

# Debian Post-install

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julio-2016

## Resumen

Instalación de Debian

Algunas notas referentes a la instalación de Debian Jessie

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## **1 Introducción**

Mi portátil es un ordenador Acer 5755G con las siguientes características:

- Core i5 2430M 2.4GHz
- NVIDIA Geforce GT 540M
- 8Gb RAM
- 750Gb HD

La gráfica es una Nvidia Optimus, es decir una tarjeta híbrida que funciona perfectamente en Ubuntu 14.04 usando Bumblebee.

Para hacer la actualización del sistema opté por desinstalar el dvd y montar en su lugar un disco SSD en un Caddie para Acer. La instalación fué muy fácil, y aunque el portátil arranca perfectamente de cualquiera de los dos discos opté por instalar el SSD en la bahía del HD original y pasar el HD al caddie.

Comentar los problemas con calentamiento en Ubuntu

Comentar la creación de usb bootable

Lo primero fue la instalación del Bumblebee

firmware-linux-nonfree Bumblebee-nvidia primus

## **2 Cambiar las opciones de idioma**

Ejecutamos:

```
sudo dpkg-reconfigure locales
```

Y después solo tenemos que cambiar la selección del idioma en la configuración de Gnome.

Nos pedirá rearrancar Gnome y renombrará todos los directorios de sistema.

## 3 Gestión de paquetes

Instalamos *aptitude*, *synaptic* y *gdebi*

```
sudo apt-get install aptitude
sudo apt-get install synaptic
sudo apt-get install gdebi
```

Cambiamos las opciones de *aptitude* para que **no instale** los paquetes recomendados.

### 3.1 Quitamos el cdrom de los sources.list

Editamos el fichero */etc/apt/sources.list* y comentamos las líneas del cdrom.

### 3.2 Habilitamos los backports y multimedia

#### 3.2.1 Backports:

```
sudo cat > /etc/apt/sources.list.d/backports.list << EOF
# backports
deb http://ftp.debian.org/debian/ jessie-backports main contrib non-free
EOF
```

#### 3.2.2 Multimedia:

```
sudo cat >> /etc/apt/sources.list.d/multimedia.list << EOF
# multimedia
deb http://www.deb-multimedia.org/ jessie main non-free
EOF
```

```
sudo apt-get -y --allow-unauthenticated install --reinstall deb-multimedia-keyring
```

Y actualizamos

```
sudo aptitude update
```

## 4 Instalación de varios paquetes sueltos

### 4.1 Programas de utilidad y uso frecuente

#### 4.1.1 Menulibre

Un editor de menús para Gnome, nos permite generar los archivos desktop para cualquier aplicación. Mucho más completo que *alacarte* la otra alternativa.

```
sudo apt-get install menulibre
```

#### 4.1.2 Terminator

Terminator es un emulador de terminal muy completo y muy flexible. Los instalamos desde *aptitude*

```
sudo aptitude install terminator python-keybinder
```

#### 4.1.3 Keepass2

Instalado *keepass2* desde Debian

```
sudo aptitude install keepass2
```

#### 4.1.4 gksu

Un *sudo* en modo gráfico:

```
sudo aptitude install gksu
```

**Muy importante** ejecutar *gksu-properties* y escoger el modo *sudo* en lugar de *su*. Nos evitaremos problemas con la instalación de muchas aplicaciones.

#### 4.1.5 Diskmanager

Para gestionar discos portátiles

```
sudo apt-get install ntfs-3g disk-manager
```

#### 4.1.6 Gnucash

Finanzas en linux

```
sudo apt-get -t jessie-backports install gnucash
```

#### 4.1.7 Herramientas *sync*

No sin mis *backups*

```
sudo apt-get install rsync grsync
```

#### 4.1.8 Dropbox

Bajado el paquete Debian desde la página [web de Dropbox](#), instalado el paquete con *packageinstall*, es decir, simplemente pinchando desde el gestor de ficheros.

#### 4.1.9 Compresores et al

```
sudo apt-get install rar unrar zip unzip unace bzip2 lzop p7zip p7zip-full p7zip-rar
```

### 4.2 Internet

#### 4.2.1 Chrome

Instalado chrome añadiendo fuentes a aptitude. No recuerdo como las añadí, en el fichero */etc/apt/sources.list.d/google-chrome.list*, tengo los siguientes contenidos:

```
###  
###  
###  
###  
### THIS FILE IS AUTOMATICALLY CONFIGURED ###  
# You may comment out this entry, but any other modifications may be lost.  
deb [arch=amd64] http://dl.google.com/linux/chrome/deb/ stable main
```

Ejecutamos:

```
sudo aptitude install google-chrome-stable  
sudo aptitude install chromium
```

### 4.2.2 Tor

Bajado el comprimido desde la web y descomprimido en `~/apps` copiado el fichero desktop a `~/.local/share/applications`

### 4.2.3 Deluge

Instalamos desde aptitude

```
sudo aptitude install deluge
xdg-mime default deluge.desktop x-scheme-handler/magnet
```

### 4.2.4 TiddlyDesktop

*Tiddly* es una wiki auto-contenida y muy flexible, tiene un sinfin de versiones adaptadas para diferentes usos. Hace años que la uso como cuaderno de bitácora personal, pero no había seguido su evolución.

Me he descargado:

- [Tiddlywiki](#) y le he instalado los plugins de *FontAwesome* y *WikiMap*, este será mi nuevo cuaderno de bitácora.
- [GSD5](#) un *TiddlyWiki* adaptado a *GTD*

A mayores me he instalado la aplicación [TiddlyDesktop](#), basada en *node webkit* que simplifica el tema de backups (en teoría).

Como siempre la instalamos en `~/apps` y creamos un lanzador con *MenuLibre*.

