



UNIVERSIDADE FEDERAL DE UBERLÂNDIA

FACULDADE DE ENGENHARIA MECÂNICA

ENGENHARIA MECATRÔNICA

Sistemas Digitais para Mecatrônica

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Semana 01

Comandos Linux

IURI EVERTON REIS DE SOUSA

11811EMT013

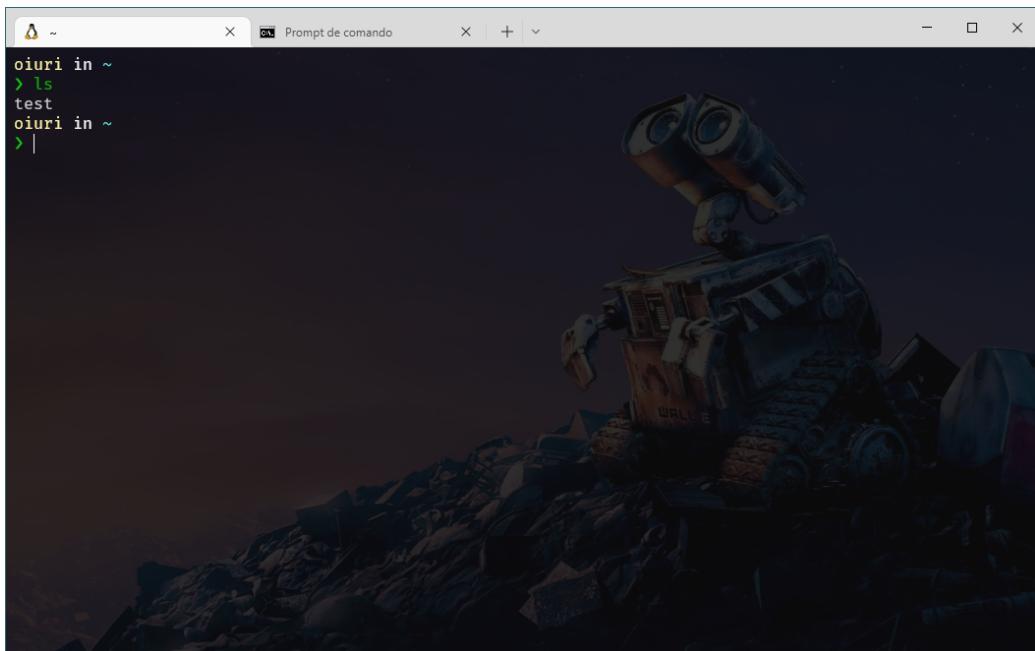
UBERLÂNDIA

2022

1. Capítulo 1

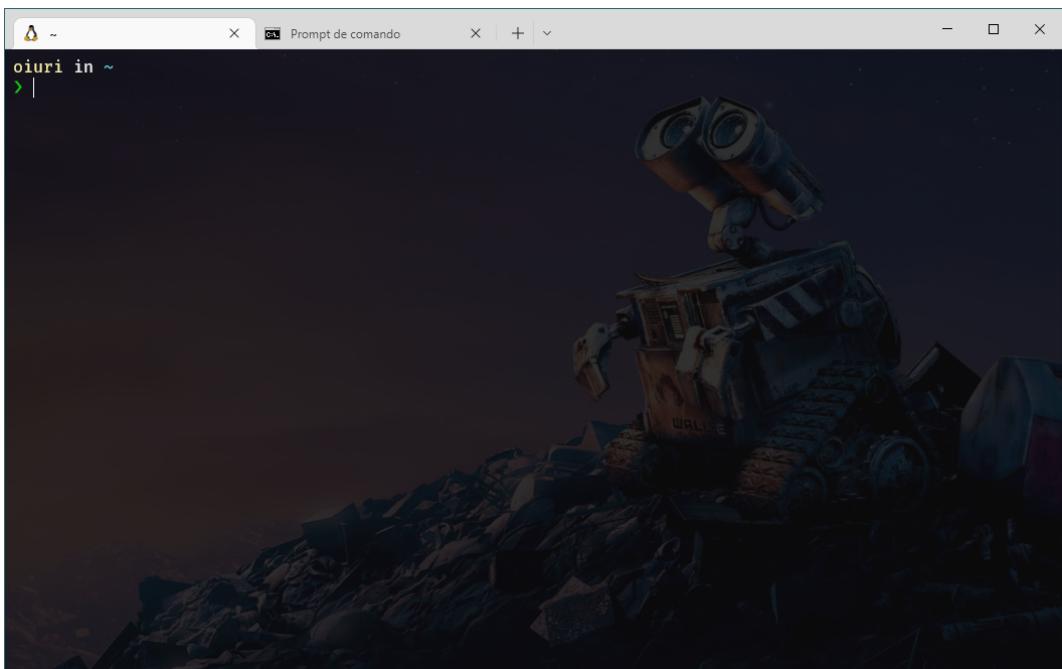
1.1. ls

// caminho completo



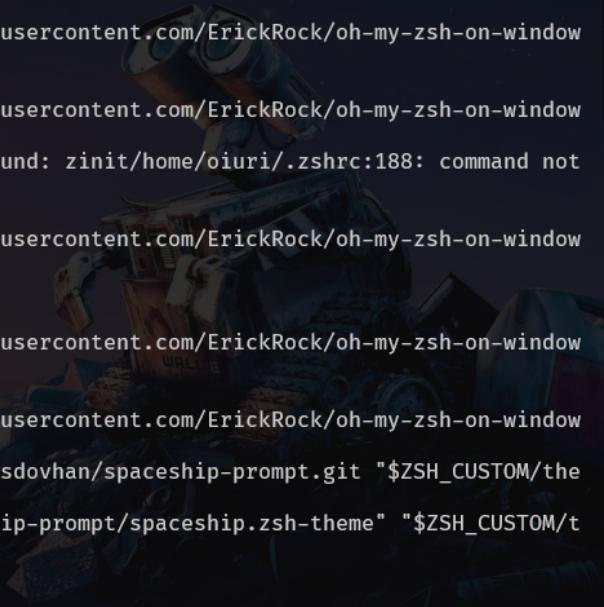
1.2. clear

// Limpando a Tela



1.3. echo

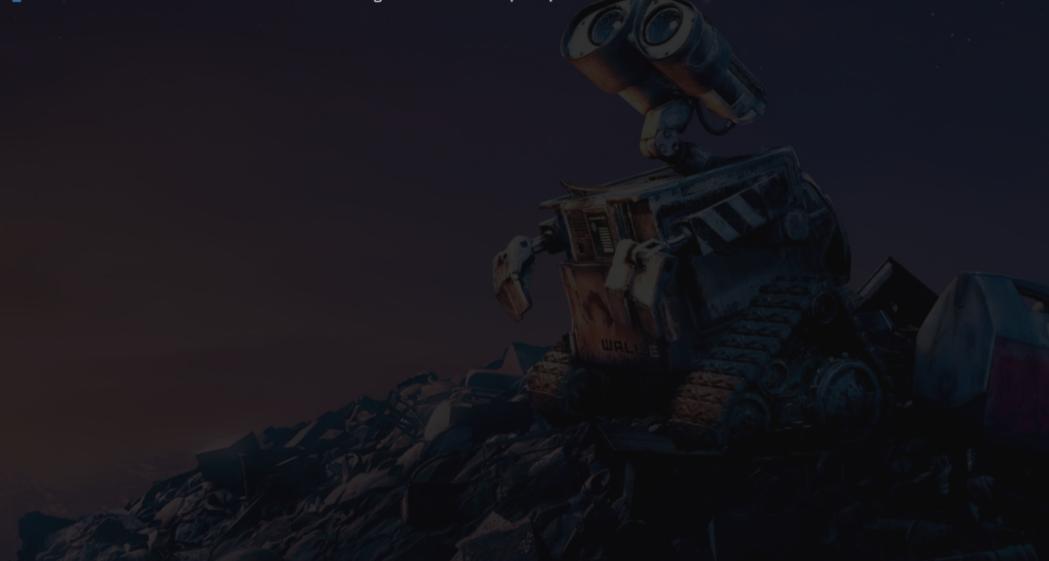
1.4. history



```
oiuri in ~
> history
 1 sh -c "$(curl -fsSL https://raw.githubusercontent.com/ErickRock/oh-my-zsh-on-windows-terminal/master/tools-zsh-install.sh)" -y
 2 exit
 3 sh -c "$(curl -fsSL https://raw.githubusercontent.com/ErickRock/oh-my-zsh-on-windows-terminal/master/tools-zsh-install.sh)" -y
 4 /home/oiuri/.zshrc:188: command not found: zinit/home/oiuri/.zshrc:188: command not
found: zinit
 5 a
 6 sh -c "$(curl -fsSL https://raw.githubusercontent.com/ErickRock/oh-my-zsh-on-windows-terminal/master/zsh-install.sh)"
 7 zsh
 8 cat /home/oiuri/.zshrc
 9 sh -c "$(curl -fsSL https://raw.githubusercontent.com/ErickRock/oh-my-zsh-on-windows-terminal/master/tools-zsh-install.sh)" -y
10 rm -r /home/oiuri/.oh-my-zsh
11 sh -c "$(curl -fsSL https://raw.githubusercontent.com/ErickRock/oh-my-zsh-on-windows-terminal/master/tools-zsh-install.sh)" -y
12 sudo git clone https://github.com/denysdovhan/spaceship-prompt.git "$ZSH_CUSTOM/themes/spaceship-prompt"
13 sudo ln -s "$ZSH_CUSTOM/themes/spaceship-prompt/spaceship.zsh-theme" "$ZSH_CUSTOM/themes/spaceship.zsh-theme"
14 nano ~/.zshrc
15 echo hello
```

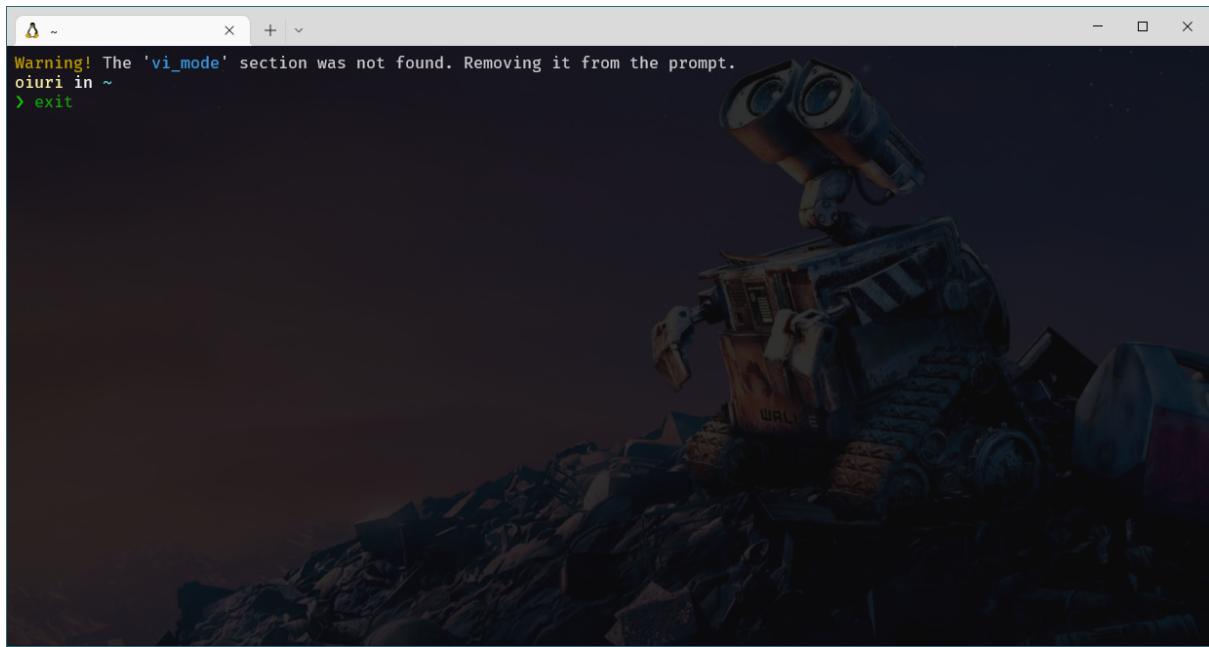
2. Capítulo 2: Ligando e Desligando o Linux

