bash -> build/soong/bootstrap.bash
drwxrwxrwx 1 root root  4096 abr  4 00:02 build
lrwxrwxrwx 1 root root    23 abr  3 23:35 BUILD -> build/bazel/bazel.BUILD
drwxrwxrwx 1 root root     0 abr  3 23:41 compatibility
drwxrwxrwx 1 root root  4096 abr  3 23:42 cts
drwxrwxrwx 1 root root  4096 abr  3 23:42 dalvik
-rwxrwxrwx 2 root root     3 jun  3 19:31 desbugando.txt
drwxrwxrwx 1 root root     0 abr  3 23:44 developers
drwxrwxrwx 1 root root  4096 abr  3 23:47 development
drwxrwxrwx 1 root root  4096 abr  5 20:03 device
drwxrwxrwx 1 root root 61440 abr  3 23:41 external
drwxrwxrwx 1 root root  4096 abr  3 23:46 frameworks
drwxrwxrwx 1 root root  4096 abr  3 23:46 hardware
drwxrwxrwx 1 root root 4096 mai 18 01:29 .idea
```

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```
drwxrwxrwx 1 root root 4096 mai 18 01:29 idea
-rw-rw-rwx 1 root root 9558 abr 4 00:03 insertkeys.py
-rw-rw-rwx 1 root root 9 jun 3 19:31 jasd.txt
drwxrwxrwx 1 root root 0 abr 3 23:47 Kernel
drwxrwxrwx 1 root root 4096 abr 4 00:03 libcore
drwxrwxrwx 1 root root 4096 abr 4 00:03 libnativehelper
-rw-rw-rwx 1 root root 92 abr 3 23:35 Makefile
drwxrwxrwx 1 root root 32768 jun 30 14:00 out
drwxrwxrwx 1 root root 0 abr 4 00:02 overlay
drwxrwxrwx 1 root root 4096 abr 3 23:49 packages
-rw-rw-rwx 1 root root 850 abr 3 23:35 palomakoba_kraken.mk
drwxrwxrwx 1 root root 4096 abr 4 00:02 pdk
drwxrwxrwx 1 root root 4096 abr 4 00:02 platform_testing
drwxrwxrwx 1 root root 4096 abr 4 00:02 prebuilts
drwxrwxrwx 1 root root 4096 abr 3 23:34 repo
-rw-rw-rwx 1 root root 876761 abr 3 23:35 screen.png
drwxrwxrwx 1 root root 4096 abr 4 00:03 sdk
drwxrwxrwx 1 root root 8192 abr 4 00:03 system
drwxrwxrwx 1 root root 4096 abr 4 00:03 test
drwxrwxrwx 1 root root 0 abr 4 00:03 toolchain
drwxrwxrwx 1 root root 4096 abr 3 23:41 tools
lrwxrwxrwx 1 root root 27 abr 3 23:35 WORKSPACE -> build/bazel/bazel.WORKSPACE
aluno@LAB-DACC-07:/media/arquivos/aosp$ man ls
aluno@LAB-DACC-07:/media/arquivos/aosp$ tldr ls # Não instalarei pois não sou adm
```

Comando 'tldr' não encontrado, mas poder ser instalado com:

```
apt install tldr      # version 0.4.0.1-1build2, or
apt install tldr-py  # version 0.7.0-3
```

Peça seu administrador para instalar um deles.

```
aluno@LAB-DACC-07:/media/arquivos/aosp$ sudo apt install tldr #para adms
aluno não está no arquivo sudoers. Este incidente será relatado.
aluno@LAB-DACC-07:/media/arquivos/aosp$ cd /var/log
aluno@LAB-DACC-07:/var/log$ pwd
/var/log
aluno@LAB-DACC-07:/var/log$ cd ~
aluno@LAB-DACC-07:~$ pwd
/home/aluno
aluno@LAB-DACC-07:~$ cd /var/log #Muda o diretório de trabalho atual
aluno@LAB-DACC-07:/var/log$ cd #Volta para o Home
aluno@LAB-DACC-07:~$ pwd
/home/aluno
aluno@LAB-DACC-07:~$ cd.
```

Comando 'cd.' não encontrado, você quis dizer:

```
comando 'cdp' do deb ippas (0.10-7)
comando 'cdo' do deb cdo (1.9.9~rc1-1)
comando 'cdw' do deb cdw (0.8.1-1build4)
comando 'cdb' do deb tinycdb (0.78build1)
comando 'cdi' do deb cdo (1.9.9~rc1-1)
comando 'cde' do deb cde (0.1+git9-g551e54d-1.1build1)
comando 'cd5' do deb cd5 (0.1-4)
```

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```
Experimente: apt install <deb name>

aluno@LAB-DACC-07:~$ cd .
aluno@LAB-DACC-07:~$ cd . # "Entra" no diretório atual
aluno@LAB-DACC-07:~$ pwd
/home/aluno
aluno@LAB-DACC-07:~$ cd .. # Vai para o diretório anterior
aluno@LAB-DACC-07:/home$ pwd
/home
aluno@LAB-DACC-07:/home$ cd - # Volta para o diretório que você estava antes e entrar no atual
/home/aluno
aluno@LAB-DACC-07:~$ pwd
/home/aluno
aluno@LAB-DACC-07:~$ cat /etc/hostname # Ver contúdo do arquivo
LAB-DACC-07
aluno@LAB-DACC-07:~$ more /etc/login.defs #Pressione Q para sair e enter para mostrar mais
#
# /etc/login.defs - Configuration control definitions for the login package.
#
# Three items must be defined: MAIL_DIR, ENV_SUPATH, and ENV_PATH.
# If unspecified, some arbitrary (and possibly incorrect) value will
# be assumed. All other items are optional - if not specified then
# the described action or option will be inhibited.
#
# Comment lines (lines beginning with "#") and blank lines are ignored.
#
# Modified for Linux. --marekm

# REQUIRED for useradd/userdel/usermod
# Directory where mailboxes reside, _or_ name of file, relative to the
# home directory. If you _do_ define MAIL_DIR and MAIL_FILE,
# MAIL_DIR takes precedence.
#
# Essentially:
#   - MAIL_DIR defines the location of users mail spool files
#     (for mbox use) by appending the username to MAIL_DIR as defined
#     below.
#   - MAIL_FILE defines the location of the users mail spool files as the
#     fully-qualified filename obtained by prepending the user home
#     directory before $MAIL_FILE
#
# NOTE: This is no more used for setting up users MAIL environment variable
# which is, starting from shadow 4.0.12-1 in Debian, entirely the
# job of the pam_mail PAM modules
# See default PAM configuration files provided for
# login, su, etc.
#
# This is a temporary situation: setting these variables will soon
# move to /etc/default/useradd and the variables will then be
# no more supported
MAIL_DIR      /var/mail
#MAIL_FILE    .mail
#
```

## LABORATÓRIO LINUX

```
#  
# Enable logging and display of /var/log/faillog login failure info.  
# This option conflicts with the pam_tally PAM module.  
#  
FAILLOG_ENAB yes  
  
#  
# Enable display of unknown usernames when login failures are recorded.  
#  
# WARNING: Unknown usernames may become world readable.  
# See #290803 and #298773 for details about how this could become a security  
# concern  
LOG_UNKFAIL_ENAB no  
  
#  
# Enable logging of successful logins  
#  
LOG_OK_LOGINS no  
  
#  
# Enable "syslog" logging of su activity - in addition to sulog file logging.  
# SYSLOG_SG_ENAB does the same for newgrp and sg.  
#  
SYSLOG_SU_ENAB yes  
SYSLOG_SG_ENAB yes  
  
#  
# If defined, all su activity is logged to this file.  
#  
#SULOG_FILE /var/log/sulog  
  
#  
# If defined, file which maps tty line to TERM environment parameter.  
# Each line of the file is in a format something like "vt100  tty01".  
#  
#TTYTYPE_FILE /etc/ttypage  
  
#  
# If defined, login failures will be logged here in a utmp format  
# last, when invoked as lastb, will read /var/log/btmp, so...  
#  
FTMP_FILE /var/log/btmp  
  
#  
# If defined, the command name to display when running "su -". For  
# example, if this is defined as "su" then a "ps" will display the  
# command is "-su". If not defined, then "ps" would display the  
# name of the shell actually being run, e.g. something like "-sh".  
#  
SU_NAME su  
  
#  
# If defined, file which inhibits all the usual chatter during the login  
# sequence. If a full pathname, then hushed mode will be enabled if the  
# user's name or shell are found in the file. If not a full pathname, then
```

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```
#  
# Enable logging and display of /var/log/faillog login failure info.  
# This option conflicts with the pam_tally PAM module.  
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# SYSLOG_SG_ENAB does the same for newgrp and sg.  
#  
SYSLOG_SU_ENAB yes  
SYSLOG_SG_ENAB yes  
  
#  
# If defined, all su activity is logged to this file.  
#  
#SULOG_FILE /var/log/sulog  
  
#  
# If defined, file which maps tty line to TERM environment parameter.  
# Each line of the file is in a format something like "vt100  tty01".  
#  
#TTYTYPE_FILE /etc/ttypage  
  
#  
# If defined, login failures will be logged here in a utmp format  
# last, when invoked as lastb, will read /var/log/btmp, so...  
#  
#FTMP_FILE /var/log/btmp  
  
#  
# If defined, the command name to display when running "su -". For  
# example, if this is defined as "su" then a "ps" will display the  
# command is "-su". If not defined, then "ps" would display the  
# name of the shell actually being run, e.g. something like "-sh".  
#  
SU_NAME su  
  
#  
# If defined, file which inhibits all the usual chatter during the login  
# sequence. If a full pathname, then hushed mode will be enabled if the
```