## 4.3 Gráficos

### 4.3.1 Inkscape

```
apt-cache policy inkscape
apt-get -t jessie-backports install inkscape
aptitude install ink-generator
```



### 4.3.2 LibreCAD y FreeCAD

Instalado desde repos con aptitude

```
apt-get install librecad
```

```
apt-get -t jessie-backports install freecad
```

### 4.3.3 Gimp

Gimp ya estaba instalado, adicionalmente instalado el gimp data-extra

```
sudo aptitude install gimp-plugin-registry gimp-texturize gimp-data-extras gimp-gap
```

## 4.4 Fotografía

### 4.4.1 Rawtherapee y Darktable: Tratamiento de imágenes fotográficas

```
sudo aptitude install icc-profiles icc-profiles-free
```

```
sudo aptitude install rawtherapee darktable
```

### 4.4.2 Stopmotion

```
sudo aptitude install stopmotion vgrabdj dvgrab
```

TODO: Probar qStopmotion

## 4.5 Audio y video

### 4.5.1 Codecs

Instalamos los codecs

```
sudo apt-get install libav-tools
```

```
sudo apt-get install faad gstreamer0.10-ffmpeg gstreamer0.10-x \
gstreamer0.10-fluendo-mp3 gstreamer0.10-plugins-base \
gstreamer0.10-plugins-good gstreamer0.10-plugins-bad \
gstreamer0.10-plugins-ugly ffmpeg lame twolame vorbis-tools \
```

```
libquicktime2 libfaac0 libmp3lame0 libxine2-all-plugins libdvdrread4 \
libdvdnv4 libmad0 sox libxvidcore4 libstdc++5
```

```
sudo apt-get install w64codecs
```

#### 4.5.2 Reproductores de música

Instalamos *Clementine*, *decibel*, *audacity*, *soundconverter*:

```
sudo aptitude install clementine gstreamer0.10-plugins-bad
sudo aptitude install decibel-audio-player audacity soundconverter
```

#### 4.5.3 Gpodder

Instalamos *gpodder* para gestionar nuestros podcast, aunque *Clementine* también nos vale.

```
sudo aptitude install gpodder
```

#### 4.5.4 Spotify

Cliente de *Spotify*

```
sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv-keys BBEBCB318AD50EC6865090613B00F1
echo deb http://repository.spotify.com stable non-free | sudo tee /etc/apt/sources.list.d/spotify.list
sudo aptitude update
sudo aptitude install spotify-client
```

#### 4.5.5 Video

Instalamos también utilidades de video:

```
sudo aptitude install vlc browser-plugin-vlc
sudo aptitude install recordmydesktop gtk-recordmydesktop
sudo aptitude install handbrake handbrake-cli handbrake-gtk
```

## 5 Documentos

### 5.1 Calibre

Ejecutamos lo que manda la página web:

```
sudo -v && wget -nv -O- https://raw.githubusercontent.com/kovidgoyal/calibre/master/setup/linux-install
| sudo python -c "import sys; main=lambda:sys.stderr.write('Download failed\n'); exec(sys.stdin.read())"
```

Para usar el calibre con el Kobo Glo:

- Desactivamos todos los plugin de Kobo menos el *Kobo Touch Extended*
- Creamos una columna *MyShelves* con identificador *#myshelves*
- En las opciones del plugin:
  - En la opción *Collection columns* añadimos las columnas *series,#myshelves*
  - Marcamos las opciones *Create collections* y *Delete empty collections*
  - *Update metadata on device* y *Set series information*

Algunos enlaces útiles:

- <https://github.com/jgoguen/calibre-kobo-driver>
- <http://www.lectoreselectronicos.com/foro/showthread.php?15116-Manual-de-instalaci%C3%B3n-y-uso-del-plugin-Kobo-Touch-Extended-para-Calibre>
- <http://www.redelijkheid.com/blog/2013/7/25/kobo-glo-ebook-library-management-with-calibre>
- <https://www.netogram.com/kobo.htm>

### 5.2 Pandoc

Instalado el Pandoc descargando paquete *deb* desde la página web del Pandoc.

Descargamos las plantillas desde [el repo](#) ejecutando los siguientes comandos:

```
cd ~/.pandoc
git clone https://github.com/jgm/pandoc-templates templates
```

### 5.3 Zotero

Zotero es un programa que te permite guardar una o varias bibliografías con referencias a libros, páginas web o documentos electrónicos.

Instalado el Zotero Standalone desde la [página web del programa](#)

## 5.4 Vanilla LaTeX

El LaTeX de Debian está un poquillo anticuado, si se quiere usar una versión reciente hay que aplicar [este truco](#).

```
cd ~
mkdir tmp
cd tmp
wget http://mirror.ctan.org/systems/texlive/tlnet/install-tl-unx.tar.gz
tar xzf install-tl-unx.tar.gz
cd install-tl-xxxxxx
```

La parte xxxxxx varía en función del estado de la última versión de LaTeX disponible.

```
sudo ./install-tl
```

Una vez lanzada la instalación podemos desmarcar las opciones que instalan la documentación y las fuentes. Eso nos obligará a consultar la documentación *on line* pero ahorrará practicamente el 50% del espacio necesario. En mi caso sin *doc* ni *src* ocupa 2,3Gb

```
mkdir -p /opt
sudo ln -s /usr/local/texlive/2016/bin/* /opt/texbin
```

Por último para acabar la instalación añadimos **/opt/texbin** al *path*.

### 5.4.1 Falsificando paquetes

Ya tenemos el **texlive** instalado, ahora necesitamos que el gestor de paquetes sepa que ya lo tenemos instalado.

```
sudo apt-get install equivs --no-install-recommends
mkdir -p /tmp/tl-equivs && cd /tmp/tl-equivs
equivs-control texlive-local
```

Para hacerlo más fácil podemos descargarnos un fichero ya preparado, ejecutando:

```
wget http://www.tug.org/texlive/files/debian-equivs-2015-ex.txt
/bin/cp -f debian-equivs-2015-ex.txt texlive-local
```

Editamos la versión y

```
equivs-build texlive-local
sudo dpkg -i texlive-local_2015-1_all.deb
```

Todo listo, ahora podemos instalar cualquier paquete que dependa de texlive

### 5.4.2 Fuentes

Para dejar disponibles las fuentes opentype y truetype que vienen con texlive para el resto de aplicaciones:

```
sudo cp $(kpsewhich -var-value TEXMFSYSVAR)/fonts/conf/texlive-fontconfig.conf /etc/fonts/conf.d/09-texlive
gksudo gedit /etc/fonts/conf.d/09-texlive.conf
```

Borramos la linea:

```
<dir>/usr/local/texlive/2016/texmf-dist/fonts/type1</dir>
```