2.1. Logout



```
Warning! The 'vi_mode' section was not found. Removing it from the prompt.
oiuri in ~
> logout
```

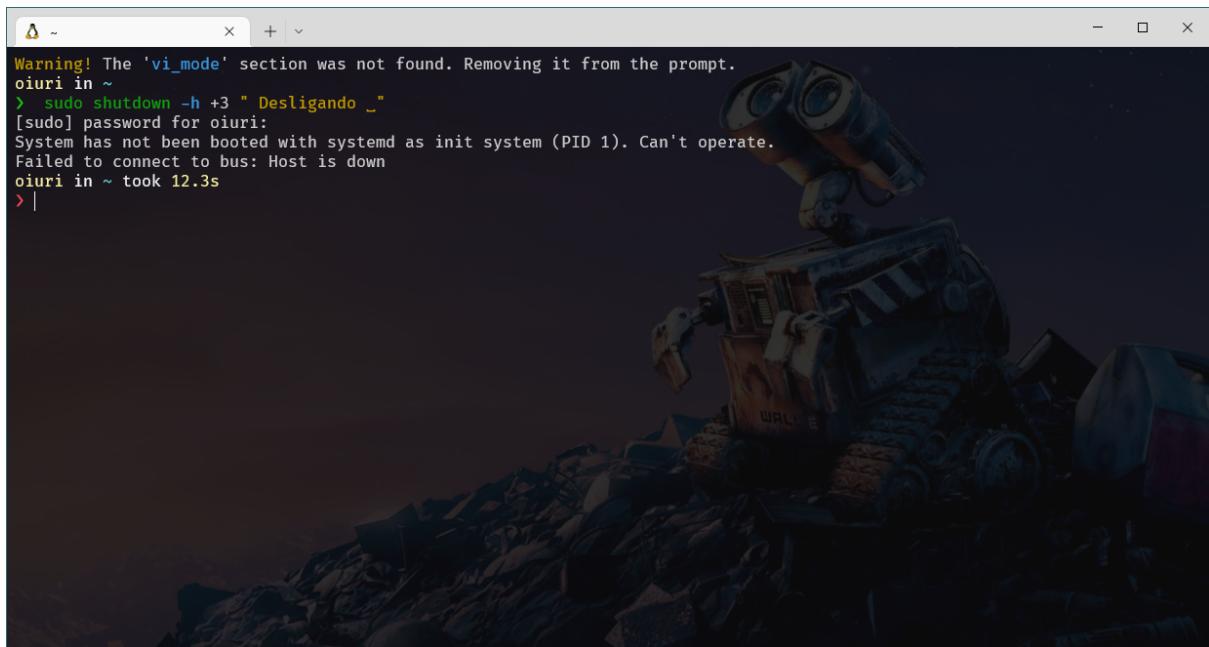
2.2. exit



```
Δ ~ + | × - □ ×
Warning! The 'vi_mode' section was not found. Removing it from the prompt.
oiuri in ~
> exit
```

2.3. shutdown

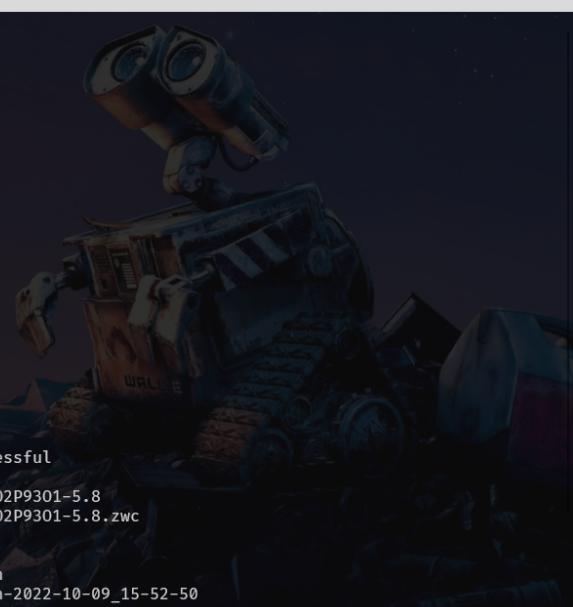
Como é wsl nao tem como dar shutdown na maquina host



```
Δ ~ + | × - □ ×
Warning! The 'vi_mode' section was not found. Removing it from the prompt.
oiuri in ~
> sudo shutdown -h +3 "Desligando _"
[sudo] password for oiuri:
System has not been booted with systemd as init system (PID 1). Can't operate.
Failed to connect to bus: Host is down
oiuri in ~ took 12.3s
> |
```

3. Capítulo 3: Operações em Diretórios e Arquivos

3.1. ls, ls -l, l

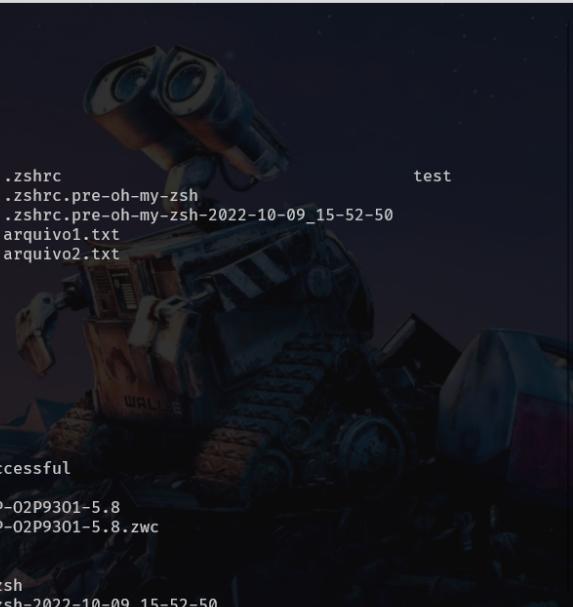


```

ls ~
> ls
arquivo1.txt arquivo2.txt test
oiuri in ~
> ls -l
total 0
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 17:44 arquivo1.txt
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 17:44 arquivo2.txt
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 16:10 test
oiuri in ~
> l
total 284K
drwxr-xr-x  5 oiuri oiuri 4.0K Oct  9 17:46 .
drwxr-xr-x  3 root  root 4.0K Oct  9 15:20 ..
-rw-----  1 oiuri oiuri 150 Oct  9 15:43 .bash_history
-rw-r--r--  1 oiuri oiuri 220 Oct  9 15:20 .bash_logout
-rw-r--r--  1 oiuri oiuri 3.9K Oct  9 15:51 .bashrc
drwxr-xr-x  2 oiuri oiuri 4.0K Oct  9 15:20 .landscape
drwxr-xr-x  3 oiuri oiuri 4.0K Oct  9 15:44 .local
-rw-r--r--  1 oiuri oiuri 0 Oct  9 15:20 .motd_shown
drwxr-xr-x 12 oiuri oiuri 4.0K Oct  9 15:52 .oh-my-zsh
-rw-r--r--  1 oiuri oiuri 807 Oct  9 15:20 .profile
-rw-r--r--  1 oiuri oiuri 0 Oct  9 15:36 .sudo_as_admin_successful
-rw-r--r--  1 oiuri oiuri 48K Oct  9 16:23 .zcompdump
-rw-r--r--  1 oiuri oiuri 50K Oct  9 15:44 .zcompdump-DESKTOP-02P9301-5.8
-rw-r--r--  1 oiuri oiuri 114K Oct  9 15:44 .zcompdump-DESKTOP-02P9301-5.8.zwc
-rw-r--r--  1 oiuri oiuri 4.7K Oct  9 17:46 .zsh_history
-rw-r--r--  1 oiuri oiuri 5.2K Oct  9 16:18 .zshrc
-rw-r--r--  1 oiuri oiuri 8.8K Oct  9 15:51 .zshrc.pre-oh-my-zsh
-rw-r--r--  1 oiuri oiuri 1.3K Oct  9 15:44 .zshrc.pre-oh-my-zsh-2022-10-09_15-52-50

```

3.2. ls -l /etc / hosts

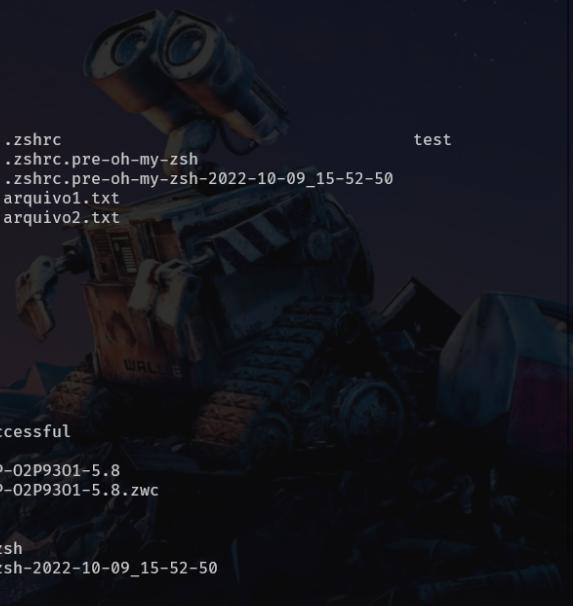


```

ls ~
> ls -l /etc/hosts
-rw-r--r-- 1 root  root 537 Oct  9 16:02 /etc/hosts
oiuri in ~
> ls -ld /etc
drwxr-xr-x 93 root  root 4096 Oct  9 16:02 /etc
oiuri in ~
> ls -a
.          .landscape    .sudo_as_admin_successful      .zshrc
..          .local        .zcompdump                 .zshrc.pre-oh-my-zsh
.bash_history .motd_shown .zcompdump-DESKTOP-02P9301-5.8 .zshrc.pre-oh-my-zsh-2022-10-09_15-52-50
.bash_logout   .oh-my-zsh  .zcompdump-DESKTOP-02P9301-5.8.zwc arquivo1.txt
.bashrc       .profile     .zsh_history               arquivo2.txt
oiuri in ~
> ls -ld ?*
-rw----- 1 oiuri oiuri 150 Oct  9 15:43 .bash_history
-rw-r--r-- 1 oiuri oiuri 220 Oct  9 15:20 .bash_logout
-rw-r--r-- 1 oiuri oiuri 3986 Oct  9 15:51 .bashrc
drwxr-xr-x 2 oiuri oiuri 4096 Oct  9 15:20 .landscape
drwxr-xr-x 3 oiuri oiuri 4096 Oct  9 15:44 .local
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 15:20 .motd_shown
drwxr-xr-x 12 oiuri oiuri 4096 Oct  9 15:52 .oh-my-zsh
-rw-r--r-- 1 oiuri oiuri 807 Oct  9 15:20 .profile
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 15:36 .sudo_as_admin_successful
-rw-r--r-- 1 oiuri oiuri 49006 Oct  9 16:23 .zcompdump
-rw-r--r-- 1 oiuri oiuri 50367 Oct  9 15:44 .zcompdump-DESKTOP-02P9301-5.8
-rw-r--r-- 1 oiuri oiuri 116680 Oct  9 15:44 .zcompdump-DESKTOP-02P9301-5.8.zwc
-rw----- 1 oiuri oiuri 4843 Oct  9 17:50 .zsh_history
-rw-r--r-- 1 oiuri oiuri 5259 Oct  9 16:18 .zshrc
-rw-r--r-- 1 oiuri oiuri 9011 Oct  9 15:51 .zshrc.pre-oh-my-zsh
-rw-r--r-- 1 oiuri oiuri 1295 Oct  9 15:44 .zshrc.pre-oh-my-zsh-2022-10-09_15-52-50
oiuri in ~
>

