

```
sudo apt install csh
```

```
ubuntu@ip-172-31-91-90:~$ sudo apt install csh
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  csh
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 243 kB of archives.
After this operation, 367 kB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 csh amd64 20110502-5 [243 kB]
Fetched 243 kB in 0s (3982 kB/s)
Selecting previously unselected package csh.
(Reading database ... 143784 files and directories currently installed.)
Preparing to unpack .../csh_20110502-5_amd64.deb ...
Unpacking csh (20110502-5) ...
Setting up csh (20110502-5) ...
update-alternatives: using /bin/bsd-csh to provide /bin/csh (csh) in auto mode
Processing triggers for menu (2.1.47ubuntu4) ...
Processing triggers for man-db (2.9.1-1) ...
ubuntu@ip-172-31-91-90:~$
```

```
ubuntu@ip-172-31-91-90:~$ csh
% exit
% exit
ubuntu@ip-172-31-91-90:~$
```

env

```
buntu@ip-172-31-91-90:~$ env
SHELL=/bin/bash
JAVA_HOME=/home/ubuntu/.sdkman/candidates/java/current
SDKMAN_CANDIDATES_DIR=/home/ubuntu/.sdkman/candidates
PWD=/home/ubuntu
LOGNAME=ubuntu
XDG_SESSION_TYPE=tty
WDP_SHOWN=pam
HOME=/home/ubuntu
LANG=C.UTF-8
LS_COLORS=rs=0:di=41;34:ln=01;36:mh=00:pi=40;33:so=01;35:do=01;35:bd=40;33:ol=cd=40;33:or=40;31: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:*.arj=01;31:*.taz=01;31:*.lha=01;31:*.lzma=01;31:*.lzh=01;31:*.lzma=01;31:*.ttx=01;31:*.tzo=01;31:*.t7z=01;31:*.zip=01;31:*.z=01;31:*.dz=01;31:*.gz=01;31:*.lrz=01;31:*.lzo=01;31:*.xz=01;31:*.zst=01;31:*.tzst=01;31:*.bz2=01;31:*.bzs=01;31:*.tbz=01;31:*.tbz2=01;31:*.tzo=01;31:*.deb=01;31:*.rpm=01;31:*.jar=01;31:*.war=01;31:*.ear=01;31:*.dar=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:*.wim=01;31:*.swm=01;31:*.dwm=01;31:*.esd=01;31:*.jpg=01;35:*.jpeg=01;35:*.mjpg=01;35:*.mjpega=01;35:*.gif=01;35:*.bmp=01;35:*.pbm=01;35:*.pgm=01;35:*.ppm=01;35:*.png=01;35:*.tga=01;35:*.xbm=01;35:*.xpm=01;35:*.tif=01;35:*.tiff=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:*.m4v=01;35:*.mkv=01;35:*.flm=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:*.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:*.oga=00;36:*.opus=00;36:*.spx=00;36:*.xspf=00;36:
CDKMAN_VERSION=5.15.575
SSH_CONNECTION=168.232.160.5 42224 172.31.91.90 22
LESSCLOSE=/usr/bin/lesspipe %s %s
XDG_SESSION_CLASS=user
TERM=xterm
LESSOPEN=/usr/bin/lesspipe %s
USER=ubuntu
SDKMAN_DIR=/home/ubuntu/.sdkman
SHLVL=3
SDKMAN_CANDIDATES_API=https://api.sdkman.io/2
XDG_SESSION_ID=1
XDG_RUNTIME_DIR=/run/user/1000
SSH_CLIENT=168.232.160.5 42224 22
XDG_DATA_DIRS=/usr/local/share:/usr/share:/var/lib/nap/desktop
PATH=/home/ubuntu/.sdkman/candidates/java/current/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
DBUG_SESSION_BUS_ADDRESS=unix:path=/run/user/1000/bus
SDKMAN_PLATFORM=Linux64
SSH_TTY=/dev/pts/0
~/usr/bin/env
buntu@ip-172-31-91-90:~$
```

echo \$SECONDS

```
ubuntu@ip-172-31-91-90:~$ echo $SECONDS
313
ubuntu@ip-172-31-91-90:~$ |
```