Y ejecutamos:

```
sudo fc-cache -fsv
```

### 5.4.3 Actualizaciones

Para actualizar nuestro latex a la última versión de todos los paquetes:

```
sudo /opt/texbin/tlmgr update --self
sudo /opt/texbin/tlmgr update --all
```

También podemos lanzar el instalador gráfico con:

```
sudo /opt/texbin/tlmgr --gui
```

Para usar el instalador gráfico hay que instalar previamente:

```
sudo apt-get install perl-tk --no-install-recommends
```

### 5.4.4 Lanzador para el actualizador de texlive

```
mkdir -p ~/.local/share/applications
/bin/rm ~/.local/share/applications/tlmgr.desktop
cat > ~/.local/share/applications/tlmgr.desktop << EOF
[Desktop Entry]
Version=1.0
Name=TeX Live Manager
Comment=Manage TeX Live packages
GenericName=Package Manager
Exec=gksu -d -S -D "TeX Live Manager" '/opt/texbin/tlmgr -gui'
Terminal=false
Type=Application
```

```
Icon=system-software-update
EOF
```

Ojo que hay que dejar instalado el gksu (aunque debería estar de antes si sigues este doc)

```
sudo aptitude install gksu
```

## 5.5 Emacs

Instalado emacs desde los repos:

```
sudo aptitude install emacs
```

Instalamos los paquetes *markdown-mode*, *markdown-plus* y *pandoc-mode* desde el menú de gestión de paquetes de **emacs**.

También instalamos *d-mde* y *flymake-d*. Hay una sección de configuración en el fichero *.emacs*.

Configuramos el fichero *.emacs* definimos algunas preferencias, algunas funciones útiles y añadimos orígenes extra de paquetes.

```
(custom-set-variables
;; custom-set-variables was added by Custom.
;; If you edit it by hand, you could mess it up, so be careful.
;; Your init file should contain only one such instance.
;; If there is more than one, they won't work right.
'(column-number-mode t)
'(show-paren-mode t))
(custom-set-faces
;; custom-set-faces was added by Custom.
;; If you edit it by hand, you could mess it up, so be careful.
;; Your init file should contain only one such instance.
;; If there is more than one, they won't work right.
'(default ((t (:family "Mensch" :foundry "bitstream" :slant normal :weight normal :height 128 :width
;;-----
;; Some settings
(setq inhibit-startup-message t) ; Eliminate FSF startup msg
(setq frame-title-format "%b")   ; Put filename in titlebar
(setq visible-bell t)             ; Flash instead of beep
(set-scroll-bar-mode 'right)     ; Scrollbar placement
(show-paren-mode t)              ; Blinking cursor shows matching parentheses
(setq column-number-mode t) ; Show column number of current cursor location
(mouse-wheel-mode t)             ; wheel-mouse support
```

```

(setq fill-column 78)
(setq auto-fill-mode t)           ; Set line width to 78 columns...

(setq-default indent-tabs-mode nil) ; Insert spaces instead of tabs
(global-set-key "\r" 'newline-and-indent) ; turn autoindenting on
;(set-default 'truncate-lines t)      ; Truncate lines for all buffers
(require 'iso-transl)

;;-----
;; Some useful key definitions
(define-key global-map [M-S-down-mouse-3] 'imenu)
(global-set-key [C-tab] 'hippie-expand)           ; expand
(global-set-key [C-kp-subtract] 'undo)           ; [Undo]
(global-set-key [C-kp-multiply] 'goto-line)       ; goto line
(global-set-key [C-kp-add] 'toggle-truncate-lines) ; goto line
(global-set-key [C-kp-divide] 'delete-trailing-whitespace) ; delete trailing whitespace
(global-set-key [C-kp-decimal] 'completion-at-point) ; complete at point
(global-set-key [C-M-prior] 'next-buffer)         ; next-buffer
(global-set-key [C-M-next] 'previous-buffer)      ; previous-buffer

;;-----
;; Set encoding
(prefer-coding-system 'utf-8)
(setq coding-system-for-read 'utf-8)
(setq coding-system-for-write 'utf-8)

;;-----
;; Maximum colors
(cond ((fboundp 'global-font-lock-mode) ; Turn on font-lock (syntax highlighting)
      (global-font-lock-mode t)         ; in all modes that support it
      (setq font-lock-maximum-decoration t))) ; Maximum colors

;;-----
;; Use % to match various kinds of brackets...
;; See: http://www.lifl.fr/~hodique/uploads/Perso/patches.el

(global-set-key "%" 'match-paren)           ; % key match parents
(defun match-paren (arg)
  "Go to the matching paren if on a paren; otherwise insert %."

```

```

(interactive "p")
(let ((prev-char (char-to-string (preceding-char)))
      (next-char (char-to-string (following-char))))
  (cond ((string-match "[{(<]" next-char) (forward-sexp 1))
        ((string-match "[\]}>]" prev-char) (backward-sexp 1))
        (t (self-insert-command (or arg 1)))))

;;-----
;; The wonderful bubble-buffer
(defvar LIMIT 1)
(defvar time 0)
(defvar mylist nil)

(defun time-now ()
  (car (cdr (current-time))))

(defun bubble-buffer ()
  (interactive)
  (if (or (> (- (time-now) time) LIMIT) (null mylist))
      (progn (setq mylist (copy-alist (buffer-list)))
              (delq (get-buffer " *Minibuf-0*") mylist)
              (delq (get-buffer " *Minibuf-1*") mylist)))
      (bury-buffer (car mylist))
      (setq mylist (cdr mylist))
      (setq newtop (car mylist))
      (switch-to-buffer (car mylist))
      (setq rest (cdr (copy-alist mylist)))
      (while rest
        (bury-buffer (car rest))
        (setq rest (cdr rest)))
      (setq time (time-now)))

(global-set-key [f8] 'bubble-buffer) ; win-tab switch the buffer

(defun geosoft-kill-buffer ()
  ;; Kill default buffer without the extra emacs questions
  (interactive)
  (kill-buffer (buffer-name))
  (set-name))
(global-set-key [C-delete] 'geosoft-kill-buffer)