```

3.3. ls -a

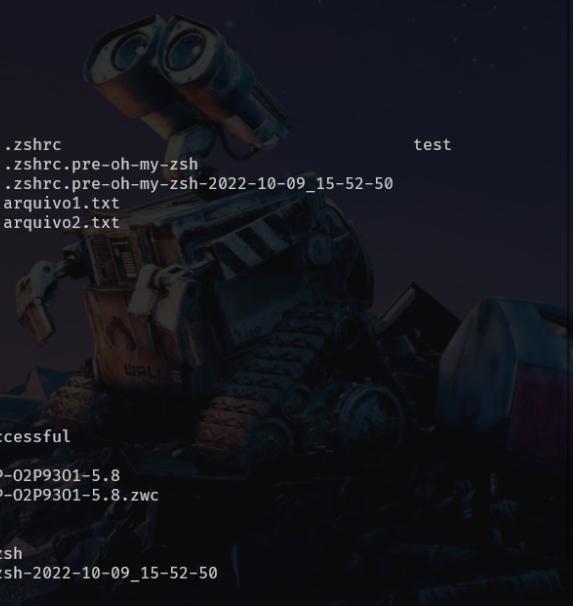


```

Δ ~
> ls -l /etc/hosts
-rw-r--r-- 1 root root 537 Oct  9 16:02 /etc/hosts
oiuri in ~
> ls -ld /etc
drwxr-xr-x 93 root root 4096 Oct  9 16:02 /etc
oiuri in ~
> ls -a
.
..      .landscape   .sudo_as_admin_successful    .zshrc
..      .local        .zcompdump                 .zshrc.pre-oh-my-zsh
.bash_history .moto_dshown .zcompdump-DESKTOP-02P9301-5.8 .zshrc.pre-oh-my-zsh-2022-10-09_15-52-50
.bash_logout  .oh-my-zsh   .zcompdump-DESKTOP-02P9301-5.8.zwc arquivo1.txt
.bashrc       .profile     .zsh_history
oiuri in ~
> ls -ld .?*
-rw----- 1 oiuri oiuri 150 Oct  9 15:43 .bash_history
-rw-r--r-- 1 oiuri oiuri 220 Oct  9 15:20 .bash_logout
-rw-r--r-- 1 oiuri oiuri 3986 Oct  9 15:51 .bashrc
drwxr-xr-x 2 oiuri oiuri 4096 Oct  9 15:20 .landscape
drwxr-xr-x 3 oiuri oiuri 4096 Oct  9 15:44 .local
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 15:20 .moto_dshown
drwxr-xr-x 12 oiuri oiuri 4096 Oct  9 15:52 .oh-my-zsh
-rw-r--r-- 1 oiuri oiuri 807 Oct  9 15:20 .profile
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 15:36 .sudo_as_admin_successful
-rw-r--r-- 1 oiuri oiuri 49006 Oct  9 16:23 .zcompdump
-rw-r--r-- 1 oiuri oiuri 50367 Oct  9 15:44 .zcompdump-DESKTOP-02P9301-5.8
-rw-r--r-- 1 oiuri oiuri 116680 Oct  9 15:44 .zcompdump-DESKTOP-02P9301-5.8.zwc
-rw----- 1 oiuri oiuri 4843 Oct  9 17:50 .zsh_history
-rw-r--r-- 1 oiuri oiuri 5259 Oct  9 16:18 .zshrc
-rw-r--r-- 1 oiuri oiuri 9011 Oct  9 15:51 .zshrc.pre-oh-my-zsh
-rw-r--r-- 1 oiuri oiuri 1295 Oct  9 15:44 .zshrc.pre-oh-my-zsh-2022-10-09_15-52-50
oiuri in ~
>

```

3.4. ls -ld .?*

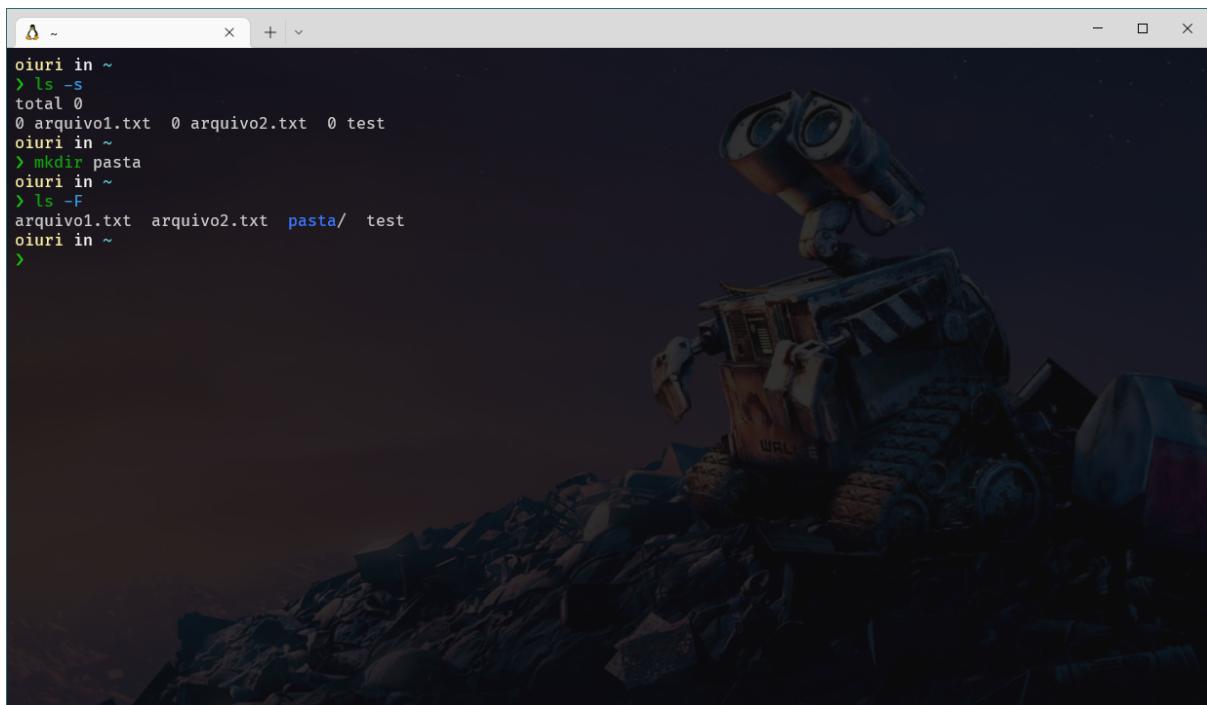


```

Δ ~
> ls -l /etc/hosts
-rw-r--r-- 1 root root 537 Oct  9 16:02 /etc/hosts
oiuri in ~
> ls -ld /etc
drwxr-xr-x 93 root root 4096 Oct  9 16:02 /etc
oiuri in ~
> ls -a
.
..      .landscape   .sudo_as_admin_successful    .zshrc
..      .local        .zcompdump                 .zshrc.pre-oh-my-zsh
.bash_history .moto_dshown .zcompdump-DESKTOP-02P9301-5.8 .zshrc.pre-oh-my-zsh-2022-10-09_15-52-50
.bash_logout  .oh-my-zsh   .zcompdump-DESKTOP-02P9301-5.8.zwc arquivo1.txt
.bashrc       .profile     .zsh_history
oiuri in ~
> ls -ld .?*
-rw----- 1 oiuri oiuri 150 Oct  9 15:43 .bash_history
-rw-r--r-- 1 oiuri oiuri 220 Oct  9 15:20 .bash_logout
-rw-r--r-- 1 oiuri oiuri 3986 Oct  9 15:51 .bashrc
drwxr-xr-x 2 oiuri oiuri 4096 Oct  9 15:20 .landscape
drwxr-xr-x 3 oiuri oiuri 4096 Oct  9 15:44 .local
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 15:20 .moto_dshown
drwxr-xr-x 12 oiuri oiuri 4096 Oct  9 15:52 .oh-my-zsh
-rw-r--r-- 1 oiuri oiuri 807 Oct  9 15:20 .profile
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 15:36 .sudo_as_admin_successful
-rw-r--r-- 1 oiuri oiuri 49006 Oct  9 16:23 .zcompdump
-rw-r--r-- 1 oiuri oiuri 50367 Oct  9 15:44 .zcompdump-DESKTOP-02P9301-5.8
-rw-r--r-- 1 oiuri oiuri 116680 Oct  9 15:44 .zcompdump-DESKTOP-02P9301-5.8.zwc
-rw----- 1 oiuri oiuri 4843 Oct  9 17:50 .zsh_history
-rw-r--r-- 1 oiuri oiuri 5259 Oct  9 16:18 .zshrc
-rw-r--r-- 1 oiuri oiuri 9011 Oct  9 15:51 .zshrc.pre-oh-my-zsh
-rw-r--r-- 1 oiuri oiuri 1295 Oct  9 15:44 .zshrc.pre-oh-my-zsh-2022-10-09_15-52-50
oiuri in ~
>

```

3.5. ls -F

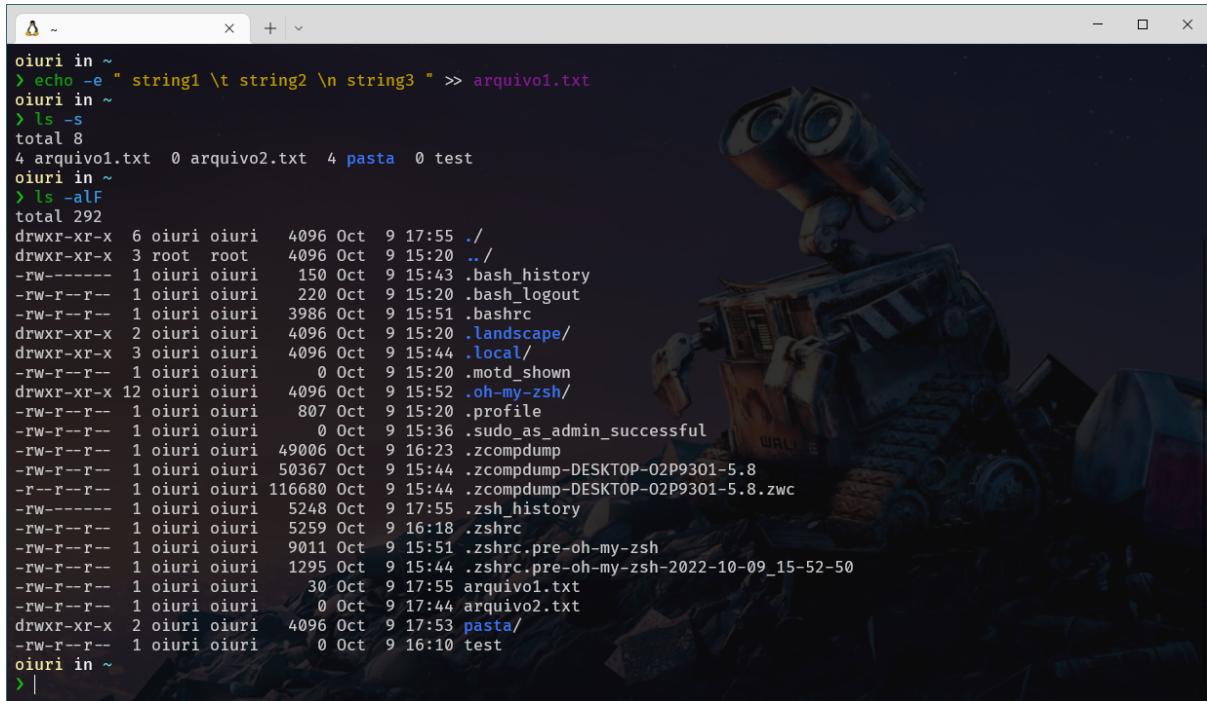


```

Δ ~
> ls -s
total 0
0 arquivo1.txt 0 arquivo2.txt 0 test
oiuri in ~
> mkdir pasta
oiuri in ~
> ls -F
arquivo1.txt arquivo2.txt pasta/ test
oiuri in ~
>

