

Ubuntu 22.04.2 LTS (Jammy Jellyfish)



- 07/07/2023
- jclcll3 on [Dell Latitude 7340 2-in-1](#)
- [ReleaseNotes](#)
- [Download ISO](#)
- [Ubuntu Desktop Guide](#)
- [How to Install Ubuntu Linux on your Dell Computer](#)

janelas!

- jclcll3, jlopes@fe.up.pt, PIN standard, Não a tudo!
- run "Dell optimizer" (bom para quem usa Janelas)
- run "Dell Command | Update" (verificar atualizações)
 - etiqueta de serviço: DLC7MS3
 - 7 atualizações (nas janelas)
 - Updating firmware (Flash): BIOS, Intel ME FW, EC BIOS GUID, Intel TBT Retimer... BIOS UPDATE SUCCESSFUL!
- Turn off Windows BitLocker encryption
 - Settings > type Manage BitLocker in the search box. Alternatively, open Control Panel > System and Security > BitLocker Drive Encryption.

**Delete!**

1. Create a bootable USB stick

1. Get an Ubuntu ISO file ✓
2. Launch Startup Disk Creator ✓
3. ISO and USB selection ✓
4. Confirm USB device ✓
5. [install Ubuntu desktop tutorial](#)

```
jlopes@jclcll3:~Downloads/> CHKSHA256.sh
b98dac940a82b110e6265ca78d1320f1f7103861e922aa1a54e4202686e9bbd3 ubuntu-22.04.2-
desktop-amd64.iso
Checking file: /home/jlopes/Downloads/ubuntu-22.04.2-desktop-amd64.iso
result hash: b98dac940a82b110e6265ca78d1320f1f7103861e922aa1a54e4202686e9bbd3
checksums OK.
```

2. fresh install

Things to know and check before you start an install

- Unordered List ItemPress the <F2> key on start up to enter the BIOS setup screens.
- Ensure that the BIOS is set to UEFI, and disable the secure boot, and disable the Legacy option ROMS.

Set up the Ubuntu Install

1. Insert the Ubuntu disk into your DVD drive or connect your bootable USB into a port on the computer
2. Tap rapidly on the <F12> key when the Dell logo appears during startup. This takes you to the Boot Once menu
3. You can use the Cursor or Arrow keys to navigate the menu and select your choice. You can choose to either boot from USB or Boot from CD/DVD Drive. Once your choice is selected, press the ENTER key
4. Install Ubuntu button. The install wizard should appear and prompt you through some choices.
 - wifi, vJCL7_5G
 - install third-party software for graphics ...
 - erase disk and install Ubuntu
 - Lisbon
 - jclell3, jlopes/pass_#3
 - restart...
 - skip Ubuntu Pro
 - no location services
 - no installs for "Software"
 - Firefox with the account & Sync preferences



3. Post-install

3.1 Configure sudo

```
#sudo vi /etc/group #add jlopes to sudo group
sudo vi /etc/sudoers.d/jlopes
```

```
# jlopes
#
# To allow members of group sudo to not need a password
# override the normal entry
%sudo ALL=NOPASSWD: ALL
```

3.2 Product name

```
sudo dmidecode | grep "Product Name"
Product Name: Latitude 7340
Product Name: 0C5RG2
```

3.3 Upgrade

```
sudo apt update && sudo apt upgrade
```

3.4 update firmware

- Step 1: Check if your system is supported by LVFS (<https://fwupd.org/lvfs/devicelist>)

- Step 2: Using fwupd for updating firmware

```
jlopes@jclell3:~$ sudo fwupdmgr refresh
```

```
Updating lvfs
```

```
Downloading... [*****]
```

```
Downloading... [*****]
```

```
jlopes@jclell3:~$ sudo service fwupd status
```

```
● fwupd.service - Firmware update daemon
```

```
Loaded: loaded (/lib/systemd/system/fwupd.service; static)
```

```
Active: active (running) since Fri 2023-07-07 23:19:16 WEST; 3min 31s ago
```

```
Docs: https://fwupd.org/
```

```
Main PID: 3523 (fwupd)
```

```
Tasks: 6 (limit: 37926)
```

```
Memory: 59.8M
```

```
CPU: 799ms
```

```
CGroup: /system.slice/fwupd.service
```

```
└─3523 /usr/libexec/fwupd/fwupd
```

```
└─3547 gpg-agent --homedir /var/lib/fwupd/gnupg --use-standard-socket
```

```
--daemon
```

```
jul 07 23:19:14 jclell3 systemd[1]: Starting Firmware update daemon...
```

```
jul 07 23:19:16 jclell3 systemd[1]: Started Firmware update daemon.
```

```
jul 07 23:19:16 jclell3 fwupd[3523]: 22:19:16:0100 FuPluginPciMei ME family  
not supported for 0:16.1.25.2128
```

```
jul 07 23:19:16 jclell3 fwupd[3523]: 22:19:16:0701 FuEngine failed to
```

```
get releases for UEFI dbx: No releases found: Not compatible with  
org.freedesktop.fwupd version 1.7.9, requires >= 1.9.1
```

```
jul 07 23:19:18 jclell3 fwupd[3523]: 22:19:18:0315 FuEngine failed to
```

```
get releases for UEFI dbx: No releases found: Not compatible with  
org.freedesktop.fwupd version 1.7.9, requires >= 1.9.1
```

```
jlopes@jclell3:~$ sudo fwupdmgr update
```

```
Devices with no available firmware updates:
```

- UEFI dbx

```
No updatable devices
```

ppa:somerville-dla-team



```
sudo add-apt-repository ppa:somerville-dla-team/ppa
```

Ubuntu Pro

```
jlopes@jclell3:~> pro --version
```

```
28.1~22.04
```

```
jlopes@jclell3:~> # sudo apt install ubuntu-advantage-tools
```

```
jlopes@jclell3:~> pro security-status
```

```
2594 packages installed:
```

```
1921 packages from Ubuntu Main/Restricted repository
662 packages from Ubuntu Universe/Multiverse repository
2 packages from third parties
9 packages no longer available for download
```

To get **more** information about the packages, run
`pro security-status --help`
for a list of available options.