```



```
;;-----
;; MELPA and others
(when (>= emacs-major-version 24)
  (require 'package)
  (package-initialize)
  (add-to-list 'package-archives '("melpa" . "http://melpa.org/packages/") t)
  (add-to-list 'package-archives '("gnu" . "http://elpa.gnu.org/packages/") t)
  (add-to-list 'package-archives '("marmalade" . "https://marmalade-repo.org/packages/") t)
)

;;-----
;; flymake installed from package

(require 'flymake)
(global-set-key (kbd "C-c d") 'flymake-display-err-menu-for-current-line)
(global-set-key (kbd "C-c n") 'flymake-goto-next-error)
(global-set-key (kbd "C-c p") 'flymake-goto-prev-error)

;; Activate flymake for D
(add-hook 'd-mode-hook 'flymake-d-load)
```

## 5.6 Scribus

Instalado con aptitude

```
sudo aptitude install scribus
```

## 5.7 Comix

Instalado con aptitude

```
sudo aptitude install comix
```

## 6 Desarrollo sw

### 6.1 Git

Instalado git desde aptitude

```
sudo aptitude install git
```

Configuración básica de **git**

```
git config --global user.name "Sergio Alvariño"
git config --global user.email "salvari@gmail.com"
git config --global core.editor emacs
git config --global color.ui true
git config --global credential.helper cache
git config --global credential.helper 'cache --timeout=7200'
git config --global push.default simple
git config --global alias.sla 'log --oneline --decorate --graph --all'
git config --global alias.car 'commit --amend --no-edit'
git config --global alias.unstage reset
git config --global alias.st status
git config --global alias.last 'log -1 HEAD'
git config --global alias.ca 'commit -a'
```

### 6.2 Paquetes esenciales

```
sudo apt-get install build-essential checkinstall make automake cmake autoconf git git-core dpkg wget
```

### 6.3 Open Java

```
apt-get install openjdk-7-jre icedtea-7-plugin
```

### 6.4 D-apt e instalación de programas

Configurado d-apt, instalados todos los programas incluidos

```
sudo wget http://master.dl.sourceforge.net/project/d-apt/files/d-apt.list -O /etc/apt/sources.list.d/d
sudo apt-get update && sudo apt-get -y --allow-unauthenticated install --reinstall d-apt-keyring && su
```

Instalamos todos los programas asociados.

## 6.5 DCD

Configuración de DCD

## 6.6 gdc

Instalado con

```
sudo aptitude install gdc
```

## 6.7 ldc

Instalado con:

```
sudo aptitude install ldc
```

Para poder ejecutar aplicaciones basadas en [Vibed](#), necesitamos instalar:

```
sudo apt-get install -y libssl-dev libevent-dev
```

## 6.8 Emacs para editar D

Instalados los siguientes paquetes desde *marmalade*

- *d-mode*
- *flymake-d*

Se configura en el fichero `~/.emacs`:

```
(require 'flymake)
(global-set-key (kbd "C-c d") 'flymake-display-err-menu-for-current-line)
(global-set-key (kbd "C-c n") 'flymake-goto-next-error)
(global-set-key (kbd "C-c p") 'flymake-goto-prev-error)

;; Activate flymake for D
(add-hook 'd-mode-hook 'flymake-d-load)
```

## 6.9 Processing

Bajamos los paquetes de las respectivas páginas web, descomprimimos en `~/apps/` y creamos los desktop file con **Menulibre**

### 6.10 Openframeworks

Bajamos el paquete comprimido de la página web del proyecto.

Descomprimos en `~/apps`

Bajamos al directorio de la aplicación y ejecutamos:

```
sudo scripts/linux/debian/install_dependencies.sh
sudo scripts/linux/debian/install_codecs.sh
```

```
cd scripts/linux
./compileOF.sh -j2
```

```
cd OF/examples/graphics/polygonExample
make
make Run
```

```
cd OF/scripts/linux
./compilePG.sh
```

Va a instalar un montón de dependencias, hay que tomarlo con calma.

Al final también va a añadir una línea al fichero `~/.profile`

```
export PG_OF_PATH=/home/salvari/apps/of/of_v0.9.3_linux64_release
```

### 6.11 Python

De partida tenemos instalado dos versiones: *python* y *python3*

```
python -V
Python 2.7.9
```

```
python3 -V
Python 3.4.2
```

Instalado python-pip y python-virtualenv desde aptitude.

```
sudo aptitude install python-pip python-virtualenv virtualenv
```

Instalamos a mayores *Ananconda*, es la forma fácil de poder usar *ipython notebook*. De hecho me he instalado dos versiones la que incluye el python2 y la que incluye el python3.

Las instalaciones de *Anaconda* son redundantes, basta con instalar uno de ellos. En cualquier caso para realizar la instalación basta con descargar los scripts de instalación desde la página web de Anaconda.

```
bash Anaconda3-4.2.0-Linux-x86_64.sh
```

```
bash Anaconda2-4.2.0-Linux-x86_64.sh
```

Los he dejado instalados en `~/apps/anaconda2` y `~/apps/anaconda3`

Cada una de estas instalaciones incorpora su propia versión de Python. Para usarlas tenemos que cambiar nuestro PATH para que el Python deseado sea el primero que se selecciona.

Por ejemplo para activar anaconda3 en bash:

```
export PATH=~/.apps/anaconda3/bin:$PATH
```

Para hacer lo mismo en fish:

```
set -x PATH ~/.apps/anaconda3/bin $PATH
```

### 6.11.1 iPython y GraphLab

Creamos un entorno conda con Python 2.7.x

```
conda create -n gl-env python=2.7 anaconda
```

Activamos el nuevo entorno (todo esto lo hice en bash, en fish hay un problemilla con el entorno conda [mas info](#))

```
bash
```

```
source activate gl-env
```

En el futuro esto es todo lo que tendremos que hacer activar el entorno conda donde estamos instalando el iPython.