## LABORATÓRIO LINUX

```
# If defined, file written contains all the usual character during the login
# sequence. If a full pathname, then hushed mode will be enabled if the
# user's name or shell are found in the file. If not a full pathname, then
# hushed mode will be enabled if the file exists in the user's home directory.
#
#HUSHLOGIN_FILE .hushlogin
#HUSHLOGIN_FILE /etc/hushlogins

#
# *REQUIRED* The default PATH settings, for superuser and normal users.
#
# (they are minimal, add the rest in the shell startup files)
ENV_SUPATH      PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
in
ENV_PATH        PATH=/usr/local/bin:/usr/bin:/bin:/usr/local/games:/usr/games

#
# Terminal permissions
#
#       TTYGROUP      Login tty will be assigned this group ownership.
#       TTYPERM       Login tty will be set to this permission.
#
# If you have a "write" program which is "setgid" to a special group
# which owns the terminals, define TTYGROUP to the group number and
# TTYPERM to 0620. Otherwise leave TTYGROUP commented out and assign
# TTYPERM to either 622 or 600.
#
# In Debian /usr/bin/bsd-write or similar programs are setgid tty
# However, the default and recommended value for TTYPERM is still 0600
# to not allow anyone to write to anyone else console or terminal

aluno@LAB-DACC-07:~$ head -5 /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin sync
aluno@LAB-DACC-07:~$ tail -5 /etc/passwd
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin
aluno:1001:1001:Aluno,,,:/home/aluno:/bin/bash
lightdm:x:128:135:light Display Manager:/var/lib/lightdm:/bin/false
nvidia-persistenced:x:127:134:NVIDIA Persistence Daemon,,,:/nonexistent:/usr/sbin/nologin
sshd:x:129:65534::/run/sshd:/usr/sbin/nologin
aluno@LAB-DACC-07:~$ tail -f /var/log/syslog #Ctrl + C para sair
tail: não foi possível abrir '/var/log/syslog' para leitura: Permissão negada
tail: nenhum arquivo restante
aluno@LAB-DACC-07:~$ nano arquivo.txt
aluno@LAB-DACC-07:~$ less arquivo.txt
aluno@LAB-DACC-07:~$ arquivo.txt -f
```

arquivo.txt: comando não encontrado  
aluno@LAB-DACC-07:~\$ tail -f arquivo.txt  
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi eget elit non ligula pellentesque vestibulum. Nulla posuere eu ipsum vel mollis. Donec ut rutrum odio, egestas mollis enim. Proin dapibus malesuada dolor at elementum. Pellentesque condimentum a arcu eu mollis. Mauris mollis luctus euismod. Ut id tellus scelerisque, vulputate est nec, auctor enim. Vivamus augue libero, mollis at posuere sed, viverra eu lor  
et  
retra ipsum nisi ut massa. Pellentesque tempor quam eu tellus pulvinar, vel dignissim mi venenatis. Vestibulum non facilis purus. Ut accumsan odio quis ante tempus venenatis.  
nc

```
aluno@LAB-DACC-07:~$ cp arquivoteste.txt arquivocopia.txt
```

```
aluno@LAB-DACC-07:~$ ls -lh arquivocopia.txt
-rw-rw-r-- 1 aluno aluno 6 set 22 16:41 arquivocopia.txt
```

```
aluno@LAB-DACC-07:~$ cp arquivoteste.txt /tmp
aluno@LAB-DACC-07:~$ ls -lh arquivoteste.txt /tmp/arquivoteste.txt
-rw-rw-r-- 1 aluno aluno 6 set 22 16:40 arquivoteste.txt
-rw-rw-r-- 1 aluno aluno 6 set 22 16:46 /tmp/arquivoteste.txt
aluno@LAB-DACC-07:~$
```

## LABORATÓRIO LINUX

```
aluno@LAB-DACC-07:~$ cp arquivoteste.txt /tmp
aluno@LAB-DACC-07:~$ ls -lh arquivoteste.txt /tmp/arquivoteste.txt
-rw-rw-r-- 1 aluno aluno 6 set 22 16:40 arquivoteste.txt
-rw-rw-r-- 1 aluno aluno 6 set 22 16:46 /tmp/arquivoteste.txt
aluno@LAB-DACC-07:~$ mv arquivoteste.txt arquivorenomeado.txt
aluno@LAB-DACC-07:~$ ls -lh arquivorenomeado.txt
-rw-rw-r-- 1 aluno aluno 6 set 22 16:40 arquivorenomeado.txt
aluno@LAB-DACC-07:~$ mv arquivorenomeado.txt /tmp/arquivomovido.txt
aluno@LAB-DACC-07:~$ ls -lh /tmp/arquivomovido.txt
-rw-rw-r-- 1 aluno aluno 6 set 22 16:40 /tmp/arquivomovido.txt
aluno@LAB-DACC-07:~$
```

## LABORATÓRIO LINUX

```
aluno@LAB-DACC-07:/media/arquivos/aosp$ cd ~
aluno@LAB-DACC-07:~$ ls -lh /usr/bin > arquivosdobin.txt
aluno@LAB-DACC-07:~$ tail -5 arquivosdobin.txt
-rwxr-xr-x 1 root root      92K abr 21 2017 zipsplit
-rwxr-xr-x 1 root root     27K jan 30 2020 zjsdecode
-rwxr-xr-x 1 root root     2,2K abr  8 07:05 zless
-rwxr-xr-x 1 root root     1,8K abr  8 07:05 zmore
-rwxr-xr-x 1 root root     4,5K abr  8 07:05 znew
aluno@LAB-DACC-07:~$ echo -e "(\(\ \n(--)\\no_()\""
(\()
(--)
o_()"()
aluno@LAB-DACC-07:~$ echo "Primeira linha do arquivo" > arquivoteste.txt
aluno@LAB-DACC-07:~$ cat arquivoteste.txt
Primeira linha do arquivo
aluno@LAB-DACC-07:~$ echo "Segunda linha do arquivo (só que não)" > arquivoteste.txt
aluno@LAB-DACC-07:~$ cat arquivoteste.txt
Segunda linha do arquivo (só que não)
aluno@LAB-DACC-07:~$ echo "Segunda linha do arquivo (de verdade)" >> arquivoteste.txt
aluno@LAB-DACC-07:~$ cat arquivoteste.txt
Segunda linha do arquivo (só que não)
Segunda linha do arquivo (de verdade)
aluno@LAB-DACC-07:~$ █
```

```
aluno@LAB-DACC-07:~$ ls arquivoinvalido.txt arquivoteste.txt > LsStdout.txt
ls: não foi possível acessar 'arquivoinvalido.txt': Arquivo ou diretório inexistente
aluno@LAB-DACC-07:~$ ls arquivoinvalido.txt arquivoteste.txt 2> LsStderr.txt
arquivoteste.txt
aluno@LAB-DACC-07:~$ cat LsStderr.txt
ls: não foi possível acessar 'arquivoinvalido.txt': Arquivo ou diretório inexistente
aluno@LAB-DACC-07:~$ ls arquivoinvalido.txt arquivoteste.txt > LsStdout.txt 2> LsStderr.txt
aluno@LAB-DACC-07:~$ ls arquivoinvalido.txt arquivoteste.txt &> LsStdoutStdErr.txt
aluno@LAB-DACC-07:~$ ls arquivoinvalido.txt arquivoteste.txt 2> /dev/null
arquivoteste.txt
aluno@LAB-DACC-07:~$ █
```

```
aluno@LAB-DACC-07:~$ grep a
Goofy Goober Rock
Dovahkiin
Dovahkiin
^C
aluno@LAB-DACC-07:~$ cat /proc/cpuinfo | grep "model name"
model name      : Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
model name      : Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
model name      : Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
model name      : Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
model name      : Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
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model name      : Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
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model name      : Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
model name      : Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
aluno@LAB-DACC-07:~$ cat /proc/cpuinfo | grep "model name" | head -1
model name      : Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
aluno@LAB-DACC-07:~$ cat /proc/cpuinfo | grep "model name" | head -1 | cut -d: -f2
  Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
aluno@LAB-DACC-07:~$ cat /proc/cpuinfo | grep "model name" | head -1 | head -1 | cut -d: -f2 | cut -c2-
Intel(R) Core(TM) i7-8700 CPU @ 3.20GHz
aluno@LAB-DACC-07:~$ █
```