```

3.6. ls -alF



```

Δ ~
> echo -e " string1 \t string2 \n string3 " >> arquivo1.txt
oiuri in ~
> ls -s
total 8
4 arquivo1.txt 0 arquivo2.txt 4 pasta 0 test
oiuri in ~
> ls -alF
total 292
drwxr-xr-x 6 oiuri oiuri 4096 Oct  9 17:55 .
drwxr-xr-x 3 root  root  4096 Oct  9 15:20 ..
-rw----- 1 oiuri oiuri 150 Oct  9 15:43 .bash_history
-rw-r--r-- 1 oiuri oiuri 220 Oct  9 15:20 .bash_logout
-rw-r--r-- 1 oiuri oiuri 3986 Oct  9 15:51 .bashrc
drwxr-xr-x 2 oiuri oiuri 4096 Oct  9 15:20 .landscape/
drwxr-xr-x 3 oiuri oiuri 4096 Oct  9 15:44 .local/
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 15:20 .motd_shown
drwxr-xr-x 12 oiuri oiuri 4096 Oct  9 15:52 .oh-my-zsh/
-rw-r--r-- 1 oiuri oiuri 807 Oct  9 15:20 .profile
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 15:36 .sudo_as_admin_successful
-rw-r--r-- 1 oiuri oiuri 49006 Oct  9 16:23 .zcompdump
-rw-r--r-- 1 oiuri oiuri 50367 Oct  9 15:44 .zcompdump-DESKTOP-02P9301-5.8
-rw-r--r-- 1 oiuri oiuri 116680 Oct  9 15:44 .zcompdump-DESKTOP-02P9301-5.8.zwc
-rw----- 1 oiuri oiuri 5248 Oct  9 17:55 .zsh_history
-rw-r--r-- 1 oiuri oiuri 5259 Oct  9 16:18 .zshrc
-rw-r--r-- 1 oiuri oiuri 9011 Oct  9 15:51 .zshrc.pre-oh-my-zsh
-rw-r--r-- 1 oiuri oiuri 1295 Oct  9 15:44 .zshrc.pre-oh-my-zsh-2022-10-09_15-52-50
-rw-r--r-- 1 oiuri oiuri 30 Oct  9 17:55 arquivo1.txt
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 17:44 arquivo2.txt
drwxr-xr-x 2 oiuri oiuri 4096 Oct  9 17:53 pasta/
-rw-r--r-- 1 oiuri oiuri 0 Oct  9 16:10 test
oiuri in ~
>

```

3.7. ls -R

```
oiuri in ~
> ls -R
.:
arquivo1.txt arquivo2.txt pasta test

./pasta:
oiuri in ~
> touch pasta/arquivo
oiuri in ~
> ls -R
.:
arquivo1.txt arquivo2.txt pasta test

./pasta:
arquivo
oiuri in ~
> |
```

3.8. cd

```
oiuri in ~
> cd pasta
oiuri in ~/pasta
```

3.9. pwd

```
> pwd
/home/oiuri/pasta
oiuri in ~/pasta
> cd ..
oiuri in ~
> pwd
/home/oiuri
```

3.10. cp

```
oiuri in ~
> ls -R
.:
arquivo1.txt  arquivo2.txt  pasta  test

./pasta:
arquivo
oiuri in ~
> cp test pasta
oiuri in ~
> ls -R
.:
arquivo1.txt  arquivo2.txt  pasta  test

./pasta:
arquivo  test
```

3.11. cp -r

```
oiuri in ~
> ls -R
.:
arquivo1.txt  arquivo2.txt  pasta  pasta2  test

./pasta:
arquivo  pasta_filha  test

./pasta/pasta_filha:

./pasta2:
pasta

./pasta2/pasta:
arquivo  pasta_filha  test

./pasta2/pasta/pasta_filha:
```

3.12. rename

```
> mv arquivo1.txt arquivo1_renomeado.txt
oiuri in ~
> ls
arquivo1_renomeado.txt arquivo2.txt pasta pasta2 test
```

3.13. touch

```
oiuri in ~
> ls
arquivo1_renomeado.txt arquivo2.txt pasta pasta2 test
oiuri in ~
> touch teste
oiuri in ~
> ls
arquivo1_renomeado.txt arquivo2.txt pasta pasta2 test teste
```

3.14. mktemp

```
oiuri in ~
> TMPFILE=$(mktemp)
oiuri in ~
> echo $TMPFILE
/tmp/tmp.KPl2uSYbKz
oiuri in ~
> echo "temp_file" > $TMPFILE
oiuri in ~
> cat $TMPFILE
temp_file
oiuri in ~
> rm $TMPFILE
oiuri in ~
> ls $TMPFILE
ls: cannot access '/tmp/tmp.KPl2uSYbKz': No such file or directory
oiuri in ~
```

3.15. rm

```
oiuri in ~
> ls
arquivo1_renomeado.txt arquivo2.txt pasta pasta2 test teste teste.c teste2.c teste3.c
oiuri in ~
> rm teste.c
oiuri in ~
> ls
arquivo1_renomeado.txt arquivo2.txt pasta pasta2 test teste teste2.c teste3.c
oiuri in ~
> |
```

3.16. rm *.c

```
> ls
arquivo1_renomeado.txt arquivo2.txt pasta pasta2 test teste teste2.c teste3.c
oiuri in ~
> rm *.c
oiuri in ~
> ls
arquivo1_renomeado.txt arquivo2.txt pasta pasta2 test teste
oiuri in ~
> |
```

3.17. rm -R

```
oiuri in ~
> ls -R
.:
arquivo1_renomeado.txt arquivo2.txt pasta pasta2 test teste

./pasta:
arquivo pasta_filha test

./pasta/pasta_filha:

./pasta2:
pasta

./pasta2/pasta:
arquivo pasta_filha test

./pasta2/pasta/pasta_filha:
oiuri in ~
> rm -r pasta2
oiuri in ~
> ls -R
.:
arquivo1_renomeado.txt arquivo2.txt pasta test teste

./pasta:
arquivo pasta_filha test

./pasta/pasta_filha:
oiuri in ~
> |
```

3.18. mkdir

```
oiuri in ~
> mkdir pasta2
oiuri in ~
> ls
arquivo1_renomeado.txt arquivo2.txt pasta pasta2 test teste
oiuri in ~
> rmdir pasta2
oiuri in ~
> ls
arquivo1_renomeado.txt arquivo2.txt pasta test teste
oiuri in ~
> |
```

3.19. rmdir

```
oiuri in ~
> mkdir pasta2
oiuri in ~
> ls
arquivo1_renomeado.txt arquivo2.txt pasta pasta2 test teste
oiuri in ~
> rmdir pasta2
oiuri in ~
> ls
arquivo1_renomeado.txt arquivo2.txt pasta test teste
oiuri in ~
> |
```

ls

3.20. mkdir -p

```
oiuri in ~
> ls -R
.:
arquivo1_renomeado.txt  arquivo2.txt  pasta  test  teste

./pasta:
arquivo  pasta_filha  test

./pasta/pasta_filha:
oiuri in ~
> mkdir -p pasta2/temp2/tempdir
oiuri in ~
> ls -R
.:
arquivo1_renomeado.txt  arquivo2.txt  pasta  pasta2  test  teste

./pasta:
arquivo  pasta_filha  test

./pasta/pasta_filha:

./pasta2:
temp2

./pasta2/temp2:
tempdir

./pasta2/temp2/tempdir:
oiuri in ~
>
```

3.21. ln -s

```
> cd semana01
oiuri in ~/semana01
> touch arq1
oiuri in ~/semana01
> echo 'Laranja' >> arq1
oiuri in ~/semana01
> ln -s arq1 arq1-soft
oiuri in ~/semana01
> ls -l arq1*
-rw-r--r-- 1 oiuri oiuri 8 Oct  9 22:20 arq1
lrwxrwxrwx 1 oiuri oiuri 4 Oct  9 22:20 arq1-soft → arq1
oiuri in ~/semana01
> cat arq1-soft
Laranja
oiuri in ~/semana01
>
```

4. Capítulo 4: Comandos para Manipulação de Arquivos Texto

4.1. echo

```
oiuri in ~/semana01
> echo 'Oi Iuri!'
Oi Iuri!
oiuri in ~/semana01
> echo -en 'Oi\tIuri!'
Oi      Iuri!%
oiuri in ~/semana01
> |
```

4.2. cat

```
oiuri in ~/semana01
> echo -en 'Oi\tIuri!' >> ola.txt
oiuri in ~/semana01
> cat ola.txt
Oi      Iuri!%
oiuri in ~/semana01
> |
```

4.3. cut

4.4. seq

```
oiuri in ~/semana01
> seq 1 5 > arq1.txt
oiuri in ~/semana01
> seq 6 10 > arq2.txt
oiuri in ~/semana01
> cat arq1.txt arq2.txt
1
2
3
4
5
6
7
8
9
10
oiuri in ~/semana01
> |
```

4.5. expand

```
oiuri in ~/semana01
> echo 'SP\tSao Paulo : pedro
SP\tCampinas : andre
MG\tBelo Horizonte : marta
MG\tDiamantina : lucas
MG\tLavras : rafael
MG\tBom Sucesso : lisa
RJ\tRio de Janeiro : alexandro' >| cidades.txt
oiuri in ~/semana01
> cat cidades.txt | expand -t 1
SP Sao Paulo : pedro
SP Campinas : andre
MG Belo Horizonte : marta
MG Diamantina : lucas
MG Lavras : rafael
MG Bom Sucesso : lisa
RJ Rio de Janeiro : alexandro
oiuri in ~/semana01
> cat cidades.txt | expand -t 10
SP      Sao Paulo : pedro
SP      Campinas : andre
MG      Belo Horizonte : marta
MG      Diamantina : lucas
MG      Lavras : rafael
MG      Bom Sucesso : lisa
RJ      Rio de Janeiro : alexandro
oiuri in ~/semana01
> |
```

4.6. tr

```

> cat cidades.txt | expand -t 10
SP      Sao Paulo : pedro
SP      Campinas : andre
MG      Belo Horizonte : marta
MG      Diamantina : lucas
MG      Lavras : rafael
MG      Bom Sucesso : lisa
RJ      Rio de Janeiro : alexandro
oiuri in ~/semana01
> tr 'A-Z' 'a-z' < cidades.txt
sp      sao paulo : pedro
sp      campinas : andre
mg      belo horizonte : marta
mg      diamantina : lucas
mg      lavras : rafael
mg      bom sucesso : lisa
rj      rio de janeiro : alexandro
oiuri in ~/semana01
> |

```

4.7. fmt

```

oiuri in ~/semana01
> echo 'Antes da chegada
dos colonizadores portugueses, no século XVI (os primeiros relatos dão conta
de expedições que subiram o Rio Jequitinhonha e São Francisco) , Diamantina, como toda a região do atual estado de Minas
Gerais, era ocupada por
povos indígenas do tronco linguístico' >| texto.txt
oiuri in ~/semana01
> fmt -w10 texto.txt
Antes da
chegada
dos
colonizadores
portugueses,
no
século
XVI (os
primeiros
relatos
dão
conta de

```

4.8. fold

```
oiuri in ~/semana01
> fold -w 10 texto.txt
Antes da c
hegada
dos coloni
zadores po
rtugueses,
no sécul
o XVI (os
primeiros
relatos d
ão conta
de expedi
ões que
subiram o
Rio Jequit
inhonha e
São Franc
isco) , Di
amantina,
como toda
a região
do atual e
stado de M
inas Gerai
s, era ocu
pada por
povos inde
ígenas do
tronco lin
guístico
oiuri in ~/semana01
> |
```