Nos aseguramos de tener *pip* al día:

```
conda update pip
```

Instalamos la biblioteca [GraphLab Create](#). Esta biblioteca se supone que es fácil de usar pero está sujeta a licencia.<sup>1</sup>

---

<sup>1</sup>TODO: Pasarme a *scikit-learn*

Una vez registrado en la página web te pasan un número de registro que tienes que usar para instalar la biblioteca.

```
pip install --upgrade --no-cache-dir https://get.graphlab.com/GraphLab-Create/2.1/your_registered_email
```

Y para terminar instalamos iPython<sup>2</sup>:

```
conda install ipython-notebook
```

Desde ahora basta con activar el entorno que hemos creado para tener acceso al iPython.

```
source activate gl-env
```

```
ipython notebook
```

```
source deactivate gl-env
```

#### **6.11.1.1 Instalación alternativa con virtualenv**

```
# Create a virtual environment named e.g. gl-env
virtualenv gl-env
```

```
# Activate the virtual environment
source gl-env/bin/activate
```

```
# Make sure pip is up to date
pip install --upgrade pip
```

```
# Install IPython Notebook (optional)
pip install "ipython[notebook]"
```

```
# Install Jupyter Notebook (optional)
pip install "jupyter"
```

```
# Install your licensed copy of GraphLab Create
pip install --upgrade --no-cache-dir https://get.graphlab.com/GraphLab-Create/2.1/your_registered_email
```

---

<sup>2</sup>TODO: conda install jupyter

### 6.11.2 Usar Emacs para editar Python

Instalamos *elpy* desde el gestor de paquetes de Emacs, concretamente desde el repo *marma-lade*

Hay que habilitar *elpy* en el fichero `~/.emacs` para ello añadimos la linea  
(`elpy enable`)

#### 6.11.2.1 TODO

Estudiar esto con calma <https://elpy.readthedocs.io/en/latest>

## 7 Desarrollo hardware

### 7.1 Arduino IDE

Bajamos los paquetes de la página [web](#) , descomprimimos en `~/apps/arduino`.

Creamos un link al directorio del software que hemos descargado:

```
cd ~/apps/arduino
ln -s arduino-x.y.z current
```

La primera vez que instalamos será necesario crear el desktop file con **Menulibre** con las actualizaciones no será necesario, siempre y cuando apunte a `~/apps/arduino/current`

### 7.2 Pinguino IDE

Tenemos el paquete de instalación disponible en su página [web](#)

Ejecutamos el programa de instalación. El programa descargará los paquetes Debian necesarios para dejar el IDE y los compiladores instalados.

Al acabar la instalación he tenido que crear el directorio `~/Pinguino/v11`, parece que hay algún problema con el programa de instalación y no lo crea automáticamente.

El programa queda correctamente instalado en `/opt` y arranca correctamente, habrá que probarlo con los micros.

## 7.3 KiCAD

Instalamos desde *backports*:

```
sudo aptitude install -t jessie-backports kicad
```

Vamos a instalar a mayores algunas librerías de KiCAD, para poder crear Shields de Arduino.

- [Freetronics](#) una librería que no solo incluye Shield para Arduino sino una completa colección de componentes que nos permitirá hacer proyectos completos. [Freetronics](#) es una especie de BricoGeek australiano, publica tutoriales, vende componentes, y al parecer mantiene una biblioteca para KiCAD. La biblioteca de Freetronics se mantiene en un repo de github. Lo suyo es incorporarla a cada proyecto, por que si la actualizas se pueden romper los proyectos que estes haciendo.
- [eklablog](#) Esta biblioteca de componentes está incluida en el github de KiCAD, así que teoricamente no habría que instalarla en nuestro disco duro.

## 8 Virtualización

### 8.1 Docker

```
apt-get install apt-transport-https ca-certificates
```

```
apt-key adv --keyserver hkp://p80.pool.sks-keyservers.net:80 --recv-keys 58118E89F3A912897C070ADB7622
```

```
edit docker.list with
```

```
deb https://apt.dockerproject.org/repo debian-jessie main
```

```
apt-cache policy docker-engine -- comprobamos que todo está bien.
```

```
sudo apt-get install docker-engine -- da un error en makedev por udev activo
```

```
sudo service docker start
```

```
sudo docker run hello-world - todo bien
```

```
sudo gpasswd -a salvari docker
```



## 8.2 Virtualbox

Tenemos que:

- Añadir el fichero *virtualbox.list* al directorio */etc/apt/sources.list.d*
- Bajarnos y añadir a nuestro llavero las claves públicas de Oracle
- Actualizar la lista de paquetes
- Instalar virtualbox
- Añadir nuestro usuario al grupo vboxuser (no tengo claro que esto sea necesario)

```
echo "deb http://download.virtualbox.org/virtualbox/debian jessie contrib" |sudo tee  
/etc/apt/sources.list.d/virtualbox.list wget -q https://www.virtualbox.org/download/oracle_vbox_2016.asc  
-O- | sudo apt-key add - sudo apt-get update sudo apt-get install virtualbox-5.1 sudo  
gpasswd -a salvari vboxusers
```

Una vez instalado el virtualbox tenemos que instalarnos el pack de extensiones, es muy importante descargar el pack correspondiente a nuestra versión desde [la página web de descargas](#)

Sin más que hacer doble click en el fichero descargado lo instalaremos en nuestra instancia de *Virtualbox* (necesitamos la contraseña de administración).

## 8.3 Virtualizando un Windows 7

- 2 Gb de ram
- Create virtual hard disk
- 10Gb dynamically allocated
- Settings -> System->Boot Order: Quitamos el floppy
- Storage -> Add IDE Controller->Add Optical Disk -> Choose Disk -> ISO Image
- Instalamos Windows en Inglés y con teclado en español

Una vez instalado el SO Windows instalamos las Guest Additions.

## 9 Shells alternativos: zsh y fish

Los dos son muy interesantes. He usado zsh casi un año, ahora voy a probar **fish**.