This machine is receiving security patching for Ubuntu Main/Restricted repository until 2027.
This machine is NOT attached to an Ubuntu Pro subscription.

Ubuntu Pro with 'esm-infra' enabled provides security updates for Main/Restricted packages until 2032.

Ubuntu Pro with 'esm-apps' enabled provides security updates for Universe/Multiverse packages until 2032. There are 35 pending security updates.

Try Ubuntu Pro with a **free** personal subscription on up to 5 machines.
Learn **more** at <https://ubuntu.com/pro>

```
jlopes@jclell3:~> pro security-status --esm-apps
2594 packages installed:
  662 packages from Ubuntu Universe/Multiverse repository
```

Ubuntu Pro with 'esm-apps' enabled provides security updates for Universe/Multiverse packages until 2032. There are 35 pending security updates.

Run '`pro help esm-apps`' to learn **more**

Installed packages with an available esm-apps update:
imagemagick imagemagick-6-common imagemagick-6.q16 jupyter-core libavcodec58
libavfilter7 libavformat58 libavutil56 libjs-jquery-ui libmagick++-6.q16-8
libmagickcore-6.q16-6 libmagickcore-6.q16-6-extra libmagickwand-6.q16-6
libopenexr25 libopusfile0 libpostproc55 libswresample3 libswscale5 libvlc-bin
libvlc5 libvlccore9 python3-jupyter-core vlc vlc-bin vlc-data vlc-l10n
vlc-plugin-access-extra vlc-plugin-base vlc-plugin-notify vlc-plugin-qt
vlc-plugin-samba vlc-plugin-skins2 vlc-plugin-video-output
vlc-plugin-video-splitter vlc-plugin-visualization

```
jlopes@jclell3:~> sudo pro attach C13NdhxB9ZsuxBCkxuSb6nW5TrWXfe # get YOUR_TOKEN
from Ubuntu One account
Enabling default service esm-apps
Updating package lists
Ubuntu Pro: ESM Apps enabled
Enabling default service esm-infra
Updating package lists
Ubuntu Pro: ESM Infra enabled
Enabling default service livepatch
Installing canonical-livepatch snap
Canonical livepatch enabled.
Unable to determine current instance-id
This machine is now attached to 'Ubuntu Pro - free personal subscription'
```

SERVICE	ENTITLED	STATUS	DESCRIPTION
esm-apps	yes	enabled	Expanded Security Maintenance for Applications
esm-infra	yes	enabled	Expanded Security Maintenance for Infrastructure
livepatch	yes	warning	Current kernel is not supported
realtime-kernel* integrated	yes	disabled	Ubuntu kernel with PREEMPT_RT patches
usg	yes	disabled	Security compliance and audit tools
[...]			
Account: jlopes@fe.up.pt			
Subscription: Ubuntu Pro - free personal subscription			

- Open Applications > Software & Updates



3.5 SSH

```
sudo apt install openssh-server openssh-client
sudo vi /etc/ssh/sshd_config # change to "PasswordAuthentication no"
sudo service ssh restart
```

```
# recover public and private SSH keys
JCLELL2=192.168.1.59
rsync -avz jlopes@$JCLELL2/.ssh ~
```

```
# generate RSA key pair
ssh-keygen -t rsa -f /home/jlopes/.ssh/id_rsa_jclell3
```

```
Generating public/private rsa key pair.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/jlopes/.ssh/id_rsa_jclell3
Your public key has been saved in /home/jlopes/.ssh/id_rsa_jclell3.pub
The key fingerprint is:
SHA256:CvuJYlb8uVRDDJove3vHNdNnZRuXQyIMiHlFYi4MggM jlopes@jclell3
The key's randomart image is:
+---[RSA 3072]-----+
|E.  =*+ .o      |
|+ o o+oo.  o . . |
| . oo.  o   . o . |
|    .. .      ++|
| .o . S    . .*|
|    o= o .  + ..o|
| .o.+ . . . o o |
|  +  =oo. o      |
| o .. =o .       |
+-----[SHA256]-----+
```

```
# Generate a new pair "ED25519" 256 (for git.fe.up.pt):
# ssh-keygen -o -a 100 -t ed25519 -f ~/.ssh/id_ed25519 -C "jlopes@fe.up.pt"
```

- install keys

```
ln -s id_rsa_jclell3 id_rsa
```

```
ln -s id_rsa_jclell3.pub id_rsa.pub

# add key to authorized_keys of the remote machines
cat id_rsa_jclell2.pub >> authorized_keys

#chmod 600 authorized_keys
```

3.6 Sync with jclell2

```
# do this in the old machine

#alias for the new machine
JCLELL3=192.168.1.141

LOC=arc-data
rsync -avz $HOME/$LOC jlopes@$JCLELL3:~

sent 11.521.103.371 bytes  received 1.709.412 bytes  56.072.081,67 bytes/sec
total size is 14.349.567.980  speedup is 1,25

LOC=Qsync

sent 23.439.976.888 bytes  received 2.939.914 bytes  59.424.377,19 bytes/sec
total size is 29.705.239.565  speedup is 1,27

LOC=Desktop

sent 3.382.415.792 bytes  received 108.941 bytes  51.641.598,98 bytes/sec
total size is 6.056.926.513  speedup is 1,79

LOC=GitProjects

sent 752.055.886 bytes  received 2.019.064 bytes  23.938.887,30 bytes/sec
total size is 1.681.256.681  speedup is 2,23

LOC=Music

sent 12.041.055.649 bytes  received 48.109 bytes  83.910.130,72 bytes/sec
total size is 12.191.648.384  speedup is 1,01

LOC=NetBeansProjects

sent 246.835 bytes  received 11.300 bytes  172.090,00 bytes/sec
total size is 4.048.911  speedup is 15,69

LOC=Pictures

sent 4.782.942.962 bytes  received 19.187 bytes  84.654.197,33 bytes/sec
total size is 4.786.282.282  speedup is 1,00

LOC=Videos

sent 5.347.113.088 bytes  received 1.577 bytes  85.553.834,64 bytes/sec
total size is 6.151.325.863  speedup is 1,15
```