4.9. grep

```
oiuri in ~/semana01
> cat cidades.txt | grep alexandro
RJ      Rio de Janeiro : alexandro
oiuri in ~/semana01
> |
```

4.10. egrep

```
oiuri in ~/semana01
> dmesg | egrep "firmware|amd"
[    0.142453] Spectre V2 : Enabling Restricted Speculation for firmware calls
[    0.374066] has_svm: not amd or hygon
oiuri in ~/semana01
> |
```

4.11. fgrep

```
oiuri in ~/semana01
> dmesg | fgrep "â"
[ 0.000000] Linux version 5.10.16.3-microsoft-standard-WSL2 (oe-user@oe-host) (x86_64-msft-linux-gcc (GCC) 9.3.0, GNU
ld (GNU Binutils) 2.34.0.20200220) #1 SMP Fri Apr 2 22:23:49 UTC 2021
[ 0.142821] smpboot: CPU0: Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz (family: 0x6, model: 0x3d, stepping: 0x4)
[ 0.380006] Installing knfsd (copyright (C) 1996 okir@monad.swb.de).
[ 0.416388] wireguard: Copyright (C) 2015-2019 Jason A. Donenfeld <Jason@zx2c4.com>. All Rights Reserved.
[ 0.441665] device-mapper: ioctl: 4.43.0-ioctl (2020-10-01) initialised: dm-devel@redhat.com
oiuri in ~/semana01
> |
```

4.12. head

```
> head -2 cidades.txt
SP      Sao Paulo : pedro
SP      Campinas : andre
```

4.13. tail

```
oiuri in ~/semana01
> tail cidades.txt
SP      Sao Paulo : pedro
SP      Campinas : andre
MG      Belo Horizonte : marta
MG      Diamantina : lucas
MG      Lavras : rafael
MG      Bom Sucesso : lisa
RJ      Rio de Janeiro : alexandro
oiuri in ~/semana01
> tail -2 cidades.txt
MG      Bom Sucesso : lisa
RJ      Rio de Janeiro : alexandro
oiuri in ~/semana01
> |
```

4.14. file

```
> file cidades.txt  
cidades.txt: ASCII text  
oiuri in ~/semana01  
> |
```

4.15. look

```
> look SP cidades.txt  
SP      Sao Paulo : pedro  
SP      Campinas : andre  
> |
```

4.16. more

4.17. nl

```
> nl cidades.txt  
 1  SP      Sao Paulo : pedro  
 2  SP      Campinas : andre  
 3  MG      Belo Horizonte : marta  
 4  MG      Diamantina : lucas  
 5  MG      Lavras : rafael  
 6  MG      Bom Sucesso : lisa  
 7  RJ      Rio de Janeiro : alexandro  
oiuri in ~/semana01  
> |
```

4.18. paste

```
oiuri in ~/semana01
> echo 'alessandro
pedro
marcos
andre
luciana' >| nomes.txt
oiuri in ~/semana01
> echo '10 20
30 30
40 10
50 60
NC 10' >| notas.txt
oiuri in ~/semana01
> paste nomes.txt notas.txt
alessandro      10 20
pedro      30 30
marcos     40 10
andre      50 60
luciana    NC 10
oiuri in ~/semana01
>
```

4.19. rev

```
oiuri in ~/semana01
> echo 'teste' | rev
etset
oiuri in ~/semana01
> |
```

4.20. sort

```
> echo 'abacate
maca
pera
uva
graviola
limao
mamao' >> frutas.txt
oiuri in ~/semana01
> cat frutas.txt | sort -n
abacate
graviola
limao
maca
mamao
pera
uva
oiuri in ~/semana01
> |
```

man

4.21. wc

```
> wc cidades.txt
    7  33 160 cidades.txt
oiuri in ~/semana01
> |
```

5. Capítulo 5: Comandos de Sistema

5.1. compgen

```
> compgen -c | wc -l
9534
oiuri in ~/semana01
> |
```

5.2. id

```
oiuri in ~/semana01
> whoami
oiuri
oiuri in ~/semana01
> pwd
/home/oiuri/semana01
oiuri in ~/semana01
> id
uid=1000(oiuri) gid=1000(oiuri) groups=1000(oiuri),4(adm),20(dialout),24(cdrom),25(floppy),27(sudo),29(audio),30(dip),44
(video),46(plugdev),117(netdev)
oiuri in ~/semana01
> |
```

5.3. finger

```
oiuri in ~/semana01 took 11.3s
> finger -l
No one logged on.
oiuri in ~/semana01
> |
```

5.4. free

```
oiuri in ~/semana01 took 11.3s
> finger -l
No one logged on.
oiuri in ~/semana01
> free
      total        used        free      shared  buff/cache   available
Mem:    9721144       86012     9339764          72      295368    9395720
Swap:  3145728           0     3145728
oiuri in ~/semana01
> |
```

up

5.5. uname

```
> uname -s
Linux
oiuri in ~/semana01
> uname -r
5.10.16.3-microsoft-standard-WSL2
oiuri in ~/semana01
> uname -m
x86_64
oiuri in ~/semana01
> uname -n
DESKTOP-02P9301
oiuri in ~/semana01
> uname -a
Linux DESKTOP-02P9301 5.10.16.3-microsoft-standard-WSL2 #1 SMP Fri Apr 2 22:23:49 UTC 2021 x86_64 x86_64 x86_64 GNU/Linux
oiuri in ~/semana01
> |
```

5.6. uptime

```
oiuri in ~/semana01
> uptime
10:36:43 up 7:18, 0 users, load average: 0.04, 0.02, 0.00
```

5.7. PATH

```
> echo $PATH
/home/oiuri/.local/share/zinit/polaris/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/bin:/usr/games:/usr/
local/games:/usr/lib/wsl/lib:/mnt/c/Program Files (x86)/NVIDIA Corporation/PhysX/Common:/mnt/c/Program Files (x86)/Commo
n Files/Oracle/Java/javapath:/mnt/c/Program Files (x86)/Common Files/Intel/Shared Libraries/redis/intel64/compiler:/mnt
/c/WINDOWS/system32:/mnt/c/WINDOWS:/mnt/c/WINDOWS/System32/Wbem:/mnt/c/WINDOWS/System32/WindowsPowerShell/v1.0:/mnt/c/W
INDOWS/System32/OpenSSH:/mnt/c/Program Files/Microsoft SQL Server/Client SDK/ODBC/110/Tools/Binn:/mnt/c/Program Files
(x86)/Microsoft SQL Server/120/Tools/Binn:/mnt/c/Program Files/Microsoft SQL Server/120/Tools/Binn:/mnt/c/Program File
s/Microsoft SQL Server/120/DTS/Binn:/mnt/c/Program Files (x86)/Windows Kits/8.1/Windows Performance Toolkit:/mnt/c/Pro
gram Files/NVIDIA Corporation/NvDLISR:/mnt/c/WINDOWS/system32:/mnt/c/WINDOWS/System32/Wbem:/mnt/c/
WINDOWS/System32/WindowsPowerShell/v1.0:/mnt/c/WINDOWS/System32/OpenSSH:/mnt/c/Program Files/nodejs:/mnt/c/Program Fi
les (x86)/sox-14-4-2/sox.exe:/mnt/c/Program Files/Git/cmd:/mnt/c/Program Files/Docker/Docker/resources/bin:/mnt/c/Program
Files/Docker/Desktop/version-bin:/mnt/c/Program Files/Git/bin:/mnt/c/Program Files/LeanPro/CukeTest:/mnt/c/Program Files
/PuTTY:/mnt/c/Program Files/dotnet:/mnt/c/Users/Acer/AppData/Local/Programs/Python/Python310/Scripts:/mnt/c/Users/Ace
r/AppData/Local/Programs/Python/Python310:/mnt/c/Users/Acer/AppData/Local/Microsoft/WindowsApps:/mnt/c/Users/Acer/AppDa
ta/Local/Programs/Microsoft VS Code/bin:/mnt/c/Users/Acer/AppData/Local/GitHubDesktop/bin:/mnt/c/Users/Acer/AppData/Loca
l/Microsoft/WindowsApps:/mnt/c/MinGW/bin:/mnt/c/Users/Acer/AppData/Roaming/npm:/mnt/c/Users/Acer/AppData/Local/Programs/
Python/Python38-32:/mnt/c/Program Files (x86)/sox-14-4-2:/mnt/c/Program Files/Multipass/bin:/mnt/c/Program Files/Git:/m
nt/c/Program Files/JetBrains/PyCharm Community Edition 2021.1.3/bin
oiuri in ~/semana01
> |
```

5.8. timeout

```
oiuri in ~/semana01
> timeout 5 ping www.ufu.br
PING www.ufu.br (200.19.145.55) 56(84) bytes of data.
64 bytes from bulma.dr.ufu.br (200.19.145.55): icmp_seq=1 ttl=55 time=68.0 ms
64 bytes from bulma.dr.ufu.br (200.19.145.55): icmp_seq=2 ttl=55 time=66.9 ms
64 bytes from bulma.dr.ufu.br (200.19.145.55): icmp_seq=3 ttl=55 time=68.5 ms
64 bytes from bulma.dr.ufu.br (200.19.145.55): icmp_seq=4 ttl=55 time=65.6 ms
64 bytes from bulma.dr.ufu.br (200.19.145.55): icmp_seq=5 ttl=55 time=67.9 ms
oiuri in ~/semana01 took 5.1s
> |
```

5.9. w

```
oiuri in ~/semana01 took 5.1s
> w
 10:39:36 up 7:21, 0 users, load average: 0.09, 0.05, 0.01
USER   TTY      FROM          LOGIN@    IDLE    JCPU   PCPU WHAT
oiuri in ~/semana01
> |
```

5.10. whereis

```
oiuri in ~/semana01
> whereis gcc
gcc: /usr/share/gcc /mnt/c/MinGW/bin/gcc.exe
oiuri in ~/semana01
> |
```

5.11. which

```
> which ls
ls: aliased to ls --color=tty
oiuri in ~/semana01
> which gcc
gcc not found
oiuri in ~/semana01
> whereis gcc
gcc: /usr/share/gcc /mnt/c/MinGW/bin/gcc.exe
oiuri in ~/semana01
> |
what
```

5.12. whatis

```
oiuri in ~/semana01
> whatis clear
clear (1)           - clear the terminal screen
oiuri in ~/semana01
> whatis ps
ps (1)             - report a snapshot of the current processes.
oiuri in ~/semana01
> |
```