Bash

```
ubuntu@ip-172-31-91-90:~$ bash
ubuntu@ip-172-31-91-90:~$ |
```

ps

```
ubuntu@ip-172-31-91-90:~$ ps
  PID TTY          TIME CMD
   977 pts/0        00:00:00 bash
  1026 pts/0        00:00:00 sh
  1027 pts/0        00:00:00 sh
  1028 pts/0        00:00:00 sh
  1029 pts/0        00:00:00 bash
  1047 pts/0        00:00:00 sh
  1048 pts/0        00:00:00 bash
  1327 pts/0        00:00:00 bash
  1355 pts/0        00:00:00 ps
```

echo \$SECONDS

```
ubuntu@ip-172-31-91-90:~$ echo $SECONDS
154
ubuntu@ip-172-31-91-90:~$
```

exit

```
ubuntu@ip-172-31-91-90:~$ exit
exit
ubuntu@ip-172-31-91-90:~$
```

echo \$SHELL

```
ubuntu@ip-172-31-91-90:~$ echo $SHELL
/bin/bash
ubuntu@ip-172-31-91-90:~$ |
```

echo \$SCRIPT1

```
ubuntu@ip-172-31-91-90:~$ script1='marise'
ubuntu@ip-172-31-91-90:~$ echo $SCRIPT1

ubuntu@ip-172-31-91-90:~$ |
```

unset script1

```
ubuntu@ip-172-31-91-90:~$ unset script 1
unset: command not found
ubuntu@ip-172-31-91-90:~$ |
```

ps

```
ubuntu@ip-172-31-91-90:~$ ps
  PID TTY          TIME CMD
 1931 pts/0        00:00:00 bash
 1954 pts/0        00:00:00 ps
ubuntu@ip-172-31-91-90:~$ |
```

script2=(azul amarelo verde vermelho)

```
ubuntu@ip-172-31-91-90:~$ script2=(azul amarelo verde vermelho)
ubuntu@ip-172-31-91-90:~$ echo script2
script2
```

echo \${script2[2]}

```
ubuntu@ip-172-31-91-90:~$ echo ${script2[2]}
verde
ubuntu@ip-172-31-91-90:~$ |
```

echo \${script2[*]}

```
ubuntu@ip-172-31-91-90:~$ echo ${script2[*]}
azul amarelo verde vermelho
ubuntu@ip-172-31-91-90:~$
```

script2[3]=branco

```
ubuntu@ip-172-31-91-90:~$ echo ${script2[*]}
azul amarelo verde branco
ubuntu@ip-172-31-91-90:~$ |
```

unset script2[2]

```
ubuntu@ip-172-31-91-90:~$ echo ${script2[*]}
azul amarelo branco
```

ls -l

```
ubuntu@ip-172-31-91-90:~$ ls -l
total 44
-rwxrwxr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Desktop
-rwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Documents
-rwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 02:12 Downloads
-rwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Music
-rwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Pictures
-rwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Public
-rwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Templates
-rwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Videos
-rwxrwxr-x 10 ubuntu ubuntu 4096 Oct 22 01:52 oshi
-rwxrwxr-x 2 ubuntu ubuntu 4096 Oct 22 02:10 teste
-rwxrwxr-t 2 ubuntu ubuntu 4096 Oct 22 01:26 thinclient_drives
ubuntu@ip-172-31-91-90:~$
```