## 9.1 fish

Instalamos **fish** desde aptitude con:

```
sudo aptitude install fish
```

Instalamos oh-my-fish

```
curl -L https://github.com/oh-my-fish/oh-my-fish/raw/master/bin/install > install
fish install
rm install
```

```
chsh -s `which fish`
```

## 9.2 zsh

Igualmente instalamos **zsh**:

```
sudo aptitude install zsh
```

Vamos a usar antigen así que nos lo clonamos en `~/apps/`

```
cd ~/apps
git clone https://github.com/zsh-users/antigen
```

Y editamos el fichero `~/zshrc` para que contenga:

```
source ~/apps/antigen/antigen.zsh
```

```
# Load the oh-my-zsh's library.
```

```
antigen use oh-my-zsh
```

```
# Bundles from the default repo (robbyrussell's oh-my-zsh).
```

```
antigen bundle git
```

```
antigen bundle command-not-found
```

```
antigen bundle autojump
```

```
antigen bundle extract
```

```
# antigen bundle heroku
```

```
# antigen bundle pip
```

```
# antigen bundle lein
```

```
# Syntax highlighting bundle.
```

```
antigen bundle zsh-users/zsh-syntax-highlighting
```

```
# git
antigen bundle arialdomartini/oh-my-git
antigen theme arialdomartini/oh-my-git-themes oppa-lana-style

# autosuggestions
antigen bundle tarruda/zsh-autosuggestions

#antigen theme agnoster

# Tell antigen that you're done.
antigen apply

# append to path
path+=('/home/salvari/apps/julia/current/bin/')
# prepend
# path=('/home/salvari/bin/' $path)
# export PATH
```

Antigen ya se encarga de descargar todo lo que queramos utilizar en zsh.

Nos queda arreglar las fuentes para que funcione correctamente la línea de estado en los repos de git. Necesitamos una fuente *Awesome*

### 9.3 Instalación de fuentes adicionales

Nos bajamos unas cuantas fuentes que soporten los iconos *Awesome*.

```
cd ~/tmp
git clone https://github.com/abertsch/Menlo-for-Powerline
git clone https://github.com/powerline/fonts

mkdir ~/.fonts
cp someFontFile ~/.fonts/
fc-cache -vf ~/.fonts/
```

## 10 Reprap

### 10.1 Sl1c3r

Descargamos el paquete binario desde la página web.

- Cambiar permisos en directorio */lib/vrt/*
- Instalado *lib-canberra-module* desde aptitude
- Es necesario instalar *freeglut*

### 10.2 OpenScad

Instalado desde aptitude.

### 10.3 Printrun

Descargamos desde github

### 10.4 Cura

Descargamos desde la pagina web

```
sudo aptitude install python3-pyqt5
```

```
sudo dpkg -i Cura-2.1.3-Linux.deb
```

```
sudo apt-get install python-serial python-wxgtk2.8 python-pyglet python-numpy \
cython python-libxml2 python-gobject python-dbus python-psutil python-cairosvg git
```

```
python setup.py build_ext --inplace
```

## 11 Aplicaciones Web

### 11.1 Servidor Web

#### 11.1.1 Apache

Instalamos el paquete *apache2*

```
sudo aptitude install apache2
```

Si abrimos el navegador y visitamos <http://localhost/> veremos la página de Apache.

El directorio raíz por defecto de Apache en Debian es */var/www*, y el fichero de configuración principal es */etc/apache2/apache2.conf*. Hay ficheros de configuración adicionales en el directorio */etc/apache2* y sus subdirectorios. Por ejemplo:

- */etc/apache2/mods-enabled*
- */etc/apache2/sites-enabled*
- */etc/apache2/conf-enabled*

Además del Apache vamos a dejar instalado el *php5*

```
sudo aptitude install php5 libapache2-mod-php5
```

Hay que reiniciar el servicio: `sudo service apache2 restart`

Si creamos un fichero */var/www/html/info.php*, que contenga las líneas:

```
<?php
phpinfo();
?>
```

Podemos ver en el siguiente enlace <http://localhost/info.php> si el php funciona correctamente.

Módulos de php relacionados con mysql:

```
sudo aptitude install php5-mysqldb php5-curl php5-gd php5-intl php-pear \
php5-imagick php5-imap php5-mcrypt php5-memcache php5-pspell php5-recode \
php5-snmp php5-sqlite php5-tidy php5-xmlrpc php5-xsl
```

### 11.1.2 nginx

TODO

## 11.2 Servidores de bases de datos

### 11.2.1 MySQL

Instalamos desde aptitude *mysql-server.5.6*

Opcionalmente (y muy recomendable)

```
mysql_secure_installation
```

### 11.2.1.1 Actualización

Cambiamos el fichero *mysql.conf.d/mysqld.cnf*

```
# max_allowed_packet      = 16M  
max_allowed_packet  = 500M
```

Reiniciamos el servicio:

```
/etc/init.d/mysql restart
```

### 11.2.2 Cliente SQL Squirrel SQL

Descargamos el paquete desde la página [web](#) y lo descomprimos en *~/apps*, también tendremos que descargar el conector de mysql para java, por ejemplo desde [aquí](#)

Una vez instalado, creamos el desktop-file con *MenuLibre* y configuramos el driver *MySQL* añadiendo el path a donde hayamos dejado el conector java.

### 11.2.3 MariaDB

TODO

## 12 Cuentas online abiertas

- google
- pocket (plugin de chrome)

## 13 Recetas varias

### 13.1 Orange Pi Zero

Para usar la Orange Pi Zero tendremos que crear imágenes arrancables en tarjetas micro SD.

### 13.1.1 Crear una SD arrancable

Dependiendo de donde conectemos la tarjeta tendremos que usar diferentes rutas. En el procedimiento descrito a continuación `{card}` será la ruta al dispositivo de la tarjeta y `{p}` la partición (si la hay).

Si la tarjeta se conecta via adaptador USB, linux la va a asociar a un dispositivo `/dev/sdx`, por ejemplo en mi portátil el disco duro es `/dev/sda` las distintas particiones serán `/dev/sda1`, `/dev/sda2`, etc.

Si conectamos una memoria con un adaptador USB linux la podría mapear en `/dev/sdb` por ejemplo.

Si la memoria se conecta mediante una ranura SD, linux la asociará a un dispositivo `/dev/mmcblk0` o `/dev/mmcblk1`, etc. etc. Dependerá de la ranura usada. Las particiones en este tipo de dispositivos tienen rutas como por ejemplo `/dev/mmcblk0p1`.

Los datos se pueden almacenar directamente en la memoria SD o en una partición creada en la memoria.

Resumiendo:

- `{card}` será `/dev/sdb` o `/dev/mmcblk0`
- `card{p}` será `/dev/sdb1` o `/dev/mmcblk0p1`

Antes de seguir adelante hay que estar completamente seguro del dispositivo asociado a nuestra memoria SD para no armar ningún estropicio.