LOC=tmp

sent 10.712.934.918 bytes received 551.164 bytes 80.856.498,73 bytes/sec
total size is 14.510.303.120 speedup is 1,35

#sync some others

for f in ".emacs .gnupg .java .jupyter .thunderbird .unison .zoom"; do rsync -avz \$HOME/\$f jlopes@JCLELL3:~ ; done

#config bash

for f in ".bash_profile .bashrc .face .profile"; do rsync -avz \$HOME/\$f jlopes@JCLELL3:~ ; done

sent 12.171.960.833 bytes received 47.929 bytes 77.282.595,31 bytes/sec
total size is 20.556.585.086 speedup is 1,69

cups printer.conf & ppd/

rsync -avz /etc/cups jlopes@JCLELL3:~/tmp

3.7 network

Wifi: vJCL7_5G + vJCL7-2_5G

address: 192.168.1.55
netmask: 255.255.255.0
gateway: 192.168.1.1
nameserver: 192.168.1.1, 8.8.4.4
hostname: jclell3

Wifi: eduroam

Security: WAP2 Enterprise
Authentication: PEAP
Anonymous identity: anon@fe.up.pt
CA certificate: FEUP-ROOT-CA.pem -> None
PEAP version: version 1 -> Auto
Inner authentication: MSCHAPv2
User name: jlopes@fe.up.pt
password: *****

wired@home

address: 192.168.1.59
netmask: 255.255.255.0
gateway: 192.168.1.1
nameserver: 192.168.1.1, 8.8.4.4
hostname: jclell3

wired@FEUP

```
Automatic (DHCP)
nameserver: 193.136.28.138,193.136.28.10,193.136.28.9
```

- Send MAC address to helpdesk@fe.up.pt

```
sudo apt install net-tools
ifconfig -a
```

```
...
inet 192.168.1.59 netmask 255.255.255.0 broadcast 192.168.1.255
ether ac:1a:3d:b7:5b:30 txqueuelen 1000 (Ethernet)
...
inet 192.168.1.55 netmask 255.255.255.0 broadcast 192.168.1.255
ether 64:49:7d:99:c7:da txqueuelen 1000 (Ethernet)
...
```

VPN: FEUPNet

```
#VPN L2TP
sudo apt-get update
sudo apt-get install network-manager-l2tp
sudo apt-get install network-manager-l2tp-gnome
sudo service xl2tpd stop
sudo update-rc.d xl2tpd disable
```

Settings:

- Layer 2 Tunneling Protocol" (L2TP)
- feup-vpn.up.pt
- jlopes@fe.up.pt
- IPsec Settings >
 - Enable IPsec tunnel to L2TP host
 - Pre-shared key: VPN_UPDIGITAL
- PPP Settings >
 - PAP
 - MSCHAPv2
 - Permitir compressão de dados BSD (Allow BSD data compression)
 - Permitir compressão de dados Deflate (Allow Deflate data compression)
 - Usar compressão de cabeçalho TCP (Use TCP header compression)
 - Use protocol field compression negotiation
 - Use Address/Control compression

Cofigurações L2TP

VPN: INESCTECNet

- Guide at inesc: [HELP](#)
- OpenVPN configuration file including certificates [available here](#)
- Download the file: ca.pem, cert.pem and key.pem [inesctec_vpn_202012.zip](#)
- Do NOT forward all internet traffic into tunnel

```
#sudo apt install openvpn openssl
sudo apt install network-manager-openvpn network-manager-openvpn-gnome easy-rsa
```


- Download inescotec_202103.ovpn
- O Ubuntu não aceita a sintaxe de openvpn ⇒ Comentar as linhas 25-29 de inescotec_202103.ovpn
- Network Manager > importar o ficheiro ovpn, or else:

```
jlopes@jclell3:~/Downloads> nmcli connection import type openvpn file
inesctec_202103.ovpn
Connection 'inesctec_202103' (84dea75c-adbd-4f15-abef-60db387e1627) successfully
added.
```

[inesctec_202103.ovpn]

```
Connection name: INESCTECNet
Getway: vpn.inesctec.pt:1194
Authentication Type: Password
User name: joao.c.lopes@inesctec.pt
Password: <INESC TEC's directory password>
CA Certificate: ca.pem file
IPv4 Settings > Routes: "Use this connection only for resources on its network"
```

3.8 config printers

```
# get old
cd tmp
rsync -avz "$OLD"/etc/cups .
cd /etc/cups
# config
sudo systemctl stop cups
sudo cp printers.conf printers.conf_safe
sudo cp /home/jlopes/tmp/cups/printers.conf .
sudo diff printers.conf printers.conf_safe
sudo cp /home/jlopes/tmp/cups/ppd/* ppd
sudo service cups restart # sudo systemctl start cups
sudo service cups status # sudo systemctl status cups
```

● cups.service - CUPS Scheduler

Loaded: loaded (/lib/systemd/system/cups.service; enabled; vendor preset: enabled)

Active: active (running) since Wed 2023-07-12 20:10:45 WEST; 14s ago

TriggeredBy: ● cups.socket

○ cups.path

Docs: man:cupsd(8)

Main PID: 50917 (cupsd)

Status: "Scheduler is running..."