## LABORATÓRIO LINUX

```
aluno@LAB-DACC-07:~$ cat /etc/passwd | grep h | wc -l  
15
```

```
aluno@LAB-DACC-07:~$ man man
aluno@LAB-DACC-07:~$ cat /etc/passwd | cut -d: -f1 | grep h
avahi-autoipd
cups-pk-helper
speech-dispatcher
avahi
hplip
whoopsie
lightdm
sshd
aluno@LAB-DACC-07:~$
```

## Desafio:

## LABORATÓRIO LINUX

```
aluno@LAB-DACC-07:~$ ls -flh /etc/passwd /etc/shadow /etc/group
-rw-r--r-- 1 root root 3,1K abr 4 18:00 /etc/passwd
-rw-r----- 1 root shadow 1,8K abr 7 16:38 /etc/shadow
-rw-r--r-- 1 root root 1,3K abr 7 10:11 /etc/group
aluno@LAB-DACC-07:~$ cat /etc/fstab
# /etc/fstab: static file system information.
#
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to name devices
# that works even if disks are added and removed. See fstab(5).
#
# <file system> <mount point> <type> <options> <dump> <pass>
# / was on /dev/nvme0n1p8 during installation
UUID=bf741425-5ad0-4865-ad66-906781c30d34 / ext4 errors=remount-ro 0 1
# /boot/efi was on /dev/nvme0n1p1 during installation
UUID=8E68-D768 /boot/efi vfat umask=0077 0 1
# /media/arquivos was on /dev/sda1 during installation
# swap was on /dev/nvme0n1p7 during installation
UUID=3f6a3ca4-191e-450b-be98-daca5bd7e2c7 none swap sw 0 0
/dev/disk/by-uuid/aa17929a-828c-4123-b88e-75c0748befbd /media/arquivos-linux auto defaults 1 1
/dev/disk/by-uuid/B234703834700221 /media/arquivos auto nosuid,nodev,nofail,x-gvfs-show 0 0
aluno@LAB-DACC-07:~$ cat /etc/hostname
LAB-DACC-07
aluno@LAB-DACC-07:~$ cat /etc/protocols | grep UDP
udp    17      UDP          # user datagram protocol
udplite 136    UDPLite     # UDP-Lite [RFC3828]

aluno@LAB-DACC-07:~$ cat /etc/services | grep -P "ssh|http|t|https|ircd"
# Updated from https://www.iana.org/assignments/service-names-port-numbers/service-names-port-numbers.xhtml .
ssh        22/tcp      # SSH Remote Login Protocol
http       80/tcp      www          # WorldWideWeb HTTP
https      443/tcp     # http protocol over TLS/SSL
ircd      6667/tcp     # Internet Relay Chat
aluno@LAB-DACC-07:~$ cat /etc/shells
# /etc/shells: valid login shells
/bin/sh
/bin/bash
/usr/bin/bash
/bin/rbash
/usr/bin/rbash
/bin/dash
/usr/bin/dash
aluno@LAB-DACC-07:~$ cat /etc/timezone
America/Porto_Velho
aluno@LAB-DACC-07:~$ ls -alh ~
total 328K
drwxr-xr-x 26 aluno aluno 4,0K set 23 14:34 .
drwxr-xr-x  4 root  root 4,0K abr 2 20:05 ..
drwxrwxr-x  6 aluno aluno 4,0K jun 29 21:15 .android
drwxrwxr-x  3 aluno aluno 4,0K abr 3 23:23 Android
drwxrwxr-x  6 aluno aluno 4,0K jun 23 19:40 AndroidStudioProjects
drwxr-xr-x  3 aluno aluno 4,0K jun 30 10:20 .anydesk
drwxr-xr-x  3 aluno aluno 4,0K set 20 09:07 'Área de Trabalho'
-rw-rw-r--  1 aluno aluno   6 set 22 16:41 arquivocopia.txt
-rw-rw-r--  1 aluno aluno 130K set 23 14:09 arquivosdobin.txt
-rw-rw-r--  1 aluno aluno   78 set 23 14:14 arquivoteste.txt
-rw-rw-r--  1 aluno aluno 1,2K set 22 16:29 arquivo.txt
-rw-----  1 aluno aluno  22K set 22 17:27 .bash_history
-rw-r--r--  1 aluno aluno 220 abr 2 20:05 .bash_logout
-rw-r--r--  1 aluno aluno 3,9K jun 30 14:01 .bashrc
drwxr-xr-x 21 aluno aluno 4,0K mai 19 17:58 .cache
drwx----- 24 aluno aluno 4,0K set 20 10:30 .config
drwxr-xr-x  3 aluno aluno 4,0K mai 31 08:44 Documentos
drwxr-xr-x  3 aluno aluno 4,0K set 23 14:19 Downloads
-rw-----  1 aluno aluno   16 abr 7 10:05 .emulator_console_auth_token
drwx-----  3 aluno aluno 4,0K set 22 15:12 .gnupg
```

## LABORATÓRIO LINUX

```
aluno@LAB-DACC-07:~$ ls -alh ~
total 328K
drwxr-xr-x 26 aluno aluno 4,0K set 23 14:34 .
drwxr-xr-x  4 root  root 4,0K abr  2 20:05 ..
drwxrwxr-x  6 aluno aluno 4,0K jun 29 21:15 .android
drwxrwxr-x  3 aluno aluno 4,0K abr  3 23:23 Android
drwxrwxr-x  6 aluno aluno 4,0K jun 23 19:40 AndroidStudioProjects
drwxr-xr-x  3 aluno aluno 4,0K jun 30 10:20 .anydesk
drwxr-xr-x  3 aluno aluno 4,0K set 20 09:07 'Área de Trabalho'
-rw-rw-r--  1 aluno aluno   6 set 22 16:41 arquivocopia.txt
-rw-rw-r--  1 aluno aluno 130K set 23 14:09 arquivosdobin.txt
-rw-rw-r--  1 aluno aluno   78 set 23 14:14 arquivoteste.txt
-rw-rw-r--  1 aluno aluno 1,2K set 22 16:29 arquivo.txt
-rw-----  1 aluno aluno 22K set 22 17:27 .bash_history
-rw-r--r--  1 aluno aluno 220 abr  2 20:05 .bash_logout
-rw-r--r--  1 aluno aluno 3,9K jun 30 14:01 .bashrc
drwxr-xr-x 21 aluno aluno 4,0K mai 19 17:58 .cache
drwx----- 24 aluno aluno 4,0K set 20 10:30 .config
drwxr-xr-x  3 aluno aluno 4,0K mai 31 08:44 Documentos
drwxr-xr-x  3 aluno aluno 4,0K set 23 14:19 Downloads
-rw-----  1 aluno aluno   16 abr  7 10:05 .emulator_console_auth_token
drwx-----  3 aluno aluno 4,0K set 22 15:12 .gnupg
drwxrwxr-x  9 aluno aluno 4,0K mai  3 19:17 .gradle
drwxr-xr-x  3 aluno aluno 4,0K set 23 16:10 Imagens
drwxrwxr-x  4 aluno aluno 4,0K abr  3 23:22 .java
drwxr-xr-x  3 aluno aluno 4,0K abr  2 20:18 .local
-rw-rw-r--  1 aluno aluno   88 set 23 14:33 LsStderr.txt
-rw-rw-r--  1 aluno aluno  105 set 23 14:34 LsStdoutStdErr.txt
-rw-rw-r--  1 aluno aluno   17 set 23 14:33 LsStdout.txt
drwxr-xr-x  2 aluno aluno 4,0K abr  3 22:49 Modelos
drwx-----  4 aluno aluno 4,0K abr  6 11:35 .mozilla
drwxr-xr-x  2 aluno aluno 4,0K abr  2 20:18 Música
-rw-r--r--  1 aluno aluno 3,8K jun  8 22:59 NumberSOSPreferenceController.java
-rw-r--r--  1 aluno aluno  809 jun  8 23:03 NumberSOSProperties.sysprop
-rw-----  1 aluno aluno   65 abr  7 10:35 .octave_hist
drwx-----  3 aluno aluno 4,0K abr  3 23:23 .pki
-rw-r--r--  1 aluno aluno  807 abr  2 20:05 .profile
drwxr-xr-x  2 aluno aluno 4,0K abr  2 20:18 Público
-rw-rw-r--  1 aluno aluno   2 jun 30 17:11 .repo_.gitconfig.json
-rw-r--r--  1 aluno aluno 5,0K jun  9 23:22 SecurityLocationPreferenceController.java
drwxr-xr-x  3 aluno aluno 4,0K jun 29 20:30 securitynumber
drwx-----  4 aluno aluno 4,0K abr  7 16:29 snap
drwx-----  2 aluno aluno 4,0K abr  7 10:39 .ssh
drwxr-xr-x  3 aluno aluno 4,0K abr  7 10:28 Vídeos
drwxrwxr-x  3 aluno aluno 4,0K abr  3 23:23 .vscode
aluno@LAB-DACC-07:~$
```

```
aluno@LAB-DACC-07:~$ cat /dev/random
```