Hay varias comprobaciones que se pueden hacer:

`dmesg | tail` nos permitirá echar un ojo a los últimos mensajes en el log del sistema. Si acabamos de insertar la memoria veremos el dispositivo usado.

`sudo fdisk -l` nos permite ver las particiones montadas en nuestro linux, por ejemplo con mi SD en la ranura SD de mi portátil la salida es (entre otras cosas, he obviado las particiones de los discos duros):

```
Disk /dev/mmcblk0: 7.4 GiB, 7948206080 bytes, 15523840 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x00000000
```

`cat /proc/partitions` también nos dará una lista de particiones, en mi portátil las que interesan son:

```
179          0    7761920 mmcblk0
179          1    7757824 mmcblk0p1
```

Descargamos la imagen de Jessie adaptada a la *Orange Pi Zero* desde la página <https://www.armbian.com/download/>

Descomprimos la imagen y la grabamos en la tarjeta SD con el comando:

```
sudo dd if=./Armbian_5.24_Orangezero_Debian_jessie_3.4.113.img of=/dev/mmcblk0
```

Insertamos la tarjeta en la *Orange Pi* y le damos alimentación. El primer arranque llevará alrededor de tres minutos, y tras ese tiempo aun hará falta un minuto más para poder hacer login. Este retardo es debido a que el sistema intentará actualizar la lista de paquetes y creará un area de swap de emergencia en la SD, y además cambiará el tamaño de la partición que hemos creado para ocupar todo el espacio libre en la SD.

De momento solo la he arrancado y efectivamente las particiones han cambiado tras el arranque así que tiene buena pinta.

Volvemos a insertar la SD en la *Orange Pi* y la conectamos con un cable ethernet al router de casa. El Armbian viene configurado por defecto para obtener su IP desde un servidor DHCP.

Como mi cutre-router no me da información de las IP asignadas usamos *nmap*:

```
nmap -sP 192.168.0.0 /24
```

Con eso averiguamos la IP asignada a la *Orange Pi Zero* y ya podemos hacer login con:

```
ssh root@192.168.0.109
```

¡Y ya estamos!

Lo primero es poner al día el sistema:

```
apt-get update
apt-get upgrade
```

Si quieres puedes reconfigurar el *time zone*:

```
dpkg-reconfig tzdata
```

### 13.1.2 Conexión WIFI

Vamos a comprobar que todo va bien:

```
root@orangezero:~# iwconfig
lo          no wireless extensions.
```



```
> ~/w/r/p/debianpostinstall on master x ssh root@192.168.0.109
The authenticity of host '192.168.0.109 (192.168.0.109)' can't be established.
ECDSA key fingerprint is 8a:22:e7:1c:d4:44:45:db:c0:90:4e:af:e9:d3:54:db.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.0.109' (ECDSA) to the list of known hosts.
root@192.168.0.109's password:
You are required to change your password immediately (root enforced)
```

A large, stylized logo for Armbian, consisting of the word "Armbian" in a blue, outlined font where each letter is composed of geometric shapes like squares and circles.

```
Welcome to ARMBIAN Debian GNU/Linux 8 (jessie) 3.4.113-sun8i
System load:   0.16           Up time:       16 min
Memory usage:  17 % of 241Mb  IP:           192.168.0.109
CPU temp:      36°C
Usage of /:    14% of 7.2G
```

```
New to Armbian? Check the documentation first: docs.armbian.com

Changing password for root.
(current) UNIX password:
```

Figura 1: Primer login en *Orange Pi*

```
tunl0    no wireless extensions.
```

```
wlan0      IEEE 802.11bgn  ESSID:off/any
           Mode:Managed  Access Point: Not-Associated  Tx-Power=20 dBm
           Retry  long limit:7   RTS thr:off   Fragment thr:off
           Encryption key:off
           Power Management:on
```

```
eth0      no wireless extensions.
```

Todo tiene buena pinta, vamos a ver si detecta WIFIs:

```
root@orangebizero:~# iwlist wlan0 scan |grep ESSID
ESSID:"wificlientesR"
ESSID:"casa_de_verano"
ESSID:"MOVISTAR_BEEF"
ESSID:"wificlientesR"
ESSID:"R-wlan90"
ESSID:"MOVISTAR_BAAF"
ESSID:"ababab"
ESSID:"WLAN 77"
```

```
ESSID:"castillo"  
ESSID:"unaWifi"  
ESSID:""  
ESSID:"mikasa"
```

Para configurar el wifi echamos un ojo al fichero `/etc/network/interfaces` pero en ese mismo fichero encontramos el aviso:

```
# Armbian ships with network-manager installed by default. To save you time  
# and hassles consider using 'sudo nmtui' instead of configuring Wi-Fi settings  
# manually.
```

Así que basta con ejecutar `sudo nmtui` y ya podemos dar de alta nuestra wifi (yo la prefiero con IP estática).