Tasks: 1 (limit: 37926)

Memory: 3.1M

CPU: 729ms

CGroup: /system.slice/cups.service

└─50917 /usr/sbin/cupsd -l

```
jul 12 20:10:45 jclell3 systemd[1]: Starting CUPS Scheduler...
```

```
jul 12 20:10:45 jclell3 systemd[1]: Started CUPS Scheduler.
```

```
ls -l
```

```
-rw-r----- 1 root lp 72187 dez 15 2020 cica.ppd
```

```
-rw-r----- 1 root lp 30845 dez 8 2020 DCPJ562DW.ppd
-rw-r----- 1 root lp 22988 set 21 2022 Geral_A4.ppd
-rw----- 1 root root 72190 nov 22 2020 xrx7345.ppd
```

- Home inkjet [DCPJ562DW](#)
- All printers: [printers.conf](#)

3.9 config scanner

```
sudo apt install simple-scan
```

3.10 printers @ FEUP

- new config with PaperCut MF (03.2022)
- gestão da conta: <https://print.up.pt/app>

```
# UNOFFICIAL PaperCut Mobility Print Linux command line client
git clone https://github.com/Rewzilla/pc-mobility-print.git
cd pc-mobility-print
python3 cli.py -i -s print.up.pt -d campus list
```

Printer Name	Printer Description
MP-GERAL-P-A4	print
MP-GERAL-P-A3	print
MP-GERAL-C-A4	print
MP-GERAL-C-A3	print

```
# get connect string with password hash
python3 cli.py -i -s print.up.pt -d campus -u up230756@up.pt get MP-GERAL-C-A4 # -p
SENHA
#
http://print.up.pt:9163/printers/MP-GERAL-C-A4/users/up230756%40up.pt/d6800bf*****
****
python3 cli.py -i -s print.up.pt -d campus -u up230756@up.pt get MP-GERAL-P-A4
#
http://print.up.pt:9163/printers/MP-GERAL-P-A4/users/up230756%40up.pt/51ce1bb*****
****
sudo service cups stop
sudo vi /etc/cups/printers.conf # change URI
sudo service cups start
```

3.11 Configure languages

- language support (install PT support)

```
sudo apt install language-pack-pt-base #meta-package
```

- Settings > Languages & Region # install missing components

3.12 config Numix Theme

- <https://github.com/numixproject/numix-gtk-theme>

```
sudo add-apt-repository ppa:numix/ppa
sudo apt update
sudo apt install numix-icon-theme-circle
```

3.13 config Gnome

```
sudo apt install gnome-system-monitor gnome-weather gnome-screenshot
```

Tweak Tool

```
sudo apt install gnome-tweaks
gnome-tweaks
# windows titlebar max & min to the left, enable minimize to click, enable hot
corners
```

Nautilus

```
gsettings set org.gnome.nautilus.list-view default-visible-columns "['name',
'type', 'size', 'permissions', 'date_modified']"
gsettings set org.gnome.nautilus.list-view default-column-order "['name', 'type',
'size', 'permissions', 'date_modified']"
```

shell extensions

```
sudo apt install gnome-shell-extensions gnome-shell-extension-prefs
# list extensions
sudo apt search gnome-shell-extension | more
# use the new extensions app to manage extensions
gnome-extensions-app
# use the Chrome extension to manage gnome extensions
sudo apt install chrome-gnome-shell
# BETTER
# use the extension manager to manage gnome extensions
sudo apt install gnome-shell-extension-manager
```

In Chrome hit <https://extensions.gnome.org/>:

- AlternateTab by fmuellner
- Applications Menu by fmuellner
- Apt Update Indicator by franglais125
- Auto Move Windows by fmuellner [OFF]
- Caffeine by eon
- Coverflow Alt-Tab by dsheeler [OFF]
- Dash to Panel by charlesg99 [OFF]
- Desktop Icons NG (DING) by rastersoft [built-in]
- Disconnect Wifi by kgshank

- Extension list by grroot
- Launch new instance by fmuellner [OFF]
- Native Window Placement by fmuellner
- OpenWeather by skrewball
- Places Status Indicator [built-in] [OFF]
- Removable Drive Menu by fmuellner [OFF]
- Screenshot Window Sizer by fmuellner [OFF]
- Simple System Monitor by LGiki
- Sound Input & Output Device Chooser by kgshank
- Tray icons reloaded by Martin
- Ubuntu AppIndicators by didrocks [built-in]
- Ubuntu Dock by didrocks [built-in]
- User Themes by fmuellner [built-in] [OFF]
- V-Shell (Vertical Workspaces) by GdH
- Window List by fmuellner [built-in] [OFF]
- windowNavigator by fmuellner [built-in]
- Workspace Indicator by fmuellner [built-in] [OFF]

Nautilus connect to server by sftp

The Gnome file manager (AKA Nautilus) supports a multitude of server protocols, including ssh/sftp. Allowing users to connect over FTP (especially SFTP) through the Gnome file manager is critical since a lot of Linux users rely on this protocol to access, download and upload files to servers and desktops running Linux over SSH.

Click on the “Other Locations” button to take the Nautilus and enter the server address: `sftp:/lopeses.myqnapcloud.com:37132/`.

3.14 Integrated Camera not available

- The integrated webcam is not recognized, though an external one works fine.

```
jlopes@jc1ell3:~> sudo dmesg | grep -i "Camera"
jlopes@jc1ell3:~>
jlopes@jc1ell3:~> sudo apt install v4l-utils
jlopes@jc1ell3:~> sudo v4l2-ctl --list-devices
Cannot open device /dev/video0, exiting.
jlopes@jc1ell3:~> sudo ls -l /dev/video*
ls: cannot access '/dev/video*': No such file or directory
```

- The next step is to enter your BIOS/UEFI and make sure the webcam is enabled. You can enable and disable the webcam in the BIOS and it may have been disabled inadvertently. You can also consult the website to update your BIOS if necessary.
- Install the [IPU6/IPU6EP](#) stack manually:

```
sudo add-apt-repository ppa:oem-solutions-group/intel-ipu6
sudo apt install linux-modules-ipu6-generic-hwe-22.04 linux-modules-ivsc-generic-hwe-22.04
sudo apt install libcamhal-ipu6ep0
sudo reboot
```

```
jlopes@jc1ell3:~> sudo v4l2-ctl --list-devices
ipu6 (PCI:pci:pci0000:00):
/dev/video1
```

```
ipu6 (pci:pci0000:00):
    /dev/media0
```

```
Virtual Camera (platform:v4l2loopback-000):
    /dev/video0
```

```
jlopes@jclell3:~> sudo ls -l /dev/video*
crw-rw----+ 1 root video 81, 0 jul 21 08:36 /dev/video0
crw-rw----+ 1 root video 81, 1 jul 21 08:36 /dev/video1
```