rlaf\*\*\*Ul\*\*\*!gJ+ z)\*\*\*R7n\*[Ea\*\*\*?IR\*DC++ ,\*\*\*\*\*F\*Y\*\*\*\*\*X:\*\*\*3\*\*\*udikag\*\*\*B\*AemWeX\*\*\*'\*\*\*]++;"\*87\*\*\*\\*\*\*dW\*9<9\*S\*AC

```
aluno@LAB-DACC-07:~$ $RANDOM  
16032: comando não encontrado  
aluno@LAB-DACC-07:~$ echo $RANDOM  
7109  
aluno@LAB-DACC-07:~$ echo "Timber Hearth" > /tmp/OuterWilds.txt  
aluno@LAB-DACC-07:~$ cat /tmp/OuterWilds.txt > /dev/stdout  
Timber Hearth  
aluno@LAB-DACC-07:~$ cat /proc/diskstats | grep -v loop  
259      0 nvme0n1 38150 13735 2550779 9508 24178 23582 1135210 13870 0 24424 25341 0 0 0 0 1616 1962  
259      1 nvme0n1p1 341 974 27081 64 2 0 2 1 0 100 65 0 0 0 0 0 0 0  
259      2 nvme0n1p2 56 0 4160 40 0 0 0 0 0 44 40 0 0 0 0 0 0  
259      3 nvme0n1p3 56 0 4224 29 0 0 0 0 0 40 29 0 0 0 0 0 0  
259      4 nvme0n1p4 58 0 4176 45 0 0 0 0 0 48 45 0 0 0 0 0 0  
259      5 nvme0n1p5 58 0 4176 53 0 0 0 0 0 56 53 0 0 0 0 0 0  
259      6 nvme0n1p6 58 0 4176 56 0 0 0 0 0 48 56 0 0 0 0 0 0  
259      7 nvme0n1p7 87 0 6760 59 0 0 0 0 0 64 59 0 0 0 0 0 0  
259      8 nvme0n1p8 37336 12761 2492490 9126 24176 23582 1135208 13869 0 24316 22996 0 0 0 0 0 0  
8       0 sda 1928 0 99898 14117 0 0 0 0 0 14672 14117 0 0 0 0 0 0  
8       1 sda1 1729 0 95440 6832 0 0 0 0 0 7304 6832 0 0 0 0 0 0
```

## LABORATÓRIO LINUX

```
aluno@LAB-DACC-07:~$ iostat | grep -v loop
Linux 5.15.0-43-generic (LAB-DACC-07) 23/09/2022 _x86_64_ (12 CPU)

avg-cpu: %user %nice %system %iowait %steal %idle
          1,20   0,01   0,46   0,02   0,00  98,32

Device      tps    kB_read/s    kB_wrtn/s    kB_dscd/s    kB_read    kB_wrtn    kB_dscd
nvme0n1    10,06     220,88     138,89       0,00  2241510   1409433        0
sda        0,19      4,92       0,00       0,00   49956        0        0
```

```
aluno@LAB-DACC-07:~$ cat /sys/block/
loop0/  loop10/  loop12/  loop14/  loop16/  loop18/  loop2/  loop21/  loop4/  loop6/  loop8/  nvme0n1/
loop1/  loop11/  loop13/  loop15/  loop17/  loop19/  loop20/  loop3/  loop5/  loop7/  loop9/  sda/
aluno@LAB-DACC-07:~$ cat /sys/block/nvme0n1/queue/hw_sector_size
512
aluno@LAB-DACC-07:~$ cat /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-5.15.0-43-generic root=UUID=bf741425-5ad0-4865-ad66-906781c30d34 ro quiet splash vt.handoff=7
aluno@LAB-DACC-07:~$ █
```

```
aluno@LAB-DACC-07:~$ cat /proc/loadavg
0.25 0.24 0.24 1/1117 22513
aluno@LAB-DACC-07:~$ cat /proc/meminfo | grep Mem
MemTotal:       16189652 kB
MemFree:        11269640 kB
MemAvailable:  131417092 kB
aluno@LAB-DACC-07:~$ cat /proc/uptime
10572,46 124536,96
aluno@LAB-DACC-07:~$ cat /proc/version
Linux version 5.15.0-43-generic (buildd@lcy02-amd64-026) (gcc (Ubuntu 9.4.0-1ubuntu1-20.04.1) 9.4.0, GNU ld (GNU Binutils for Ubuntu) 2.34) #46-20.04.1-Ubuntu SMP Thu Jul 14 15:20:17 UTC 2022
aluno@LAB-DACC-07:~$ hexdump -c /bin/ls | head -3
00000000  7f 45 4c 46 02 01 00 00 00 00 00 00 00 00 00 00  |ELF.....|
00000010  03 00 3e 00 01 00 00 00 d0 67 00 00 00 00 00 00 00  |>....g....|
00000020  40 00 00 00 00 00 00 00 c0 23 02 00 00 00 00 00 00  |@.....#....|
aluno@LAB-DACC-07:~$ cd /bin
aluno@LAB-DACC-07:~/bin$ ls
[...]
zco3-2.7          hostname          ppmtopuzz
411toppm         hostnamectl        ppmtorgb3
z2                hp-align          ppmtosixel
7za              hp-check           ppmtotga
hp-clean          ppmtoull
[...]
```

```
aluno@LAB-DACC-07:/media/arquivos/aosp$ cd /tmp
aluno@LAB-DACC-07:/tmp$ exit
exit
aluno@LAB-DACC-07:/bin$ /bin/date
sex 23 set 2022 16:57:30 -04
aluno@LAB-DACC-07:/bin$ echo $PATH
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/usr/games:/usr/local/games:/snap/bin:/usr/local/cuda/bin
aluno@LAB-DACC-07:/bin$ cd ~
aluno@LAB-DACC-07:~$ /bin/date
sex 23 set 2022 16:58:28 -04
aluno@LAB-DACC-07:~$ echo $PATH
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/usr/games:/usr/local/games:/snap/bin:/usr/local/cuda/bin
aluno@LAB-DACC-07:~$ df -h
Sist. Arq.      Tam. Usado Disp. Uso% Montado em
udev            7,7G   0  7,7G  0% /dev
tmpfs           1,6G  3,7M 1,6G  1% /run
/dev/nvme0n1p8  101G  37G  59G 39% /
tmpfs           7,8G 100K  7,8G  1% /dev/shm
tmpfs           5,0M 4,0K  5,0M  1% /run/lock
tmpfs           7,8G   0  7,8G  0% /sys/fs/cgroup
/dev/loop0     128K 128K   0 100% /snap/bare/5
/dev/loop1     143M 143M   0 100% /snap/chromium/2082
/dev/loop4     522M 522M   0 100% /snap/gimp/393
/dev/loop2     143M 143M   0 100% /snap/chromium/2105
/dev/loop3     347M 347M   0 100% /snap/gnome-3-38-2004/115
/dev/loop6     56M  56M   0 100% /snap/core18/2566
/dev/loop7     392M 392M   0 100% /snap/gimp/383
/dev/loop5     401M 401M   0 100% /snap/gnome-3-38-2004/112
/dev/loop12    62M  62M   0 100% /snap/core20/1611
/dev/loop13    64M  64M   0 100% /snap/core20/1623
/dev/loop8     256K 256K   0 100% /snap/gtk2-common-themes/13
/dev/loop19    46M  46M   0 100% /snap/snap-store/599
/dev/loop11    115M 115M   0 100% /snap/core/13741
/dev/loop9     92M  92M   0 100% /snap/gtk-common-themes/1535
/dev/loop14    46M  46M   0 100% /snap/snap-store/592
/dev/loop15    82M  82M   0 100% /snap/gtk-common-themes/1534
/dev/loop17    165M 165M   0 100% /snap/gnome-3-28-1804/161
/dev/loop16    56M  56M   0 100% /snap/core18/2538
/dev/loop18    48M  48M   0 100% /snap/snapd/16778
/dev/loop20    47M  47M   0 100% /snap/snapd/16292
/dev/loop10    114M 114M   0 100% /snap/core/13425
/dev/nvme0n1p1 496M  81M  416M 17% /boot/efi
/dev/sda1      466G 382G  85G 82% /media/arquivos
tmpfs          1,6G 20K 1,6G  1% /run/user/125
tmpfs          1,6G 24K 1,6G  1% /run/user/1001
aluno@LAB-DACC-07:~$ touch /tmp/arquivotouch.txt
aluno@LAB-DACC-07:~$ ls -lh /tmp/arquivotouch.txt
-rw-rw-r-- 1 aluno aluno 0 set 23 16:59 /tmp/arquivotouch.txt
aluno@LAB-DACC-07:~$ uname -a
Linux LAB-DACC-07 5.15.0-43-generic #46-20.04.1-Ubuntu SMP Thu Jul 14 15:20:17 UTC 2022 x86_64 x86_64 x86_64 GNU/Linux
aluno@LAB-DACC-07:~$ who
aluno      :1          2022-09-23 13:58 (:1)
aluno@LAB-DACC-07:~$ █
```