ls -ls

```
ubuntu@ip-172-31-91-90:~$ ls -la
total 160
drwxr-xr-x 22 ubuntu ubuntu 4096 Nov 15 04:21 .
drwxr-xr-x 3 root root 4096 Oct 22 01:04 ..
-rw-r--r-- 1 ubuntu ubuntu 61 Nov 15 04:19 .Xauthority
-rw-r--r-- 1 ubuntu ubuntu 2267 Nov 15 04:28 .bash_history
-rw-r--r-- 1 ubuntu ubuntu 220 Feb 25 2020 .bash_logout
-rw-r--r-- 1 ubuntu ubuntu 3975 Oct 22 01:47 .bashrc
drwx----- 8 ubuntu ubuntu 4096 Oct 22 02:13 .cache
drwxrwxr-x 14 ubuntu ubuntu 4096 Oct 27 00:38 .config
drwx----- 3 ubuntu ubuntu 4096 Oct 22 01:26 .gnupg
drwxrwxr-x 4 ubuntu ubuntu 4096 Oct 22 02:16 .java
drwx----- 3 ubuntu ubuntu 4096 Oct 22 01:26 .local
drwxrwxr-x 4 ubuntu ubuntu 4096 Oct 22 01:55 .m2
drwx----- 5 ubuntu ubuntu 4096 Oct 22 02:11 .mozilla
-rw-r--r-- 1 ubuntu ubuntu 807 Feb 25 2020 .profile
drwxrwxr-x 10 ubuntu ubuntu 4096 Oct 22 01:47 .sdkman
drwx----- 2 ubuntu ubuntu 4096 Oct 22 01:04 .ssh
-rw-r--r-- 1 ubuntu ubuntu 0 Oct 22 01:11 .sudo_as_admin_successful
-rw-r--r-- 1 ubuntu ubuntu 15959 Nov 15 04:21 .xorgxrdp.10.log
-rw-r--r-- 1 ubuntu ubuntu 19474 Oct 27 00:41 .xorgxrdp.10.log.old
-rw-r--r-- 1 ubuntu ubuntu 9016 Nov 15 04:19 .xsession-errors
-rw-rw-r-- 1 ubuntu ubuntu 204 Oct 22 01:47 .zshrc
drwxrwxr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Desktop
drwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Documents
drwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 02:12 Downloads
drwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Music
drwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Pictures
drwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Public
drwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Templates
drwxr-xr-x 2 ubuntu ubuntu 4096 Oct 22 01:26 Videos
drwxrwxr-x 10 ubuntu ubuntu 4096 Oct 22 01:52 oshi
drwxrwxr-x 2 ubuntu ubuntu 4096 Oct 22 02:10 teste
drwxrwxr-t 2 ubuntu ubuntu 4096 Oct 22 01:26 thinclient_drives
ubuntu@ip-172-31-91-90:~$
```

```
ubuntu@ip-172-31-91-90:~$ $cat /etc/passwd
-bash: /etc/passwd: Permission denied
ubuntu@ip-172-31-91-90:~$ $alias mo='more'
mo='more': command not found
ubuntu@ip-172-31-91-90:~$ |
```

```
mo='more': command not found
ubuntu@ip-172-31-91-90:~$ $alias
ubuntu@ip-172-31-91-90:~$ |
```

```
Command 'ls1' not found, did you mean:

  command 'lsd' from snap lsd (0.16.0)
  command 'gsl' from deb generator-scripting-language (4.1.5-3)
  command 'ls' from deb coreutils (8.30-3ubuntu2)
  command 'lsh' from deb lsh-client (2.1-12build3)
  command 'psl' from deb psl (0.21.0-1ubuntu1)
  command 'lsw' from deb suckless-tools (44-1)
  command 'sl' from deb sl (5.02-1)
  command 'lsm' from deb lsm (1.0.4-1)
  command 'lsc' from deb livescript (1.6.0+dfsg-1)
  command 'wsl' from deb wsl (0.2.1-1)

See 'snap info <snapname>' for additional versions.
```

```
ubuntu@ip-172-31-91-90:~$ $alias
ubuntu@ip-172-31-91-90:~$ ls1

Command 'ls1' not found, did you mean:

  command 'lsd' from snap lsd (0.16.0)
  command 'wsl' from deb wsl (0.2.1-1)
  command 'sl' from deb sl (5.02-1)
  command 'lsm' from deb lsm (1.0.4-1)
  command 'lsc' from deb livescript (1.6.0+dfsg-1)
  command 'lsw' from deb suckless-tools (44-1)
  command 'gsl' from deb generator-scripting-language (4.1.5-3)
  command 'lsh' from deb lsh-client (2.1-12build3)
  command 'ls' from deb coreutils (8.30-3ubuntu2)
  command 'psl' from deb psl (0.21.0-1ubuntu1)
```

```
ubuntu@ip-172-31-91-90:~$ ls -a
. .Xauthority .bash_logout .cache .gnupg .local .mozilla .sdkman .sudo_as_admin_successful .xorgxrdp.10.log.old .zshrc Desktop Music Public Videos teste
.. .bash_history .bashrc .config .java .m2 .profile .ssh .xorgxrdp.10.log .xsession-errors Desktop Downloads Pictures Templates oshi thinclient_drives
ubuntu@ip-172-31-91-90:~$
```

```
ubuntu@ip-172-31-91-90:~$ $vi .bashrc
.bashrc: command not found
ubuntu@ip-172-31-91-90:~$
```

2) Na parte em que criamos o processo pai e filhos, usando bash, como a thread está sendo aplicada? Se não sabe responder estudo os dois penúltimos materiais da aula.

R: A thread está se relacionando simultaneamente, ao criar o bash filho as thread estão sendo executadas ao mesmo tempo, porém por caminhos diferente.