6. Capítulo 6: Gerenciamento de Processos

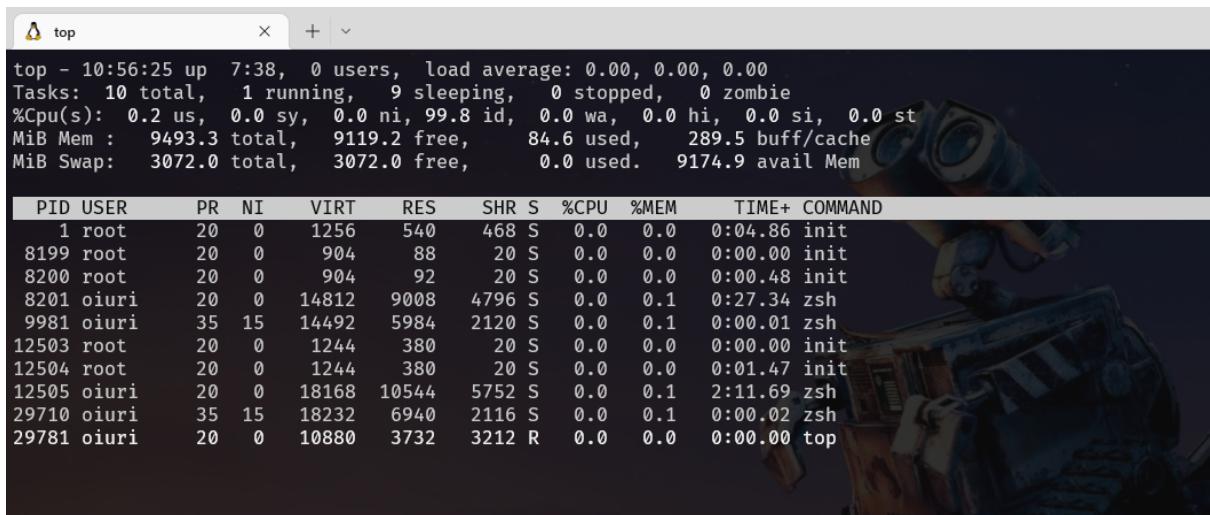
6.1. ps

```
> ps -aef
UID      PID  PPID  C STIME TTY          TIME CMD
root      1    0  0 03:22 ?        00:00:04 /init
root    8199    1  0 03:38 ?        00:00:00 /init
root    8200  8199  0 03:38 ?        00:00:00 /init
oiuri   8201  8200  0 03:38 pts/0    00:00:27 -zsh
oiuri   9981  8201  0 03:38 pts/1    00:00:00 -zsh
root   12503    1  0 04:44 ?        00:00:00 /init
root   12504 12503  0 04:44 ?        00:00:01 /init
oiuri  12505 12504  0 04:44 pts/2    00:02:09 -zsh
oiuri  29490 12505  0 10:47 pts/4    00:00:00 -zsh
oiuri  29563 12505  0 10:51 pts/2    00:00:00 ps -aef
```

6.2. pstree

```
oiuri in ~/semana01
> pstree
init--init--init--zsh--zsh
|   |
|   init--init--zsh--pstree
|   |           |
|   |           zsh
|   {init}
oiuri in ~/semana01
> |
```

6.3. top



top - 10:56:25 up 7:38, 0 users, load average: 0.00, 0.00, 0.00
Tasks: 10 total, 1 running, 9 sleeping, 0 stopped, 0 zombie
%CPU(s): 0.2 us, 0.0 sy, 0.0 ni, 99.8 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 9493.3 total, 9119.2 free, 84.6 used, 289.5 buff/cache
MiB Swap: 3072.0 total, 3072.0 free, 0.0 used. 9174.9 avail Mem

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1	root	20	0	1256	540	468	S	0.0	0.0	0:04.86	init
8199	root	20	0	904	88	20	S	0.0	0.0	0:00.00	init
8200	root	20	0	904	92	20	S	0.0	0.0	0:00.48	init
8201	oiuri	20	0	14812	9008	4796	S	0.0	0.1	0:27.34	zsh
9981	oiuri	35	15	14492	5984	2120	S	0.0	0.1	0:00.01	zsh
12503	root	20	0	1244	380	20	S	0.0	0.0	0:00.00	init
12504	root	20	0	1244	380	20	S	0.0	0.0	0:01.47	init
12505	oiuri	20	0	18168	10544	5752	S	0.0	0.1	2:11.69	zsh
29710	oiuri	35	15	18232	6940	2116	S	0.0	0.1	0:00.02	zsh
29781	oiuri	20	0	10880	3732	3212	R	0.0	0.0	0:00.00	top

6.4. kill

```
oiuri in ~/semana01 took 31.3s
> kill -l
HUP INT QUIT ILL TRAP ABRT BUS FPE KILL USR1 SEGV USR2 PIPE ALRM TERM STKFLT CHLD CONT STOP TSTP TTIN TTOU URG XCPU XFSZ
VTALRM PROF WINCH POLL PWR SYS
oiuri in ~/semana01
> |
```

6.5. ps x --forest

```
oiuri in ~/semana01
> ps x --forest
 PID TTY      STAT   TIME  COMMAND
12505 pts/2    Ss     2:13  -zsh
30084 pts/4    SNs+   0:00  \_ -zsh
30163 pts/2    R+     0:00  \_ ps x --forest
8201 pts/0    Ss+    0:27  -zsh
9981 pts/1    SNs+   0:00  \_ -zsh
oiuri in ~/semana01
> |
```

7. Capítulo 7: Permissão e Propriedade

7.1. Permissão e Propriedade

```
> ls -l arquivo.txt
-rw-r--r-- 1 oiuri oiuri 0 Oct 10 11:06 arquivo.txt
oiuri in ~/semana01
> chmod g-r arquivo.txt
oiuri in ~/semana01
```

7.2. Alterando Permissões dos Arquivos

```
> ls -l arquivo.txt
-rw-r--r-- 1 oiuri oiuri 0 Oct 10 11:06 arquivo.txt
oiuri in ~/semana01
> chmod g-r arquivo.txt
oiuri in ~/semana01
```

```
> ls -l arquivo.txt
-rw----r-- 1 oiuri oiuri 0 Oct 10 11:06 arquivo.txt
oiuri in ~/semana01
>
```

8. Capítulo 8: Gerenciando Usuários

8.1. Listando Todos os Usuários do Sistema

```
oiuri in ~/semana01
> cat /etc/passwd | head -10
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:/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
oiuri in ~/semana01
> cut -d: -f1 /etc/passwd | head -10
root
daemon
bin
sys
sync
games
man
lp
mail
news
oiuri in ~/semana01
> |
```

8.2. Listando Grupos

```
oiuri in ~/semana01
> cat /etc/group | head -10
root:x:0:
daemon:x:1:
bin:x:2:
sys:x:3:
adm:x:4:syslog,oiuri
tty:x:5:syslog
disk:x:6:
lp:x:7:
mail:x:8:
news:x:9:
oiuri in ~/semana01
> |
```

8.3. Adicionando Usuários

```
oiuri in ~/semana01
> sudo adduser aluno
[sudo] password for oiuri:
Adding user `aluno' ...
Adding new group `aluno' (1001) ...
Adding new user `aluno' (1001) with group `aluno' ...
Creating home directory `/home/aluno' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for aluno
Enter the new value, or press ENTER for the default
```

8.4. Apagando uma Conta de Usuário

```
oiuri in ~/semana01 took 1m 4.9s
> sudo userdel aluno
oiuri in ~/semana01
```

9. Capítulo 9: Comandos para redes e computadores

9.1. Instalação

```
oiuri in ~/semana01
> sudo apt install net-tools
[sudo] password for oiuri:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  net-tools
0 upgraded, 1 newly installed, 0 to remove and 11 not upgraded.
Need to get 196 kB of archives.
After this operation, 864 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 net-tools amd64 1.60+git20180626.aebd88e-1ubuntu1 [196 kB]
Fetched 196 kB in 1s (196 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 33731 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20180626.aebd88e-1ubuntu1_amd64.deb ...
Unpacking net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Setting up net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Processing triggers for man-db (2.9.1-1) ...
oiuri in ~/semana01 took 11.6s
>
```

9.2. hostname

```
oiuri in ~/semana01 took 11.6s
> hostname
DESKTOP-02P9301
oiuri in ~/semana01
> |
```

9.3. Comando e Tabela ARP

```
> arp -a
DESKTOP-02P9301 (172.31.0.1) at 00:15:5d:d5:71:b9 [ether] on eth0
oiuri in ~/semana01
> |
```

9.4. Verificando o IP

```
oiuri in ~/semana01
> ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.31.12.62 netmask 255.255.240.0 broadcast 172.31.15.255
        inet6 fe80::215:5dff:fe0c:3e24 prefixlen 64 scopeid 0x20<link>
            ether 00:15:5d:0c:3e:24 txqueuelen 1000 (Ethernet)
            RX packets 14557 bytes 17305357 (17.3 MB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 2096 bytes 157975 (157.9 KB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
            loop txqueuelen 1000 (Local Loopback)
            RX packets 0 bytes 0 (0.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 0 bytes 0 (0.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

oiuri in ~/semana01
> |
```

9.5. Habilitando e desabilitando a Interface de Rede

```

oiuri in ~/semana01
> sudo ifconfig eth0 down
oiuri in ~/semana01
> ifconfig eth0
eth0: flags=4098<Broadcast,Multicast> mtu 1500
      inet 172.31.12.62 netmask 255.255.240.0 broadcast 172.31.15.255
      ether 00:15:5d:0c:3e:24 txqueuelen 1000 (Ethernet)
      RX packets 14589 bytes 17326049 (17.3 MB)
      RX errors 0 dropped 0 overruns 0 frame 0
      TX packets 2096 bytes 157975 (157.9 KB)
      TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

oiuri in ~/semana01
> |

```

9.6. Alterando a MTU de uma Interface

```

oiuri in ~/semana01
> ifconfig eth0
eth0: flags=4163<UP,Broadcast,Running,Multicast> mtu 1500
      inet 172.31.12.62 netmask 255.255.240.0 broadcast 172.31.15.255
      inet6 fe80::215:5dff:fe0c:3e24 prefixlen 64 scopeid 0x20<link>
      ether 00:15:5d:0c:3e:24 txqueuelen 1000 (Ethernet)
      RX packets 14589 bytes 17326049 (17.3 MB)
      RX errors 0 dropped 0 overruns 0 frame 0
      TX packets 2105 bytes 158701 (158.7 KB)
      TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

oiuri in ~/semana01
> sudo ifconfig eth0 mtu 600
oiuri in ~/semana01
> ifconfig eth0
eth0: flags=4163<UP,Broadcast,Running,Multicast> mtu 600
      inet 172.31.12.62 netmask 255.255.240.0 broadcast 172.31.15.255
      ether 00:15:5d:0c:3e:24 txqueuelen 1000 (Ethernet)
      RX packets 0 bytes 0 (0.0 B)
      RX errors 0 dropped 0 overruns 0 frame 0
      TX packets 1 bytes 42 (42.0 B)
      TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

oiuri in ~/semana01
> |

```

9.7. Alterando Endereço IP

```

oiuri in ~/semana01
> sudo ifconfig eth0 mtu 1500
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
      inet 172.31.12.62 netmask 255.255.240.0 broadcast 172.31.15.255
      inet6 fe80::215:5dff:fe0c:3e24 prefixlen 64 scopeid 0x20<link>
        ether 00:15:5d:0c:3e:24 txqueuelen 1000 (Ethernet)
          RX packets 37 bytes 21643 (21.6 KB)
          RX errors 0 dropped 0 overruns 0 frame 0
          TX packets 15 bytes 1154 (1.1 KB)
          TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

oiuri in ~/semana01
> sudo ifconfig eth0 172.31.12.62 netmask 255.255.255.0
oiuri in ~/semana01
> sudo ifconfig eth0
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
      inet 172.31.12.62 netmask 255.255.255.0 broadcast 172.31.12.255
      inet6 fe80::215:5dff:fe0c:3e24 prefixlen 64 scopeid 0x20<link>
        ether 00:15:5d:0c:3e:24 txqueuelen 1000 (Ethernet)
          RX packets 39 bytes 22077 (22.0 KB)
          RX errors 0 dropped 0 overruns 0 frame 0
          TX packets 15 bytes 1154 (1.1 KB)
          TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

oiuri in ~/semana01
> |

```

9.8. Comando ping

```

oiuri in ~
> ping google.com
PING google.com (142.250.219.142) 56(84) bytes of data.
64 bytes from gru14s29-in-f14.1e100.net (142.250.219.142): icmp_seq=1 ttl=59 time=15.5 ms
64 bytes from gru14s29-in-f14.1e100.net (142.250.219.142): icmp_seq=2 ttl=59 time=19.6 ms
64 bytes from gru14s29-in-f14.1e100.net (142.250.219.142): icmp_seq=3 ttl=59 time=16.6 ms
64 bytes from gru14s29-in-f14.1e100.net (142.250.219.142): icmp_seq=4 ttl=59 time=16.9 ms
^C
--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 15.519/17.148/19.590/1.498 ms
oiuri in ~ took 3.7s
>