- Add the video group to your user if this isn't done automatically

```
jlopes@jclell3:~> sudo adduser jlopes video # sudo usermod -a -G video $LOGNAME
jlopes@jclell3:~> cat /etc/group | grep video
video:x:44:jlopes
```

- Workaround to make Cheese useable by disable v4l2 in pipewire # video for linux udev detection ([Askubuntu](#))

```
sudo vi /usr/share/pipewire/media-session.d/media-session.conf
# comment that line starting with v4l2
```

```
shutdown now
```

- Your integrated webcam should work on Zoom, Skype and OBS now, though not necessarily on Cheese

```
jlopes@jclell3:~> sudo dmesg |grep ipu6
[ 3.725960] intel-ipu6 intel-ipu: enabling device (0000 -> 0002)
[ 3.726140] intel-ipu6 intel-ipu: Device 0xa75d (rev: 0x1)
[ 3.726164] intel-ipu6 intel-ipu: physical base address 0x6054000000
[ 3.726166] intel-ipu6 intel-ipu: mapped as: 0x00000000d5bc7913
[ 3.726215] intel-ipu6 intel-ipu: IPU in secure mode
[ 3.726218] intel-ipu6 intel-ipu: IPU secure touch = 0x0
[ 3.726219] intel-ipu6 intel-ipu: IPU camera mask = 0x0
[ 3.742352] intel-ipu6 intel-ipu: IPC reset done
[ 3.742357] intel-ipu6 intel-ipu: cpd file name: intel/ipu6ep_fw.bin
[ 3.746073] intel-ipu6 intel-ipu: FW version: 20220510
[ 3.750401] intel-ipu6 intel-ipu: Found supported sensor 0VTI02C1:00
[ 3.750584] intel-ipu6 intel-ipu: Connected 1 cameras
[ 3.751805] intel-ipu6 intel-ipu: Sending BOOT_LOAD to CSE
[ 3.766234] intel-ipu6 intel-ipu: Sending AUTHENTICATE_RUN to CSE
[ 3.840826] intel-ipu6 intel-ipu: CSE authenticate_run done
[ 3.840861] intel-ipu6 intel-ipu: IPU6-v3 driver version 1.0
[ 3.885394] intel-ipu6-psys intel-ipu6-psys0: pkg_dir entry count:8
[ 3.885515] intel-ipu6-psys intel-ipu6-psys0: psys probe minor: 0
[ 14.297576] intel-ipu6-isys intel-ipu6-isys0: bind ov02c10 3-0036 nlanes is 2
port is 1
[ 14.297935] intel-ipu6-isys intel-ipu6-isys0: All sensor registration completed.
```

- is the camera available?

```
jlopes@jclell3:~> sudo dmesg | grep -i "Camera"
[ 3.719154] intel-ipu6 intel-ipu: IPU camera mask = 0x0
[ 3.738304] intel-ipu6 intel-ipu: Connected 1 cameras
jlopes@jclell3:~> ls -ltrh /dev/video*
crw-rw----+ 1 root video 81, 0 jul 26 09:50 /dev/video0
crw-rw----+ 1 root video 81, 1 jul 26 09:50 /dev/video1
jlopes@jclell3:~> v4l2-ctl --list-devices
```

```
ipu6 (PCI:pci:pci0000:00):
    /dev/video1

ipu6 (pci:pci0000:00):
    /dev/media0

Intel MIPI Camera (platform:v4l2loopback-000):
    /dev/video0

jlopes@jc1ell3:~> v4l2-ctl -d /dev/video0 --list-ctrls

User Controls

                keep_format 0x0098f900 (bool)    : default=0 value=0
            sustain_framerate 0x0098f901 (bool)    : default=0 value=0
                timeout 0x0098f902 (int)         : min=0 max=100000 step=1
default=0 value=0
            timeout_image_io 0x0098f903 (bool)    : default=0 value=0
jlopes@jc1ell3:~> cheese

(cheese:94249): cheese-WARNING **: 11:49:47.964: Internal data stream error.:
../libs/gst/base/gstbasesrc.c(3127): gst_base_src_loop ():
/GstCameraBin:camerabin/GstWrapperCameraBinSrc:camera_source/GstBin:bin18/GstPipeWi
reSrc:pipewiresrc1:
streaming stopped, reason not-negotiated (-4)

jlopes@jc1ell3:~> sudo cheese -d "Intel MIPI Camera"
```

- Camera available on VLC and on zoom (in the Browser)
- not anymore, after a restart

```
jlopes@jc1ell3:~> lsmod | grep ipu6
intel_ipu6_isys          159744  0
videobuf2_dma_contig     24576  1 intel_ipu6_isys
videobuf2_v4l2           36864  1 intel_ipu6_isys
videobuf2_common         86016  4
videobuf2_dma_contig,videobuf2_v4l2,intel_ipu6_isys,videobuf2_memops
intel_ipu6_psys          114688  0
intel_ipu6               122880  2 intel_ipu6_isys,intel_ipu6_psys
v4l2_fwnode              40960  2 ov02c10,intel_ipu6_isys
v4l2_async               28672  3 v4l2_fwnode,ov02c10,intel_ipu6_isys
videodev                 323584  6
v4l2_async,videobuf2_v4l2,ov02c10,v4l2loopback,intel_ipu6_isys
mc                        81920  6
v4l2_async,videodev,videobuf2_v4l2,ov02c10,intel_ipu6_isys,videobuf2_common
jlopes@jc1ell3:~>
jlopes@jc1ell3:/etc/modprobe.d> grep "ipu" *.conf
jlopes@jc1ell3:/etc/modprobe.d> sudo modprobe intel_ipu6
jlopes@jc1ell3:/etc/modprobe.d> sudo modprobe -r intel_ipu6
modprobe: FATAL: Module intel_ipu6 is in use.
```