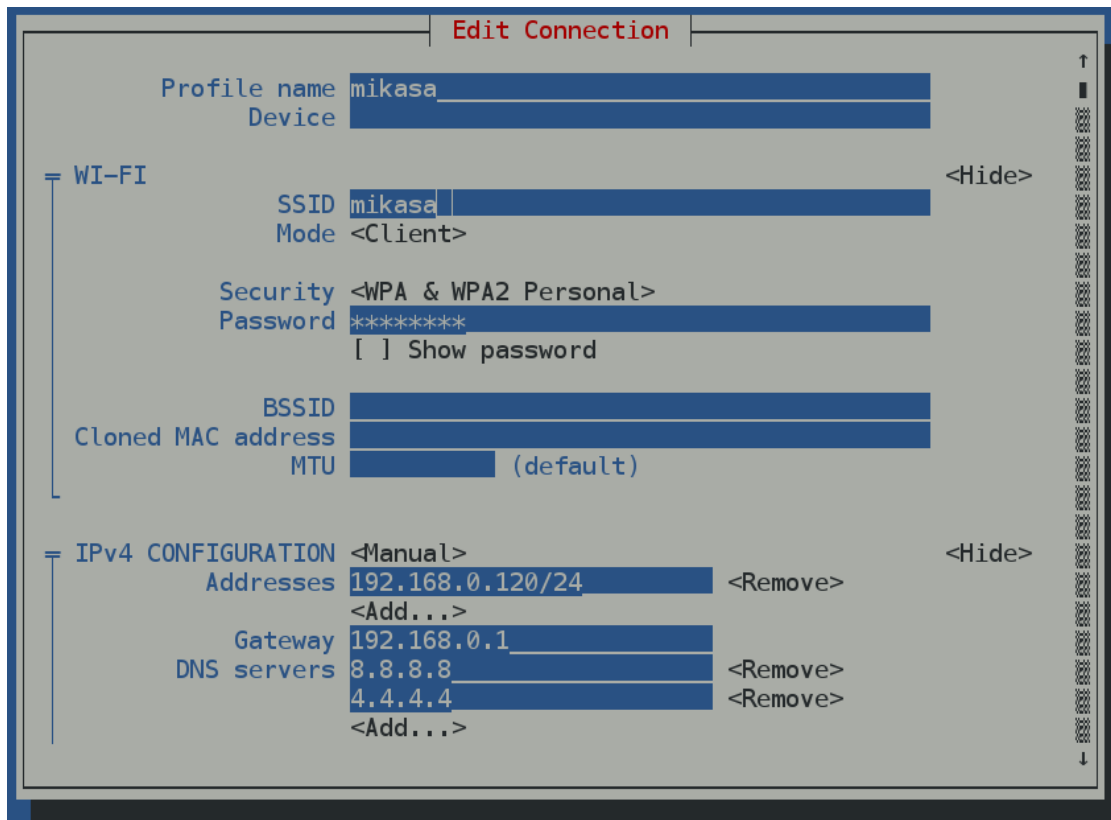


Figura 2: Configuración WIFI

Ejecutamos `ifconfig` y ya vemos nuestro nuevo interface configurado:

```
ifconfig
```

```
wlan0    Link encap:Ethernet  HWaddr a4:7c:f2:9a:97:7c
        inet addr:192.168.0.120  Bcast:192.168.0.255  Mask:255.255.255.0
        inet6 addr: fe80::a67c:f2ff:fe9a:977c/64  Scope:Link
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:2 errors:0 dropped:0 overruns:0 frame:0
        TX packets:8 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:328 (328.0 B)  TX bytes:852 (852.0 B)
```

### 13.1.3 Referencias

- [Página oficial](#)
- [Recursos oficiales](#) aquí hay imágenes y los esquemáticos
- [Tienda en Aliexpress](#)
- [http://linux-sunxi.org/Bootable\\_SD\\_card](http://linux-sunxi.org/Bootable_SD_card)
- <https://www.armbian.com/orange-pi-zero/>
- [https://docs.armbian.com/User-Guide\\_Getting-Started/](https://docs.armbian.com/User-Guide_Getting-Started/)
- [https://docs.armbian.com/Hardware\\_Allwinner/](https://docs.armbian.com/Hardware_Allwinner/)
- [GPIO](#) Una explicación de como acceder al gpio desde terminal
- [Info variada](#) Aquí tenemos el esquema de pines

## 13.2 Raspberry Pi Media Center

Bajamos la imagen con nuestro cliente torrent favorito desde [aquí](#), no os molesteis en clonar el directorio, hay que bajarse la imagen.

```
sudo dd if=./Mediacenter-AikonCWD-v6.img of=/dev/mmcblk0 bs=4M
```

Arrancamos con la toma ethernet conectada al router y nos conectamos tras averiguar la IP con nmap (ver *Orange Pi Zero*)

Una vez instalado los pasos recomendados:

1. Cambiar la password de root: passwd
2. Fijar una IP estática: Editamos el fichero /etc/dhcpd.conf, ya de paso configuramos la IP estática para la WIFI

```
interface eth0
static ip_address=192.168.0.125/24
static routers=192.168.0.1
static domain_name_servers=8.8.8.8
```



```
interface wlan0
static ip_address=192.168.0.126/24
static routers=192.168.0.1
static domain_name_servers=8.8.8.8
```

Una vez cambiado el fichero hay que reiniciar con `shutdown -r now`

3. Configurar la WIFI, en esta parte damos por supuesto que tenemos la wifi con WPA activado.

Echamos un ojo a nuestro interfaz radio con `iwconfig`, si aparece el `wlan0` todo va bien.

```
wlan0      IEEE 802.11bgn  ESSID:off/any
          Mode:Managed  Access Point: Not-Associated  Tx-Power=31 dBm
          Retry short limit:7   RTS thr:off   Fragment thr:off
          Encryption key:off
          Power Management:on
```

Tenemos que editar el fichero `/etc/network/interfaces` y asegurarnos de tener el `wlan0` como sigue:

```
allow-hotplug wlan0
iface wlan0 inet manual
    wpa-conf /etc/wpa_supplicant/wpa_supplicant.conf
```

Ahora vamos a editar el fichero de configuración de `wpa_supplicant`, es decir `/etc/wpa_supplicant/wpa_supplicant.conf` y añadir un bloque `network` que sea como el que va a continuación, de paso he cambiado el `country` a "ES", así que queda así:

```
country=ES
ctrl_interface=DIR=/var/run/wpa_supplicant GROUP=netdev
update_config=1
network={
    ssid="YOURSSID"
    psk="YOURPASSWORD"
}
```

Un reinicio y listos: `shutdown -r now`

## 14 TODO

- cinelerra
- playonlinux
- darktable
- rawtherapee
- krita
- mypaint
- qStopmotion
- chibios
- ICE Studio

Inkscape

<https://elizsarobhasa.makes.org/thimble/MTMwNDIzMjE5Mg==/3d-printing-from-a-2d-drawing>

Instalar tb jessyink

chibios \* [http://wiki.chibios.org/dokuwiki/doku.php?id=chibios:community:setup:openocd\_chibios]  
\* [http://www.josho.org/blog/blog/2014/11/30/nucleo-gcc/] \* [http://www.stevebate.net/chibios-rpi/GettingStarted.html]

rclone <https://syncthing.net/>

vmware

sudo aptitude install chromium

## 15 Links

- [Systemd](#)
- [Gnome shortcuts](#)
- [Gnome optimizaciones](#)
- [Instalación Debian](#)
- [zsh](#)
- [zsh](#)
- <https://www.roaringpenguin.com/products/remind>
- <http://taskwarrior.org/>

## 16 Licencia

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