```

9.9. Descobrir endereço IP de um Determinado Host

```

oiuri in ~ took 3.7s
> host www.google.com
www.google.com has address 172.217.162.100
www.google.com has IPv6 address 2800:3f0:4001:80f::2004
oiuri in ~
> |

```

apt

9.10. Informações sobre Domínios

```
oiuri in ~ took 14.2s
> dig www.google.com

; <>> DiG 9.16.1-Ubuntu <>> www.google.com
;; global options: +cmd
;; Got answer:
;; →HEADER← opcode: QUERY, status: NOERROR, id: 64978
;; flags: qr rd ad; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 0
;; WARNING: recursion requested but not available

;; QUESTION SECTION:
;www.google.com.           IN      A

;; ANSWER SECTION:
www.google.com.          0       IN      A      172.217.162.100

;; Query time: 0 msec
;; SERVER: 172.31.0.1#53(172.31.0.1)
;; WHEN: Mon Oct 10 19:49:21 -03 2022
;; MSG SIZE rcvd: 62

oiuri in ~
> |
```

```
oiuri in ~
> nslookup www.google.com
Server:        172.31.0.1
Address:       172.31.0.1#53

Non-authoritative answer:
Name:   www.google.com
Address: 172.217.162.100
Name:   www.google.com
Address: 2800:3f0:4001:80f::2004

oiuri in ~
> |
```

9.11. Traçando caminhos de um host a outro

```
oiuri in ~ took 8.7s
> traceroute www.google.com
```

9.12. Comando netstat

```
oiuri in ~ took 14.8s
> netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
Active UNIX domain sockets (w/o servers)
Proto RefCnt Flags       Type            State         I-Node  Path
oiuri in ~
> |
```

9.13. Tabela de Roteamento

```
> netstat -rn
Kernel IP routing table
Destination     Gateway         Genmask        Flags   MSS Window irtt Iface
0.0.0.0         172.31.0.1    0.0.0.0        UG        0 0          0 eth0
172.31.0.0     0.0.0.0        255.255.240.0  U          0 0          0 eth0
oiuri in ~
> |
```

9.14. Network Mapper

9.14.1. Instalação

```
oiuri in ~
> sudo apt-get install nmap
[sudo] password for oiuri:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
libblas3 liblinear4 liblua5.3-0 lua-lpeg nmap-common
Suggested packages:
liblinear-tools liblinear-dev ncat ndiff zenmap
The following NEW packages will be installed:
libblas3 liblinear4 liblua5.3-0 lua-lpeg nmap nmap-common
0 upgraded, 6 newly installed, 0 to remove and 11 not upgraded.
Need to get 5669 kB of archives.
After this operation, 26.8 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 libblas3 amd64 3.9.0-1build1 [142 kB]
Get:2 http://archive.ubuntu.com/ubuntu focal/universe amd64 liblinear4 amd64 2.3.0+dfsg-3build1 [41.7 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal/main amd64 liblua5.3-0 amd64 5.3.3-1.1ubuntu2 [116 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal/universe amd64 lua-lpeg amd64 1.0.2-1 [31.4 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal/universe amd64 nmap-common all 7.80+dfsg1-2build1 [3676 kB]
Get:6 http://archive.ubuntu.com/ubuntu focal/universe amd64 nmap amd64 7.80+dfsg1-2build1 [1662 kB]
Fetched 5669 kB in 3s (1828 kB/s)
```

9.14.2. Analisando portas abertas

```
oiuri in ~ took 21.2s
> nmap www.ufu.br
Starting Nmap 7.80 ( https://nmap.org ) at 2022-10-10 20:43 -03
Nmap scan report for www.ufu.br (200.19.145.55)
Host is up (0.074s latency).
rDNS record for 200.19.145.55: bulma.dr.ufu.br
Not shown: 996 filtered ports
PORT      STATE SERVICE
80/tcp    open  http
113/tcp   closed ident
443/tcp   open  https
8008/tcp  open  http

Nmap done: 1 IP address (1 host up) scanned in 11.68 seconds
oiuri in ~ took 11.7s
>
```

9.14.3. Comando nmap com opção de mais informações

```
oiuri in ~ took 11.7s
> nmap -v localhost
Starting Nmap 7.80 ( https://nmap.org ) at 2022-10-10 20:44 -03
Initiating Ping Scan at 20:44
Scanning localhost (127.0.0.1) [2 ports]
Completed Ping Scan at 20:44, 0.00s elapsed (1 total hosts)
Initiating Connect Scan at 20:44
Scanning localhost (127.0.0.1) [1000 ports]
Completed Connect Scan at 20:44, 0.03s elapsed (1000 total ports)
Nmap scan report for localhost (127.0.0.1)
Host is up (0.00018s latency).
All 1000 scanned ports on localhost (127.0.0.1) are closed

Read data files from: /usr/bin/../share/nmap
Nmap done: 1 IP address (1 host up) scanned in 0.10 seconds
oiuri in ~
>
```

9.14.4. Rastreando Múltiplos Hosts

```
oiuri in ~
> nmap www.google.com www.facebook.com
Starting Nmap 7.80 ( https://nmap.org ) at 2022-10-10 20:45 -03
Nmap scan report for www.google.com (172.217.28.4)
Host is up (0.024s latency).
Other addresses for www.google.com (not scanned): 2800:3f0:4001:810::2004
rDNS record for 172.217.28.4: gru14s08-in-f4.1e100.net
Not shown: 998 filtered ports
PORT      STATE SERVICE
80/tcp    open  http
443/tcp   open  https

Nmap scan report for www.facebook.com (31.13.74.35)
Host is up (0.028s latency).
Other addresses for www.facebook.com (not scanned): 2a03:2880:f133:83:face:b00c:0:25de
rDNS record for 31.13.74.35: edge-star-mini-shv-01-gig2.facebook.com
Not shown: 996 filtered ports
PORT      STATE SERVICE
80/tcp    open  http
443/tcp   open  https
843/tcp   closed unknown
5222/tcp  closed xmpp-client

Nmap done: 2 IP addresses (2 hosts up) scanned in 6.59 seconds
oiuri in ~ took 6.6s
> |
```

9.14.5. Comando route

```
oiuri in ~ took 6.6s
> route
Kernel IP routing table
Destination     Gateway         Genmask        Flags Metric Ref  Use Iface
default         DESKTOP-02P9301 0.0.0.0      UG    0      0      0 eth0
172.31.0.0     0.0.0.0        255.255.240.0  U     0      0      0 eth0
oiuri in ~
>
```

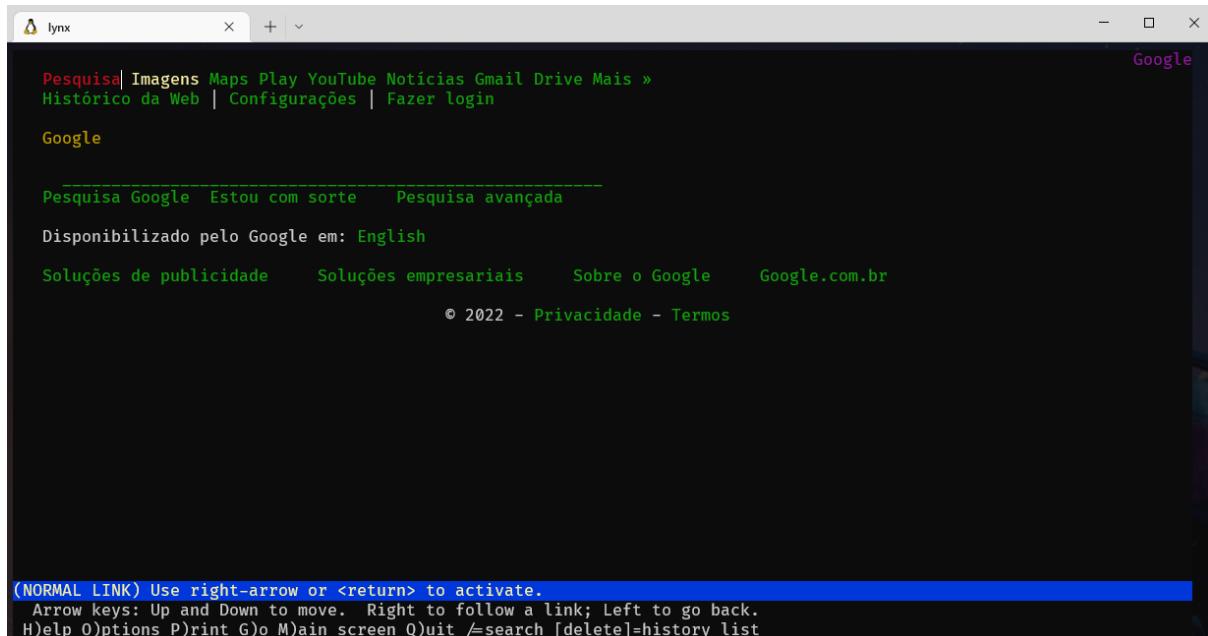
9.15. telnet

```

oiuri in ~
> telnet www.ufu.br 80
Trying 200.19.145.55 ...
Connected to www.ufu.br.
Escape character is '^]'.
GET /HTTP/1.1
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
 "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" lang="en" xml:lang="en">
<head>
<title>Object not found!</title>
<link rev="made" href="mailto:%5bno%20address%20given%5d" />
<style type="text/css"><!-- /*--><![CDATA[/*><!-- */
    body { color: #000000; background-color: #FFFFFF; }
    a:link { color: #0000CC; }
    p, address {margin-left: 3em; }
    span {font-size: smaller; }
/* ]]>--></style>
</head>

```

9.16. lynx



9.17. wget

```
oiuri in ~ took 1m 22.7s
> wget --recursive www.google.com
--2022-10-10 21:11:01-- http://www.google.com/
Resolving www.google.com (www.google.com) ... 172.217.28.4, 2800:3f0:4001:810::2004
Connecting to www.google.com (www.google.com)|172.217.28.4|:80 ... connected.
HTTP request sent, awaiting response ... 200 OK
Length: unspecified [text/html]
Saving to: 'www.google.com/index.html'

www.google.com/index.html      [ ⇄ ] 14.23K ---KB/s in 0.01s

2022-10-10 21:11:01 (1.36 MB/s) - 'www.google.com/index.html' saved [14572]

Loading robots.txt; please ignore errors.
--2022-10-10 21:11:01-- http://www.google.com/robots.txt
Reusing existing connection to www.google.com:80.
HTTP request sent, awaiting response ... 200 OK
Length: 7240 (7.1K) [text/plain]
Saving to: 'www.google.com/robots.txt'

www.google.com/robots.txt    100%[=====] 7.07K ---KB/s in 0.004s
```

10. Capítulo 10: Gerenciamento de Pacotes

10.1. Atualização de Pacotes

```
E: Could not open lock file /var/lib/apt/lists/lock - open (13: Permission denied)
E: Unable to lock directory /var/lib/apt/lists/
W: Problem unlinking the file /var/cache/apt/pkgcache.bin - RemoveCaches (13: Permission denied)
W: Problem unlinking the file /var/cache/apt/srcpkgcache.bin - RemoveCaches (13: Permission denied)
oiuri in ~
> sudo apt update
Hit:1 http://ppa.launchpad.net/git-core/ppa/ubuntu focal InRelease
Hit:2 http://archive.ubuntu.com/ubuntu focal InRelease
Get:3 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:6 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [1777 kB]
Get:7 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [2151 kB]
Get:8 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [295 kB]
Get:9 http://security.ubuntu.com/ubuntu focal-security/main amd64 c-n-f Metadata [11.1 kB]
Get:10 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [1239 kB]
Get:11 http://archive.ubuntu.com/ubuntu focal-updates/main Translation-en [379 kB]
Get:12 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [16.0 kB]
Get:13 http://archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [1328 kB]
Get:14 http://security.ubuntu.com/ubuntu focal-security/restricted Translation-en [176 kB]
Get:15 http://archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [188 kB]
Get:16 http://archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [964 kB]
Get:17 http://archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [220 kB]
Fetched 9079 kB in 6s (1455 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
11 packages can be upgraded. Run 'apt list --upgradable' to see them.
oiuri in ~ took 12.2s
> |
```