- <https://webcamtests.com/>



- Some more work (nothing new):



3.15 Make ubuntu faster

*

<https://prahladyeri.com/blog/2017/09/how-to-trim-your-new-ubuntu-installation-of-extra-fat-and-make-it-faster.html>

```
sudo systemctl disable cups-browsed.service browsed
sudo systemctl disable avahi-daemon
sudo mv /usr/lib/evolution-data-server /usr/lib/evolution-data-server-disabled
```

4. Build Environment

```
#sudo apt install build-essential
sudo apt install manpages-dev autoconf automake libtool
sudo apt install flex flex-doc bison bison-doc make perl perl-doc gbase
```

5. KeepassXC

```
sudo apt install keepassxc
```

6. Git

```
sudo apt install git
# config
git config --global user.name "Correia Lopes"
git config --global user.email jlopes@fe.up.pt
git config --global core.editor emacs
git config --global merge.tool vimdiff
```

7. Qsync Client

- download from to <https://www.qnap.com/en/utilities>
- install it:

```
sudo dpkg -i ~/Downloads/QNAPQsyncClientUbuntux64-1.0.9.1627.deb
sudo dpkg -i ~/Downloads/QNAPQfinderProUbuntux64-7.8.4.0323.deb
```

- run Applications > QNAPQsyncClient & Qfinder Pro

8. Servers & sys

```
sudo apt install smbclient # to have CICA printers
sudo apt install vinagre # a VNC client
sudo apt install ntp
```

```
sudo apt install hwininfo hardinfo
sudo apt install stacer          # dashboard monitor
sudo apt install htop           # nicer top
```

8.1 Postfix mail transfer agent (MTA)

```
sudo apt install postfix          # local, lopeses.myqnapcloud.com
sudo cp /etc/postfix/main.cf /etc/postfix/main.cf_dist
sudo postfix status               # is it running?
#sudo postconf -e "home_mailbox = Maildir/" # Maildirs instead of Mboxes
#sudo postconf -e "mailbox_command = "      # no Procmail
sudo cp $OLD/main.cf /etc/postfix/main.cf
#sudo postconf compatibility_level=3.6
sudo service postfix restart
jlopes@jclell3:~> sudo diff /etc/postfix/main.cf /etc/postfix/main.cf_dist
7c7
< myorigin = /etc/mailname
---
> #myorigin = /etc/mailname
40,41c40,41
< mydestination = localhost.localdomain, localhost
< relayhost = smtp.fe.up.pt
---
> mydestination = $myhostname, jclell3, localhost.localdomain, localhost
> relayhost =
45,46c45
< inet_interfaces = all
< home_mailbox = Maildir/
---
> inet_interfaces = loopback-only
jlopes@jclell3:~> cat /etc/mailname
lopeses.myqnapcloud.com
```

[\[main.cf\]](#)

8.2 Dovecot for IMAP

- <https://help.ubuntu.com/community/Dovecot>

```
sudo apt install dovecot-imapd # installs dovecot-core & ntpdate
# config
sudo systemctl stop dovecot.socket
sudo service dovecot stop
# dovecot.conf
sudo cp /etc/dovecot/dovecot.conf /etc/dovecot/dovecot.conf_dist
diff /etc/dovecot/dovecot.conf $OLD/dovecot.conf
#sudo cp $OLD/dovecot.conf /etc/dovecot/dovecot.conf
# 10-mail.conf
sudo cp /etc/dovecot/conf.d/10-mail.conf /etc/dovecot/conf.d/10-mail.conf_dist
sudo diff /etc/dovecot/conf.d/10-mail.conf_dist $OLD/10-mail.conf_dist
sudo cp $OLD/10-mail.conf /etc/dovecot/conf.d/10-mail.conf
# 10-ssl.conf_dist
sudo cp /etc/dovecot/conf.d/10-ssl.conf /etc/dovecot/conf.d/10-ssl.conf_dist
```



```
sudo diff /etc/dovecot/conf.d/10-ssl.conf_dist $OLD/10-ssl.conf
sudo cp $OLD/10-ssl.conf /etc/dovecot/conf.d/10-ssl.conf
sudo service dovecot start
sudo service dovecot status
```

● dovecot.service - Dovecot IMAP/POP3 email server

Loaded: loaded (/lib/systemd/system/dovecot.service; enabled; vendor preset: enabled)

Active: active (running) since Sun 2023-07-09 11:10:15 WEST; 4s ago

Docs: man:dovecot(1)

<https://doc.dovecot.org/>

Main PID: 22410 (dovecot)

Status: "v2.3.16 (7e2e900c1a) running"

Tasks: 4 (limit: 37926)

Memory: 2.9M

CPU: 20ms

CGroup: /system.slice/dovecot.service

└─22410 /usr/sbin/dovecot -F

└─22411 dovecot/anvil

└─22412 dovecot/log

└─22413 dovecot/config

jul 09 11:10:15 jclell3 systemd[1]: Starting Dovecot IMAP/POP3 email server...

jul 09 11:10:15 jclell3 dovecot[22410]: master: Dovecot v2.3.16 (7e2e900c1a) starting up for imap (core dumps disabled)

jul 09 11:10:15 jclell3 systemd[1]: Started Dovecot IMAP/POP3 email server.