## LABORATÓRIO LINUX

```
administrador@LAB-DACC-07:~$ whereis who
who: /usr/bin/who /usr/share/man/man1/who.1.gz
administrador@LAB-DACC-07:~$ whereis ls
ls: /usr/bin/ls /usr/share/man/man1/ls.1.gz
administrador@LAB-DACC-07:~$ whereis hexdump
whereis hexdump: comando não encontrado
administrador@LAB-DACC-07:~$ whereis hexdump
hexdump: /usr/bin/hexdump /usr/share/man/man1/hexdump.1.gz
administrador@LAB-DACC-07:~$ whereis grep
grep: /usr/bin/grep /usr/share/man/man1/grep.1.gz /usr/share/info/grep.info.gz
administrador@LAB-DACC-07:~$ whereis ifconfig
ifconfig:
administrador@LAB-DACC-07:~$ whereis whereis
whereis: /usr/bin/whereis /usr/share/man/man1/whereis.1.gz
administrador@LAB-DACC-07:~$ find /etc
/etc
/etc/samba
/etc/samba/tls
/etc/samba/smb.conf
/etc/samba/gdbcommands
/etc/chromium
/etc/chromium/native-messaging-hosts
/etc/chromium/native-messaging-hosts/org.gnome.chrome_gnome_shell.json
/etc/console-setup
/etc/console-setup/cached_setup_terminal.sh
/etc/console-setup/compose.CP1251.inc
/etc/console-setup/compose.ISO-8859-2.inc
/etc/console-setup/compose.ISO-8859-8.inc
/etc/console-setup/vtrgb.vga
/etc/console-setup/compose.IBM1133.inc
/etc/console-setup/compose.ISO-8859-13.inc
/etc/console-setup/compose.ISO-8859-6.inc
/etc/console-setup/compose.GEORGIAN-PS.inc
/etc/console-setup/Uni2-Fixed16.psf.gz
/etc/console-setup/compose.TIS-620.inc
/etc/console-setup/cached_UTF-8_del.kmap.gz
/etc/console-setup/compose.ISO-8859-7.inc
/etc/console-setup/compose.CP1256.inc
/etc/console-setup/compose.ISO-8859-3.inc
/etc/console-setup/compose.ISIRI-3342.inc
/etc/console-setup/compose.KOI8-R.inc
/etc/console-setup/cached_ISO-8859-1_del.kmap.gz
/etc/console-setup/compose.ARMSCII-8.inc
/etc/console-setup/compose.ISO-8859-11.inc
/etc/console-setup/compose.ISO-8859-4.inc
/etc/console-setup/compose.VISCII.inc
/etc/console-setup/cached_Uni2-Fixed16.psf.gz
/etc/console-setup/compose.ISO-8859-1.inc
/etc/console-setup/cached_setup_keyboard.sh
/etc/console-setup/remap.inc
/etc/console-setup/compose.ISO-8859-14.inc
/etc/console-setup/ISO-8859-1.acm
/etc/console-setup/cached_setup_font.sh
/etc/console-setup/compose.GEORGIAN-ACADEMY.inc
/etc/console-setup/compose.ISO-8859-5.inc
/etc/console-setup/vtrab
```

## LABORATÓRIO LINUX

```
administrador@LAB-DACC-07:~$ find /etc | wc -l
find: '/etc/polkit-1/localauthority': Permissão negada
find: '/etc/cups/ssl': Permissão negada
find: '/etc/anydesk/recordings': Permissão negada
find: '/etc/ssl/private': Permissão negada
3244
administrador@LAB-DACC-07:~$ find /etc 2> /dev/null | wc -l
3244
administrador@LAB-DACC-07:~$ find /usr/include -name *org*
/usr/include/xorg
administrador@LAB-DACC-07:~$ find /usr/include | grep org
/usr/include/xorg
/usr/include/xorg/wacom-properties.h
/usr/include/xorg/isdv4.h
/usr/include/xorg/wacom-util.h
/usr/include/xorg/Xwacom.h
administrador@LAB-DACC-07:~$ █
```

```
administrador@LAB-DACC-07:~$ cd /usr
administrador@LAB-DACC-07:/usr$ du -s
16734044 .
administrador@LAB-DACC-07:/usr$ du -sh
16G .
administrador@LAB-DACC-07:/usr$ du -sh *
275M   bin
776K   games
30M    include
7,2G   lib
45M   lib32
4,0K   lib64
14M   libexec
42M   libx32
5,8G   local
36M   sbin
2,0G   share
653M   src
administrador@LAB-DACC-07:/usr$ █
```

## LABORATÓRIO LINUX

```
administrador@LAB-DACC-07:/usr$ cd
administrador@LAB-DACC-07:$ echo "Mensagem no arquivo original" > ArquivoOriginal.txt
administrador@LAB-DACC-07:$ ls -lh ArquivoOriginal.txt
-rw-rw-r-- 1 administrador administrador 29 set 30 14:43 ArquivoOriginal.txt
administrador@LAB-DACC-07:$ ln -s ArquivoOriginal.txt ArquivoLinksSimbolico.txt
administrador@LAB-DACC-07:$ ls -lh ArquivoLinksSimbolico.txt
lrwxrwxrwx 1 administrador administrador 19 set 30 14:45 ArquivoLinksSimbolico.txt -> ArquivoOriginal.txt
administrador@LAB-DACC-07:$ cat ArquivoLinksSimbolico.txt
Mensagem no arquivo original
administrador@LAB-DACC-07:$ echo "Mensagem concatenada no link simbólico" >>
bash: erro de sintaxe próximo ao token inesperado `newline'
administrador@LAB-DACC-07:$ echo "Mensagem concatenada no link simbólico" >> ArquivoLinksSimbolico.txt
administrador@LAB-DACC-07:$ cat ArquivoOriginal.txt
Mensagem no arquivo original
Mensagem concatenada no link simbólico
administrador@LAB-DACC-07:$ rm ArquivoOriginal.txt
administrador@LAB-DACC-07:$ cat ArquivolinksSimbolico.txt
cat: ArquivolinksSimbolico.txt: Arquivo ou diretório inexistente
administrador@LAB-DACC-07:$ ls -lh ArquivolinksSimbolico.txt
lrwxrwxrwx 1 administrador administrador 19 set 30 14:45 ArquivolinksSimbolico.txt -> ArquivoOriginal.txt
administrador@LAB-DACC-07:$ echo "Mensagem no arquivo original 2" > ArquivoOriginal2.txt
administrador@LAB-DACC-07:$ ls -lh ArquivoOriginal2.txt
-rw-rw-r-- 1 administrador administrador 31 set 30 14:50 ArquivoOriginal2.txt
administrador@LAB-DACC-07:$ ln ArquivoOriginal2.txt ArquivoLinkFisico.txt
administrador@LAB-DACC-07:$ ls -lh ArquivoOriginal2.txt ArquivoLinkFisico.txt
-rw-rw-r-- 2 administrador administrador 31 set 30 14:50 ArquivoLinkFisico.txt
-rw-rw-r-- 2 administrador administrador 31 set 30 14:50 ArquivoOriginal2.txt
administrador@LAB-DACC-07:$ echo "Mensagem concatenada no link físico" >> ArquivoLinkFisico.txt
administrador@LAB-DACC-07:$ ls -lh ArquivoOriginal2.txt ArquivoLinkFisico.txt
-rw-rw-r-- 2 administrador administrador 68 set 30 14:54 ArquivoLinkFisico.txt
-rw-rw-r-- 2 administrador administrador 68 set 30 14:54 ArquivoOriginal2.txt
administrador@LAB-DACC-07:$ rm ArquivoOriginal2.txt
administrador@LAB-DACC-07:$ ls -lh ArquivoLinkFisico.txt
-rw-rw-r-- 1 administrador administrador 68 set 30 14:54 ArquivoLinkFisico.txt
administrador@LAB-DACC-07:$ cat ArquivoLinkFisico.txt
Mensagem no arquivo original 2
Mensagem concatenada no link físico
administrador@LAB-DACC-07:$
```

## LABORATÓRIO LINUX

```
administrador@LAB-DACC-07:~$ ls -alh | grep "\." | head -2
drwxr-xr-x 31 administrador administrador 4,0K set 30 14:55 .
drwxr-xr-x  5 root         root        4,0K set 28 17:20 ..
administrador@LAB-DACC-07:~$ mkdir NovoSubdiretorio
administrador@LAB-DACC-07:~$ ls -alh | grep "\." | head -2
drwxr-xr-x 32 administrador administrador 4,0K set 30 14:59 .
drwxr-xr-x  5 root         root        4,0K set 28 17:20 ..
administrador@LAB-DACC-07:~$ ls -lh | grep NovoSubdiretorio
drwxrwxr-x  2 administrador administrador 4,0K set 30 14:59 NovoSubdiretorio
administrador@LAB-DACC-07:~$ ls -alh NovoSubdiretorio/
total 8,0K
drwxrwxr-x  2 administrador administrador 4,0K set 30 14:59 .
drwxr-xr-x 32 administrador administrador 4,0K set 30 14:59 ..
administrador@LAB-DACC-07:~$ █
```