10.2. Atualizando a Distribuição

```

oiuri in ~
> sudo apt upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following package was automatically installed and is no longer required:
libfwupdplugin1
Use 'sudo apt autoremove' to remove it.
The following NEW packages will be installed:
distro-info libatasmart4 libblockdev-crypto2 libblockdev-fs2 libblockdev-loop2 libblockdev-part-err2
libblockdev-part2 libblockdev-swap2 libblockdev-utils2 libblockdev2 libfwupdplugin5 libjcat1 liblvm12 libmbim-glib4
libmbim-proxy libmm-glib0 libnspr4 libnss3 libparted-fs-resize0 libqmi-glib5 libqmi-proxy libudisks2-0
libvolume-key1 libxcb-xfixes0 modemmanager motd-news-config python3-pexpect python3-ptyprocess udisks2
usb-modemswitch usb-modemswitch-data
The following packages will be upgraded:
base-files fwupd libfwupd2 libfwupdplugin1 libglapi-mesa libglx-mesa0 mesa-vulkan-drivers sosreport
ubuntu-advantage-tools ubuntu-server
11 upgraded, 31 newly installed, 0 to remove and 0 not upgraded.
Need to get 43.1 MB of archives.
After this operation, 253 MB of additional disk space will be used.
Do you want to continue? [Y/n] |

```

10.3. Instalando Softwares

```

oiuri in ~ took 20.0s
> sudo apt install vim
Reading package lists... Done
Building dependency tree
Reading state information... Done
vim is already the newest version (2:8.1.2269-1ubuntu5.9).
vim set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 11 not upgraded.
oiuri in ~ took 2.1s
> |

```

10.4. Removendo Pacotes

```
oiuri in ~ took 2.1s
> sudo apt remove vim
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  alsamixer alsa-ucm-conf libasound2 libasound2-data libcanberra0 libltdl7 libpython3.8 libtcl8.6
  libvorbisfile3 sound-theme-freedesktop vim-runtime
Use 'sudo apt autoremove' to remove them.
The following packages will be REMOVED:
  ubuntu-server vim
0 upgraded, 0 newly installed, 2 to remove and 10 not upgraded.
After this operation, 3164 kB disk space will be freed.
Do you want to continue? [Y/n] y
(Reading database ... 49021 files and directories currently installed.)
Removing ubuntu-server (1.450) ...
Removing vim (2:8.1.2269-1ubuntu5.9) ...
update-alternatives: using /usr/bin/vim.tiny to provide /usr/bin/vi (vi) in auto mode
update-alternatives: using /usr/bin/vim.tiny to provide /usr/bin/view (view) in auto mode
update-alternatives: using /usr/bin/vim.tiny to provide /usr/bin/ex (ex) in auto mode
update-alternatives: using /usr/bin/vim.tiny to provide /usr/bin/rview (rview) in auto mode
oiuri in ~ took 7.4s
> |
```

11. Capítulo 14: Verificando Configuração de Hardware e Software

11.1. Versão do Kernel

```
oiuri in ~
> uname -a
Linux DESKTOP-02P9301 5.10.16.3-microsoft-standard-WSL2 #1 SMP Fri Apr 2 22:23:49 UTC 2021 x86_64 x86_64 x86_64 GNU/Linux
x
oiuri in ~
> |
```

11.2. Verificando Distribuição

```
oiuri in ~
> head -n1 /etc/issue
Ubuntu 20.04 LTS \n \l
oiuri in ~
> |
```

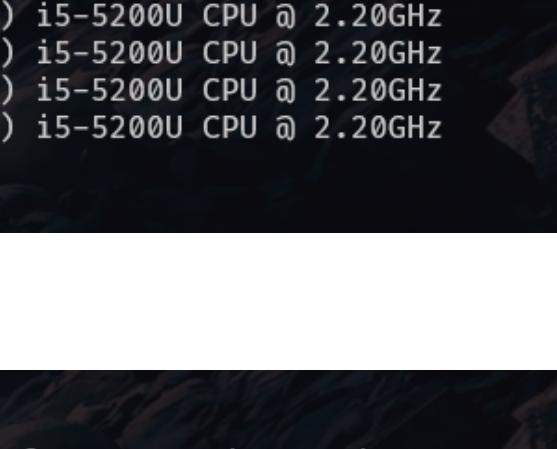
11.3. Visualizando Processadores



```

Ubuntu 20.04 LTS \n \l
oiuri in ~
> 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
Vendor ID:              GenuineIntel
CPU family:             6
Model:                 61
Model name:             Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz
Stepping:               4
CPU MHz:                2194.919
BogoMIPS:               4389.83
Hypervisor vendor:     Microsoft
Virtualization type:   full
L1d cache:              64 KiB
L1i cache:              64 KiB
L2 cache:                512 KiB
L3 cache:                3 MiB
Vulnerability Itlb multihit: KVM: Mitigation: VMX unsupported
Vulnerability L1tf:       Mitigation; PTE Inversion
Vulnerability Mds:       Vulnerable: Clear CPU buffers attempted, no microcode; SMT Host state unknown
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
Vulnerability Srbds:     Unknown: Dependent on hypervisor status
Vulnerability Tsx async abort: Not affected
Flags:                  fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 ss ht syscall nx pdpe1gb rdtscp lm constant_tsc rep_good nopl xtopology cpuid d pni pclmulqdq ssse3 fma cx16 pcid sse4_1 sse4_2 movbe popcnt aes xsave avx f16c rdrand hypervisor lahf_lm abm 3dnowprefetch invpcid_single pti ssbd ibrs ibpb stibp fsgsbase bmi1 avx2 smep bmi2 erms invpcid rdseed adx smap xsaveopt flush_l1d arch_capabilities
oiuri in ~

```

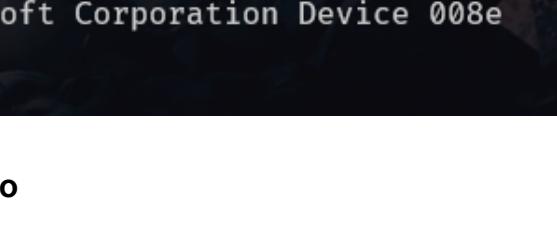


```

oiuri in ~
> grep "model name" /proc/cpuinfo
model name      : Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz
model name      : Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz
model name      : Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz
model name      : Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz
oiuri in ~
> |

```

11.4. Listando dispositivos PCI



```

oiuri in ~
> lspci
00:00.0 3D controller: Microsoft Corporation Device 008e
oiuri in ~
> |

```

11.5. Listando Dispositivos de Bloco

```
oiuri in ~
> lsblk
NAME MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda    8:0    0 256G  0 disk 
sdb    8:16   0 256G  0 disk /
oiuri in ~
> |
```

11.6. Verificando Todas as Partições

```
oiuri in ~
> cat /proc/partitions
major minor #blocks  name

      1        0     65536 ram0
      1        1     65536 ram1
      1        2     65536 ram2
      1        3     65536 ram3
      1        4     65536 ram4
      1        5     65536 ram5
      1        6     65536 ram6
      1        7     65536 ram7
      1        8     65536 ram8
      1        9     65536 ram9
      1       10     65536 ram10
      1       11     65536 ram11
      1       12     65536 ram12
      1       13     65536 ram13
      1       14     65536 ram14
      1       15     65536 ram15
      8        0 268435456 sda
      8       16 268435456 sdb
oiuri in ~
> |
```

11.7. Listando Dispositivos PCMCIA

```
oiuri in ~
> sudo apt-get install pcmciautils
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  alsatopology-conf alsa-ucm-conf libasound2 libasound2-data libcanberra0 libltdl7 libpython3.8 libtcl8.6
  libvorbisfile3 sound-theme-freedesktop vim-runtime
Use 'sudo apt autoremove' to remove them.
Suggested packages:
  wireless-tools
The following NEW packages will be installed:
  pcmciautils
0 upgraded, 1 newly installed, 0 to remove and 10 not upgraded.
Need to get 27.3 kB of archives.
After this operation, 108 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 pcmciautils amd64 018-11 [27.3 kB]
Fetched 27.3 kB in 1s (49.6 kB/s)
Selecting previously unselected package pcmciautils.
(Reading database ... 49009 files and directories currently installed.)
Preparing to unpack .../pcmciautils_018-11_amd64.deb ...
Unpacking pcmciautils (018-11) ...
Setting up pcmciautils (018-11) ...
Processing triggers for man-db (2.9.1-1) ...
oiuri in ~ took 8.7s
> lspcmcia
oiuri in ~
> |
```

11.8. Obtendo informações sobre a memória

```
> lspcmcia
oiuri in ~
> free
              total        used        free      shared  buff/cache   available
Mem:       9721144       74376     9042388          72       604380     9392220
Swap:      3145728           0     3145728
oiuri in ~
> |
```

```
oiuri in ~
> cat /proc/meminfo
MemTotal:       9721144 kB
MemFree:        9041028 kB
MemAvailable:   9391976 kB
Buffers:         54756 kB
Cached:          487784 kB
SwapCached:      0 kB
Active:          232532 kB
Inactive:        317200 kB
Active(anon):    76 kB
Inactive(anon):  7180 kB
Active(file):   232456 kB
Inactive(file): 310020 kB
Unevictable:     0 kB
Mlocked:         0 kB
SwapTotal:       3145728 kB
SwapFree:        3145728 kB
Dirty:            36 kB
Writeback:        0 kB
AnonPages:       6372 kB
Mapped:           5888 kB
Shmem:            72 kB
KReclaimable:   63012 kB
Slab:             83676 kB
SReclaimable:   63012 kB
SUnreclaim:     20664 kB
KernelStack:     1440 kB
PageTables:      272 kB
NFS_Unstable:    0 kB
Bounce:           0 kB
WritebackTmp:    0 kB
CommitLimit:    8006300 kB
Committed_AS:   11004 kB
VmallocTotal:   34359738367 kB
VmallocUsed:    20568 kB
VmallocChunk:    0 kB
Percpu:          1216 kB
AnonHugePages:   0 kB
```

11.9. Listando todos os dispositivos de hardware

```
oiumi in ~ took 9.6s
> sudo hwinfo --short
> pppoe.2: discovery^[[A^[[A^[[B^[[B
cpu:
cpu: Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz, 2194 MHz
cpu: Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz, 2194 MHz
cpu: Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz, 2194 MHz
cpu: Intel(R) Core(TM) i5-5200U CPU @ 2.20GHz, 2194 MHz
graphics card: Microsoft 3D controller
storage:
storage: Floppy disk controller
storage: Virtual Storage 0
network:
eth0 Virtual Ethernet Card 0
network interface:
bond0 Ethernet network interface
tunl0 Network Interface
sit0 Network Interface
lo Loopback network interface
dummy0 Ethernet network interface
eth0 Ethernet network interface
disk:
/dev/ram2 Disk
/dev/ram0 Disk
/dev/sdb Msft Virtual Disk
/dev/ram9 Disk
/dev/ram14 Disk
/dev/ram7 Disk
/dev/ram12 Disk
/dev/ram5 Disk
/dev/ram10 Disk
/dev/ram3 Disk
/dev/ram1 Disk
/dev/ram15 Disk
/dev/sda Msft Virtual Disk
/dev/ram8 Disk
/dev/ram13 Disk
/dev/ram6 Disk
```