[\[dovecot.conf\]](#) [\[10-mail.conf\]](#) [\[10-ssl.conf\]](#)

Run servers on demand

```
# sudo service dovecot stop # start when needed
# sudo systemctl disable dovecot
```

```
# start POSTFIX if needed
```

```
jlopes@jclell3:~> sudo service postfix stop
```

```
jlopes@jclell3:~> sudo systemctl disable postfix
```

```
Synchronizing state of postfix.service with SysV service script with
/lib/systemd/systemd-sysv-install.
```

```
Executing: /lib/systemd/systemd-sysv-install disable postfix
```

```
Removed /etc/systemd/system/multi-user.target.wants/postfix.service.
```

```
jlopes@jclell3:~> sudo service postfix status
```

```
sudo systemctl disable postfix
```

```
○ postfix.service - Postfix Mail Transport Agent
```

Loaded: loaded (/lib/systemd/system/postfix.service; disabled; vendor preset: enabled)

Active: inactive (dead)

Docs: man:postfix(1)

9. Thunderbird

```
sudo apt install thunderbird
```

```
sudo apt install thunderbird-locale-en-gb thunderbird-locale-pt-pt
```

[ubuntu1804-minimal](#)

```
sudo service dovecot start # start when needed
sudo service dovecot stop  # stop if NOT needed
```

- jlopes@localhost
 - Server Type: IMAP Mail Server
 - Server name: localhost
 - User name: jlopes
 - Port: 143 ← 993
 - Connection security: None
 - Authentication: normal password
- up230756@imap-mail.up.pt
 - Server Type: IMAP Mail Server
 - Server name: mail.up.pt
 - User name: up230756@up.pt
 - Port: 993
 - Connection security: SSL/TLS
 - Authentication: NTLM
- correia.lopes@gmail.com
 - Server Type: IMAP Mail Server
 - Server name: imap.gmail.com
 - User name: correia.lopes@gmail.com
 - Port: 993
 - Connection security: SSL/TLS
 - Authentication: OAuth2
- up230756@smtp-mail.up.pt
 - Server name: mail.up.pt
 - User name: up230756@up.pt
 - Port: 587
 - Authentication: NTLM
 - Connection method: STARTTLS
- jlopes@smtp.gmail.com
 - Server name: smtp.gmail.com
 - User name: correia.lopes@gmail.com
 - Port: 465
 - Authentication: OAuth2
 - Connection method: SSL/TLS

Novo email UP (31/05/2022):



10. Java

- <http://www.webupd8.org/2014/03/how-to-install-oracle-java-8-in-debian.html>

```
# Install OpenJDK
apt search openjdk | grep openjdk-
sudo apt install openjdk-8-jdk
sudo apt install openjdk-11-jdk
sudo apt install openjdk-18-jdk
# Confirm installation
```

```
java --version
# Switch between installed versions
sudo update-alternatives --config java
sudo update-alternatives --config javac
```

11. Ubuntu Software

Installed from snaps:

- skype
- spotify
- inkscape
- Xournal++
- graphwhiz
- Freeplane

```
snap install xsype
```

12. Google Chrome

```
cd Downloads/
wget https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb
sudo apt install ./google-chrome-stable_current_amd64.deb
```

13. Zoom

```
cd Downloads
wget https://zoom.us/client/latest/zoom_amd64.deb
sudo apt install ./zoom_amd64.deb
# fix dependencies
sudo apt install -f # installs libegl-mesa libgl-mesa-glx libxcb-cursor0 libxcb-xtest0
# run it
zoom
# uninstall
sudo apt remove --purge zoom
```

- The screen sharing options in Wayland are currently limited. To share just a specific application, you need to **launch your Linux session with Xorg instead**. This is a known issue and will be fixed in a future Zoom client release. <https://support.zoom.us/hc/en-us/articles/6634039380877>
- solution: **Login w/ "Ubuntu on Xorg"** at the login
- install zoom-client from Ubuntu software: **NOPE!**

```
sudo snap install core
sudo snap install zoom-client
snap run zoom-client # run it
```

14. play video

- Install the missing codecs and decoders from Ubuntu Desktops; also installs fonts, ...

```
sudo apt install libdvdnav4 gstreamer1.0-plugins-bad gstreamer1.0-plugins-ugly
libdvd-pkg # libdvdread4
sudo apt install ubuntu-restricted-extras
```

15. VLC

```
sudo apt install vlc
```

16. LibreOffice

```
sudo apt install libreoffice
#sudo apt install libreoffice-pdfimport
#sudo apt install libreoffice-l10n-pt libreoffice-help-pt
#sudo apt install libreoffice-l10n-en-gb libreoffice-help-en-gb
```

[ubuntu1804-minimal](#)

17. TeX

```
sudo apt install texlive texlive-base texlive-latex-recommended texlive-extra-utils
# texlive-generic-extra
sudo apt install texlive texlive-latex-extra-doc texlive-pictures-doc
sudo apt install texlive-fonts-recommended texlive-fonts-extra lmodern
sudo apt install texlive-lang-portuguese
sudo apt install latexmk latexdiff
sudo apt install texlive-humanities texlive-science texlive-publishers
sudo apt install dspdfviewer # Dual-Screen PDF Viewer for LaTeX-beamer
#sudo apt install latex-beamer # NOT available
```

18. Office-ish

```
sudo apt install emacs crypt++el elpa-markdown-mode
#sudo apt install emacs haskell-mode python-mode crypt++el auctex php-elisp
#sudo apt install markdown
sudo apt install ispell iportuguese ibritish ifrench ispanish wbritish-large
sudo apt install aspell aspell-pt aspell-uk spell
sudo apt install gedit gedit-common gedit-plugins gedit-latex-plugin
#sudo apt install okular okular-backend-odp okular-extra-backends
sudo apt install imagemagick
#snap sudo apt install inkscape
#sudo apt install dia dia-shapes
sudo apt install gimp gimp-data gimp-data-extras
#snap sudo apt install graphviz
```

```
#sudo apt install xfig xfig-doc xfig-libs transfig fig2ps
sudo apt install a2ps psutils pstoeedit gv gsfonts-x11 # Package 'xpdf' has no
installation candidate
#sudo apt install pdfjam # NOT available
sudo apt install recode recode-doc
sudo apt install unace rar unrar p7zip-rar p7zip zip unzip sharutils uudeview mpack
arj cabextract file-roller lzip lzip
sudo apt install planner # project management
sudo apt install freeplane # mindmaps
```

```
sudo apt install ttf-mscorefonts-installer # Microsoft fonts
sudo fc-cache -vr # build fresh font information cache files
```