## LABORATÓRIO LINUX

```
administrador@LAB-DACC-07:~$ ps
  PID TTY      TIME CMD
 3422 pts/0    00:00:00 bash
 4738 pts/0    00:00:00 ps
administrador@LAB-DACC-07:~$ cat &
[1] 4871
administrador@LAB-DACC-07:~$ ps
  PID TTY      TIME CMD
 3422 pts/0    00:00:00 bash
 4871 pts/0    00:00:00 cat
 4873 pts/0    00:00:00 ps

[1]+  Parado                  cat
administrador@LAB-DACC-07:~$ ps -f
UID        PID  PPID  C STIME TTY      TIME CMD
adminis+  3422   3315  0 14:09 pts/0    00:00:00 bash
adminis+  4871   3422  0 15:08 pts/0    00:00:00 cat
adminis+  4882   3422  0 15:11 pts/0    00:00:00 ps -f
administrador@LAB-DACC-07:~$ ps -ef
UID        PID  PPID  C STIME TTY      TIME CMD
root       1     0  0 14:03 ?      00:00:01 /sbin/init splash
root       2     0  0 14:03 ?      00:00:00 [kthreadd]
root       3     2  0 14:03 ?      00:00:00 [rcu_gp]
root       4     2  0 14:03 ?      00:00:00 [rcu_par_gp]
root       5     2  0 14:03 ?      00:00:00 [netns]
root       7     2  0 14:03 ?      00:00:00 [kworker/0:0H-events_highpri]
root       9     2  0 14:03 ?      00:00:00 [mm_percpu_wq]
root      10    2  0 14:03 ?      00:00:00 [rcu_tasks_rude_]
root      11    2  0 14:03 ?      00:00:00 [rcu_tasks_trace]
root      12    2  0 14:03 ?      00:00:00 [ksoftirqd/0]
root      13    2  0 14:03 ?      00:00:01 [rcu_sched]
root      14    2  0 14:03 ?      00:00:00 [migration/0]
root      15    2  0 14:03 ?      00:00:00 [idle_inject/0]
root      16    2  0 14:03 ?      00:00:00 [kworker/0:1-events]
root      17    2  0 14:03 ?      00:00:00 [cpuhp/0]
root      18    2  0 14:03 ?      00:00:00 [cpuhp/1]
root      19    2  0 14:03 ?      00:00:00 [idle_inject/1]
root      20    2  0 14:03 ?      00:00:00 [migration/1]
root      21    2  0 14:03 ?      00:00:00 [ksoftirqd/1]
root      23    2  0 14:03 ?      00:00:00 [kworker/1:0H-events_highpri]
root      24    2  0 14:03 ?      00:00:00 [cpuhp/2]
root      25    2  0 14:03 ?      00:00:00 [idle_inject/2]
root      26    2  0 14:03 ?      00:00:00 [migration/2]
root      27    2  0 14:03 ?      00:00:00 [ksoftirqd/2]
root      29    2  0 14:03 ?      00:00:00 [kworker/2:0H-events_highpri]
root      30    2  0 14:03 ?      00:00:00 [cpuhp/3]
root      31    2  0 14:03 ?      00:00:00 [idle_inject/3]
root      32    2  0 14:03 ?      00:00:00 [migration/3]
root      33    2  0 14:03 ?      00:00:00 [ksoftirqd/3]
root      35    2  0 14:03 ?      00:00:00 [kworker/3:0H-events_highpri]
root      36    2  0 14:03 ?      00:00:00 [cpuhp/4]
root      37    2  0 14:03 ?      00:00:00 [idle_inject/4]
```

## LABORATÓRIO LINUX

```
administrador@LAB-DACC-07:~$ ps -ef | wc -l
352
administrador@LAB-DACC-07:~$ top

top - 15:15:54 up 1:12, 1 user, load average: 0,11, 0,22, 0,23
Tarefas: 350 total, 1 em exec., 348 dormindo, 1 parado, 0 zumbi
%CPU(s): 0,5 us, 1,4 sisl, 0,0 ni, 98,1 oc, 0,0 ag, 0,0 ih, 0,0 is 0,0 tr
MB mem: 15808,5 total, 10879,6 livre, 2055,6 usados, 2873,3 buff/cache
MB swap: 3906,0 total, 3906,0 livre, 0,0 usados, 13299,7 mem dispon.

      PID USUARIO PR NI VIRT RES SHR S %CPU %MEM TEMPO+ COMANDO
 994 root    20  0 2548 772 708 S 12,5 0,0 0:00.72 acpid
 4941 administrador 20  0 12308 4120 3252 R 12,5 0,0 0:00.02 top
 2081 root    20  0 6742204 135336 79668 S 6,2 0,8 3:16.66 Xorg
 2216 administrador 20  0 5126444 328248 117224 S 6,2 2,0 2:21.30 gnome-shell
 1 root    20  0 169156 13172 8272 S 0,0 0,1 0:01.82 systemd
 2 root    20  0 0 0 0 S 0,0 0,0 0:00.00 kthreadd
 3 root    0 -20 0 0 0 I 0,0 0,0 0:00.00 rcu_gp
 4 root    0 -20 0 0 0 I 0,0 0,0 0:00.00 rcu_par_gp
 5 root    0 -20 0 0 0 I 0,0 0,0 0:00.00 netns
 7 root    0 -20 0 0 0 I 0,0 0,0 0:00.00 kworker/0:0H-events_highpri
 9 root    0 -20 0 0 0 I 0,0 0,0 0:00.00 mm_percpu_wq
10 root    20  0 0 0 0 S 0,0 0,0 0:00.00 rcu_tasks_rude_
11 root    20  0 0 0 0 S 0,0 0,0 0:00.00 rcu_tasks_trace
12 root    20  0 0 0 0 S 0,0 0,0 0:00.02 ksoftirqd/0
```

```
administrador@LAB-DACC-07:~$ top -o %MEM
```

```
administrador@LAB-DACC-07:~$ ps | grep cat | xargs | cut -d" " -f1
4871
administrador@LAB-DACC-07:~$ kill 4871
administrador@LAB-DACC-07:~$ ps | grep cat
 4871 pts/0    00:00:00 cat
administrador@LAB-DACC-07:~$ kill -9 4871
administrador@LAB-DACC-07:~$ ps | grep cat
[1]+  Morto          cat
administrador@LAB-DACC-07:~$ cat &
[1] 5082
administrador@LAB-DACC-07:~$ cat &
[2] 5083

[1]+  Parado          cat
administrador@LAB-DACC-07:~$ cat &
[3] 5087

[2]+  Parado          cat
administrador@LAB-DACC-07:~$ ps | grep cat
 5082 pts/0    00:00:00 cat
 5083 pts/0    00:00:00 cat
 5087 pts/0    00:00:00 cat

[3]+  Parado          cat
administrador@LAB-DACC-07:~$ killall -9 cat
[1]  Morto          cat
[2]-  Morto          cat
[3]+  Morto          cat
administrador@LAB-DACC-07:~$
```