19. Aspell PT

```
cd ~/tmp
#get latest
wget
http://natura.di.uminho.pt/download/sources/Dictionaries/aspell6/LATEST/aspell6.pt-
latest.tar.bz2
#uncompress it
bzip2 -d aspell6.pt-latest.tar.bz2
tar xvf aspell6.pt-latest.tar
#make & install
cd aspell6-pt_PT-*
./configure
```

```
Finding Dictionary file location ... /usr/lib/aspell
Finding Data file location ... /usr/lib/aspell
```

```
make
```

```
/usr/bin/prezip-bin -d < pt_PT.cwl | /usr/bin/aspell --lang=pt_PT create master
./pt_PT.rws
```

```
sudo make install
sudo mkdir -p /usr/lib/aspell/
sudo cp pt_PT.rws pt_PT.multi /usr/lib/aspell/
sudo chmod 644 /usr/lib/aspell/pt_PT.rws /usr/lib/aspell/pt_PT.multi
sudo cp pt_PT.dat pt_PT_repl.dat pt_PT_affix.dat /usr/lib/aspell/
sudo chmod 644 /usr/lib/aspell/pt_PT.dat /usr/lib/aspell/pt_PT_repl.dat
/usr/lib/aspell/pt_PT_affix.dat
```

20. Pandoc

- <https://github.com/jgm/pandoc/releases>

```
# pandoc universal document converter
sudo apt install pandoc texlive-xetex texlive-luatex pandoc-citeproc context
wkhtmltopdf
# latest version
cd ~/Downloads
```

```
wget https://github.com/jgm/pandoc/releases/download/2.10/pandoc-2.10-1-amd64.deb
sudo dpkg -i ~/Downloads/pandoc-2.10-1-amd64.deb
```

21. Python3

```
# Python needed libs
sudo apt install python3-numpy python3-scipy python3-matplotlib python3-sympy
sudo apt install python3-yaml python3-lxml
sudo apt install mypy          # type-checking
# Jupyter NB
sudo apt install jupyter-notebook python-notebook-doc
# Spyder IDE
#sudo apt install spyder3 # needs Python 3
#sudo apt install python3-spyder-unittest
#sudo apt install python3
# FPRO projects
sudo apt install python3-pygame python-pygame-doc
# pip
sudo apt install python3-pip
# NB as slides using reveal.js
pip3 install RISE # to display slides as
```

VS code

- [Docs > Getting Started](#)
- [Download .deb for ubuntu](#)
- [Python extension for Visual Studio Code](#)

```
sudo dpkg -i ~/Downloads/code_1.80.0-1688479026_amd64.deb
```

- Python installation
 - Launch VS Code Quick Open (Ctrl+P), paste `ext install ms-python.python` and press enter.

22. Mendeley

```
mv ~/Downloads/mendeley-reference-manager*.AppImage ~/box/bib/
chmod a+x ~/box/bib/mendeley-reference-manager-2.93.0-x86_64.AppImage
sudo apt install libfuse2 # needed in Ubuntu 22.04

# execute Mendeley
~/box/bib/mendeley-reference-manager-2.93.0-x86_64.AppImage
```

- "Mendeley Desktop" replaced by "Mendeley Reference Manager for Desktop"
- download an AppImage form: <https://www.mendeley.com/download-reference-manager/linux>
- Does NOT use local "Mendeley Desktop" files!

23. autenticacao.gov

```
wget https://aplicacoes.autenticacao.gov.pt/apps/pteid-mw_ubuntu22_amd64.deb
```

```
sudo apt install ~/Downloads/pteid-mw_ubuntu22_amd64.deb
# run it from Applications >
```

- manual: amagovpt.github.io/autenticacao.gov

24. Install Miniconda



```
# get Miniconda3-latest-Linux-x86_64.sh
cd ~/Downloads
wget https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh

# Install Miniconda3
bash Miniconda3-latest-Linux-x86_64.sh -u # as user
#[/home/jlopes/miniconda3] >>>

# test conda
conda list

# see modifications
tail -18 ~/.bashrc

# for changes to take effect
source ~/.bashrc

# conda's base environment not be activated on startup,
conda config --set auto_activate_base false

# Install Spyder3
conda install spyder

# Install Jupyter
conda install jupyter

# install RISE (for slides)
conda install -c conda-forge rise

# install some other useful packages
conda install numpy matplotlib

# use
conda activate
spyder
jupyter-notebook nb.ipynb
conda deactivate
```

25. Docker



```
# https://docs.docker.com/install/

sudo apt update
sudo apt install apt-transport-https ca-certificates curl software-properties-
common
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -
sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu
$(lsb_release -cs) stable"
sudo apt update
sudo apt install docker-ce
docker run hello-world # make sure that the installation worked
# docker: Got permission denied while...
sudo usermod -a -G docker $USER # jlopes
docker container list -a

# https://docs.docker.com/compose/install/#install-compose

sudo curl -L https://github.com/docker/compose/releases/download/1.18.0/docker-
compose -o /usr/local/bin/docker-compose
sudo chmod +x /usr/local/bin/docker-compose
docker-compose --version # verify that you have Docker Compose installed.
```

26. PgAdmin4



Delete!

```
sudo apt-get install curl ca-certificates
curl https://www.postgresql.org/media/keys/ACCC4CF8.asc | sudo apt-key add -
sudo sh -c 'echo "deb http://apt.postgresql.org/pub/repos/apt/ $(lsb_release -cs)-
pgdg main" > /etc/apt/sources.list.d/pgdg.list'
sudo apt update
sudo apt install pgadmin4
# start the server
pgadmin4
```

Available at: <http://127.0.0.1:44525/>

— [Correia Lopes](#), 07/07/2023 23:30

From:

<https://web.fe.up.pt/~jlopes/> - JCL

Permanent link:

<https://web.fe.up.pt/~jlopes/doku.php/doc/linux/ubuntu2204-jcl3?rev=1697146550>

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