# LABORATÓRIO LINUX

```
alexandra@alexandra-850XBD:~$ free
total        used         free      shared  buff/cache   available
Mem.:     16317064     2389792    11116196      152052     2811076    13438956
Swap:      2097148      420108    1677040
alexandra@alexandra-850XBD:~$ free -h
total        used         free      shared  buff/cache   available
Mem.:      15Gi       2,3Gi      10Gi      148Mi      2,7Gi      12Gi
Swap:      2,0Gi      410Mi     1,6Gi
```

```
alexandra@alexandra-850XBD:~$ ps -ef | grep -v grep | grep "systemd-udevd\|systemd-resolved\|systemd-timesyncd\|systemd-lo
gind\|cron\|rsyslogd\|atd\|thermald\|acpid\|cupsd\|Xorg"
root      443      1  0  out05 ?          00:00:02 /lib/systemd/systemd-udevd
systemd+  887      1  0  out05 ?          00:00:10 /lib/systemd/systemd-resolved
systemd+  888      1  0  out05 ?          00:00:00 /lib/systemd/systemd-timesyncd
root      892      1  0  out05 ?          00:00:03 /usr/sbin/acpid
syslog   908      1  0  out05 ?          00:00:00 /usr/sbin/rsyslogd -n -iNONE
root      912      1  0  out05 ?          00:00:00 /usr/sbin/cron -f -P
root      930      1  0  out05 ?          00:00:02 /lib/systemd/systemd-logind
root      931      1  0  out05 ?          00:00:09 /usr/sbin/thermald --systemd --dbus-enable --adaptive
root      1046     1  0  out05 ?          00:00:00 /usr/sbin/cupsd -l
alexand+  1864     1862     2  out05 tty2    01:25:52 /usr/lib/xorg/Xorg vt2 -displayfd 3 -auth /run/user/1000/gdm/Xauthorit
y -nolisten tcp -background none -noreset -keepty -novtswitch -verbose 3
alexandra@alexandra-850XBD:~$ 
```

```
alexandra@alexandra-850XBD:~$ gedit questao35
alexandra@alexandra-850XBD:~$ cat /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-5.15.0-43-generic root=UUID=a82a6c76-a7ea-4b3a-b9b8-c3b6f5fb8d7c ro quiet splash vt.handoff=7
alexandra@alexandra-850XBD:~$ ls -fd /sbin/init /etc/init /bin/init
ls: não foi possível acessar '/bin/init': Arquivo ou diretório inexistente
/sbin/init /etc/init
alexandra@alexandra-850XBD:~$ ls -lh /sbin/init
lrwxrwxrwx 1 root root 20 set 30 14:20 /sbin/init -> /lib/systemd/systemd
alexandra@alexandra-850XBD:~$ cat /lib/systemd/system/cron.service
[Unit]
Description=Regular background program processing daemon
Documentation=man:cron(8)
After=remote-fs.target nss-user-lookup.target

[Service]
EnvironmentFile=-/etc/default/cron
ExecStart=/usr/sbin/cron -f -P $EXTRA_OPTS
IgnoreSIGPIPE=false
KillMode=process
Restart=on-failure

[Install]
WantedBy=multi-user.target
alexandra@alexandra-850XBD:~$ 
```

```
administrador@LAB-DACC-01:~$ tail -5 /etc/passwd
aluno:x:657:msgrbs550304dMUSjJrbqjErcjalcE9RwJyVGGeBu8mNXVjxBiMLybhAbrRMH.0/d3W6A6e1BU23/SAxTwkDdj0dbll/FFhnZ1K.:1001:1001:Aluno,,,:/home/aluno:/bin/bash
lightdm:x:101:lightdm:LightDM:/:/bin/false
nvidia-persistenced:x:127:134:NVIDIA Persistence Daemon,,,:/noneexistent:/usr/sbin/nologin
sshd:x:129:65534:/:/run/sshd:/usr/sbin/nologin
joao:x:1002:1003:Joao Víctor Ribeiro,16,69993550481,0,0:/home/joao:/bin/bash
administrador@LAB-DACC-01:~$ head -1 /etc/passwd
root:x:0:root:root:/:/bin/bash
administrador@LAB-DACC-01:~$ cat /etc/passwd |grep "mail|www-data|syslog|sshd"
root:x:0:root:root:/:/bin/bash
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
syslog:x:104:110:/:/home/syslog:/usr/sbin/nologin
sshd:x:129:65534:/:/run/sshd:/usr/sbin/nologin
administrador@LAB-DACC-01:~$ cat /etc/passwd | wc -l
52
administrador@LAB-DACC-01:~$ cat /etc/passwd | cut -f1 -d: | sort | tr "\n" " "
echo
administrador aluno _apt avahi avahi-autoipd backup bin colord cups-pk-helper daemon dnsmasq games gdm geoclue gntfs gnome-initial-setup hplip irc joao kernoops lightdm list lp mail man messagebus news nm-openvp
n nobody nvidia-persistenced proxy pulse root rtkit saneed speech-dispatcher sshd ssd sync sys syslog systemd-coredump systemd-network systemd-resolve systemd-timesync tcpdump tss usbnx uuqp vuidd whoopstc www-
data
administrador@LAB-DACC-01:~$ sudo adduser TesteA
[sudo] senha para administrador: 
```

## LABORATÓRIO LINUX

```
administrador@LAB-DACC-07:~$ sudo adduser MariaJoaquina
[sudo] senha para administrador:
adduser: Insira um nome de usuário que combine com a expressão regular configurada
via variável de configuração NAME_REGEX[,_SYSTEM]. Use a opção '--force-badname'
para relaxar essa verificação ou reconfigurar a variável NAME_REGEX.
administrador@LAB-DACC-07:~$ sudo adduser MariaJoaquina --force-badname
Permitindo o uso de nome de usuário questionável.
Adicionando o usuário 'MariaJoaquina' ...
Adicionando novo grupo 'MariaJoaquina' (1005) ...
Adicionando novo usuário 'MariaJoaquina' (1003) ao grupo 'MariaJoaquina' ...
Criando diretório pessoal '/home/MariaJoaquina' ...
Copiando arquivos de '/etc/skel' ...
Nova senha:
Redigite a nova senha:
passwd: senha atualizada com sucesso
Modificando as informações de usuário para MariaJoaquina
Informe o novo valor ou pressione ENTER para aceitar o padrão
    Nome Completo []:
    Número da Sala []:
    ' contém caracteres não-ASCII
A informação está correta? [/home/MariaJoaquina:/bin/bash]
administrador@LAB-DACC-07:~$ 
administrador@LAB-DACC-07:~$ cat /etc/passwd | grep "MariaJoaquina"
administrador@LAB-DACC-07:~$ ,
administrador@LAB-DACC-07:~$ 
administrador@LAB-DACC-07:~$ cat /etc/shadow
cat: /etc/shadow: Permissão negada
administrador@LAB-DACC-07:~$ sudo cat /etc/shadow
root:$6$fyU9Rw3N.LqItk0nSrlj1AfKz9Rkc7fA.S9E3oQAuJB/W9Xgv9f0yPTV0rADqNc.oRjh7dtGjR20MikCpyrvS6t0/UGj14P60yg2G0l0:19087:0:99999:7:::
daemon:*:19046:0:99999:7:::
bin:*:19046:0:99999:7:::
sys:*:19046:0:99999:7:::
sync:*:19046:0:99999:7:::
games:*:19046:0:99999:7:::
man:*:19046:0:99999:7:::
lp:*:19046:0:99999:7:::
mail:*:19046:0:99999:7:::
news:*:19046:0:99999:7:::
uucp:*:19046:0:99999:7:::
proxy:*:19046:0:99999:7:::
www-data:*:19046:0:99999:7:::
backup:*:19046:0:99999:7:::
list:*:19046:0:99999:7:::
irc:*:19046:0:99999:7:::
gnats:*:19046:0:99999:7:::
nobody:*:19046:0:99999:7:::
systemd-network:*:19046:0:99999:7:::
systemd-resolve:*:19046:0:99999:7:::
systemd-timesync:*:19046:0:99999:7:::
messagebus:*:19046:0:99999:7:::
syslog:*:19046:0:99999:7:::
apt:*:19046:0:99999:7:::
tss:*:19046:0:99999:7:::
uuidd:*:19046:0:99999:7:::
tcpdump:*:19046:0:99999:7:::
avahi-autoind:*:19046:0:99999:7:::
```

```
administrador@LAB-DACC-07:~$ sudo cat /etc/shadow | grep "MariaJoaquina"
MariaJoaquina:$6$ZB1bP5TUWz/0/ajf$TcnVLWIIjV.TC80ntAbc/eNWPWVWhPahBwssHoQihW9D.YiWuHemGlcD0d5SGugyQEfxi/htcLu6Xv9Lkr.LX/:19265:0:99999:7:::
administrador@LAB-DACC-07:~$ echo -n "ncc1701" | mkpasswd --stdin --method=sha-512 --salt=".x7wn1nz7Y713Atz"
$6$.x7wn1nz7Y713Atz$4e0r9BMmiPRJQziHhc5nFQzgmgRRTzha/hvrp4vABIZdZasGffM02.uWWGUOnFp40hoBQ8KVvt3c0Za3qiFx0
administrador@LAB-DACC-07:~$ export HISTFILE=/dev/null
administrador@LAB-DACC-07:~$ sudo cat /etc/shadow | grep "MariaJoaquina"
MariaJoaquina:$6$ZB1bP5TUWz/0/ajf$TcnVLWIIjV.TC80ntAbc/eNWPWVWhPahBwssHoQihW9D.YiWuHemGlcD0d5SGugyQEfxi/htcLu6Xv9Lkr.LX/:19265:0:99999:7:::
administrador@LAB-DACC-07:~$ echo -n "Teste123" | mkpasswd --stdin --method=sha-512 --salt="ZB1bP5TUWz/0/ajf"
$6$ZB1bP5TUWz/0/ajf$TcnVLWIIjV.TC80ntAbc/eNWPWVWhPahBwssHoQihW9D.YiWuHemGlcD0d5SGugyQEfxi/htcLu6Xv9Lkr.LX/
administrador@LAB-DACC-07:~$ 
```

## LABORATÓRIO LINUX

```
administrador@LAB-DACC-07:~$ cat /etc/group
root:x:0:
daemon:x:1:
bin:x:2:
sys:x:3:
adm:x:4:syslog,administrador
tty:x:5:syslog
disk:x:6:
lp:x:7:
mail:x:8:
news:x:9:
uucp:x:10:
man:x:12:
proxy:x:13:
kmem:x:15:
dialout:x:20:
fax:x:21:
voice:x:22:
cdrom:x:24:administrador
floppy:x:25:
tape:x:26:
sudo:x:27:administrador
audio:x:29:pulse
dip:x:30:administrador
```

```
administrador@LAB-DACC-07:~$ head -3 /etc/group
root:x:0:
daemon:x:1:
bin:x:2:
administrador@LAB-DACC-07:~$ cat /etc/group | grep '^MariaJoaquina:'
MariaJoaquina:x:1005:
administrador@LAB-DACC-07:~$ cat /etc/group | grep '^adm:'
adm:x:4:syslog,administrador
administrador@LAB-DACC-07:~$ sudo addgroup MariaJoaquina2
addgroup: Insira um nome de usuário que combine com a expressão regular configurada
via variável de configuração NAME_REGEX[_SYSTEM]. Use a opção '--force-badname'
para relaxar essa verificação ou reconfigurar a variável NAME_REGEX.
administrador@LAB-DACC-07:~$ sudo addgroup MariaJoaquina2 --force-badname
Permitindo o uso de nome de usuário questionável.
Adicionando grupo 'MariaJoaquina2' (GID 1006) ...
Concluído.
administrador@LAB-DACC-07:~$ sudo usermod a -G MariaJoaquina2 MariaJoaquina
usermod: grupo 'MariaJoaquina2' não existe
administrador@LAB-DACC-07:~$ cat /etc/group | grep '^novaliliane2:'
administrador@LAB-DACC-07:~$ sudo addgroup MariaJoaquina2 --force-badname
Permitindo o uso de nome de usuário questionável.
addgroup: O grupo 'MariaJoaquina2' já existe.
administrador@LAB-DACC-07:~$ cat /etc/group | grep '^MariaJoaquina2:'
MariaJoaquina2:x:1006:
```

## LABORATÓRIO LINUX

```
alexandra@alexandra-850XBD:~$ id
uid=1000(alexandra) gid=1000(alexandra) grupos=1000(alexandra),4(adm),24(cdrom),27(sudo),30(dip),46(plugdev),122(lpadmin),
134(lxd),135(sambashare)
alexandra@alexandra-850XBD:~$ echo '#!/bin/bash' > HelloBash.sh
alexandra@alexandra-850XBD:~$ echo 'echo "Hello Bash ..."' >> HelloBash.sh
alexandra@alexandra-850XBD:~$ cat HelloBash.sh
#!/bin/bash
echo "Hello Bash ..."
alexandra@alexandra-850XBD:~$ ls -l HelloBash.sh
-rw-rw-r-- 1 alexandra alexandra 34 out 13 23:17 HelloBash.sh
alexandra@alexandra-850XBD:~$ ./HelloBash.sh
bash: ./HelloBash.sh: Permissão negada
alexandra@alexandra-850XBD:~$ chmod u+x HelloBash.sh
alexandra@alexandra-850XBD:~$ ls -l HelloBash.sh
-rwxrwxr-- 1 alexandra alexandra 34 out 13 23:17 HelloBash.sh
alexandra@alexandra-850XBD:~$ ./HelloBash.sh
Hello Bash ...
alexandra@alexandra-850XBD:~$ chmod 700 HelloBash.sh
alexandra@alexandra-850XBD:~$ ls -l HelloBash.sh
-rwx----- 1 alexandra alexandra 34 out 13 23:17 HelloBash.sh
alexandra@alexandra-850XBD:~$ chmod 755 HelloBash.sh
alexandra@alexandra-850XBD:~$ ls -l HelloBash.sh
-rwxr-xr-x 1 alexandra alexandra 34 out 13 23:17 HelloBash.sh
alexandra@alexandra-850XBD:~$ 
```

```
alexandra@alexandra-850XBD:~$ sudo cat /etc/sudoers
Comando 'sudo' não encontrado, você quis dizer:
  comando 'ssdp' do snap ssdp (0.0.1)
  comando 'sudo' do deb sudo (1.9.9-1ubuntu2)
  comando 'sudo' do deb sudo-ldap (1.9.9-1ubuntu2)
  comando 'sup' do deb sup (20100519-3)
  comando 'sfdp' do deb graphviz (2.42.2-6)
Veja 'snap info <snapname>' para versões adicionais.
alexandra@alexandra-850XBD:~$ ls -lh /bin/sh
lrwxrwxrwx 1 root root 4 set 30 14:18 /bin/sh -> dash
alexandra@alexandra-850XBD:~$ cat /etc/passwd | cut -f 7 -d: | sort | uniq -c
  2 /bin/bash
  6 /bin/false
  1 /bin/sync
  38 /usr/sbin/nologin
alexandra@alexandra-850XBD:~$ /usr/sbin/nologin
This account is currently not available.
alexandra@alexandra-850XBD:~$ echo $?
1
alexandra@alexandra-850XBD:~$ cat /var/log/auth.log | grep nologin | tail -1
Oct 13 23:24:24 alexandra-850XBD nologin: Attempted login by alexandra (UID: 1000) on /dev/pts/0
alexandra@alexandra-850XBD:~$ 
```

```
alexandra@alexandra-850XBD:~$ add
add-apt-repository  addr2line
addgnupghome       add-shell
addgroup           adduser
addpart
alexandra@alexandra-850XBD:~$ cat /etc/adduser.conf
alexandra_natacha/
Área de Trabalho/
.bash_history        Modelos/
.bash_logout         modulo6/
.bashrc              .mozilla/
bin/                 Música/
.cache/              palomakoba/
.config/             palomakobabackups/
data/                .profile
Documentos/          projetos/
Downloads/           Público/
.gitconfig           qdtProcessos
.gnuPg/              questao35
HelloBash.sh         .repo_config/
Imagens/             .repo_.gitconfig.json
Is-exercicio-1.txt   snap/
Is-root.txt          .ssh/
.lessht              .sudo_as_admin_successful
listabin.txt          .thunderbird/
                      Videos/
```

```
alexandra@alexandra-850XBD:~$ head -1 /etc/init.d/cron
#!/bin/sh
alexandra@alexandra-850XBD:~$ nano HelloWorld.sh
alexandra@alexandra-850XBD:~$ nano HelloWorld.sh
```

## LABORATÓRIO LINUX

```
alexandra@alexandra-850XBD:~$ while [ 1 ] ; do
> echo "Loop infinito..."
> sleep 1
> done
Loop infinito...
Loop infinito...
Loop infinito...
Loop infinito...
Loop infinito...
Loop infinito...
^C
alexandra@alexandra-850XBD:~$ grep -r "^#!/bin/sh" /etc 2> /dev/null
/etc/cron.daily/apport:#!/bin/sh -e
/etc/cron.daily/@anacron:#!/bin/sh
/etc/cron.daily/man-db:#!/bin/sh
/etc/cron.daily/apt-compat:#!/bin/sh
/etc/cron.daily/logrotate:#!/bin/sh
/etc/cron.daily/cracklib-runtime:#!/bin/sh
/etc/cron.daily/dpkg:#!/bin/sh
/etc/network/if-pre-up.d/wireless-tools:#!/bin/sh
```

```
alexandra@alexandra-850XBD:~$ nano ~/.bashrc
alexandra@alexandra-850XBD:~$ source ~/.bashrc
alexandra@alexandra-850XBD:~$ echo "Bash iniciado!"
Bash iniciado!
alexandra@alexandra-850XBD:~$ sudo apt install fortune cowsay
[sudo] senha para alexandra:
Lendo listas de pacotes... Pronto
Construindo árvore de dependências... Pronto
Lendo informação de estado... Pronto
Note, a seleccionar 'fortune-mod' em vez de 'fortune'
Os pacotes adicionais seguintes serão instalados:
  fortunes-min librecode0
Pacotes sugeridos:
  filters cowsay-off fortunes bsdmainutils
Os NOVOS pacotes a seguir serão instalados:
  cowsay fortune-mod fortunes-min librecode0
0 pacotes atualizados, 4 pacotes novos instalados, 0 a serem removidos e 165 não atualizados.
É preciso baixar 781 kB de arquivos.
Depois desta operação, 2.248 kB adicionais de espaço em disco serão usados.
Você quer continuar? [S/n] S
Obter:1 http://br.archive.ubuntu.com/ubuntu jammy/universe amd64 cowsay all 3.03+dfsg2-8 [18,6 kB]
Obter:2 http://br.archive.ubuntu.com/ubuntu jammy/main amd64 librecode0 amd64 3.6-24build2 [670 kB]
Obter:3 http://br.archive.ubuntu.com/ubuntu jammy/universe amd64 fortune-mod amd64 1:1.99.1-7.1 [36,9 kB]
Obter:4 http://br.archive.ubuntu.com/ubuntu jammy/universe amd64 fortunes-min all 1:1.99.1-7.1 [55,1 kB]
Baixados 781 kB em 1s (989 kB/s)
A seleccionar pacote anteriormente não seleccionado cowsay.
(Lendo banco de dados ... 180094 ficheiros e directórios act
ualmente instalados.)
A preparar para desempacotar .../cowsay_3.03+dfsg2-8_all.deb
...
A descompactar cowsay (3.03+dfsg2-8) ...
A seleccionar pacote anteriormente não seleccionado librecod
.../librecod
```

```
Configurando fortune-mod (1.7.1-3.12-7.1) ...
Configurando cowsay (3.03+dfsg2-8) ...
A processar 'triggers' para man-db (2.10.2-1) ...
A processar 'triggers' para libc-bin (2.35-0ubuntu3.1) ...
alexandra@alexandra-850XBD:~$ fortune | cowsay -n
< Your own qualities will help prevent your advancement in the world. >
-----
      \   ^__^
       \  (oo)\_____
         (__)\       )\/\
           ||----w |
           ||     ||
```

alexandra@alexandra-850XBD:~\$ echo

alexandra@alexandra-850XBD:~\$ █