

Devuan Experience

Personal notes on using [Devuan](#).

Installing Devuan

My Devuan installation notes.

Latest Devuan Installation

202204100749

Using Devuan Chimaera DVD ISO (dd onto USB) → UEFI boot!

Note: If using netinstall or CD1 some firmware may not be available - which is a problem if using WiFi module.

The must-haves for MY Devuan installation:

- install `build-essential` (development tools)
- install `linux-headers-amd64` (to compile kernel modules)
- install `geany`, `git`, `gitk` (coding stuffs)
- install `libnss-mdns` & `avahi-daemon` (system management) **INSTALLED BY DEFAULT**
- install `curl` (some of my scripts needs that...)

The stuffs I currently need:

- install `cryptsetup` (encrypted partitions)
- install `xfig` (i need `xfig2dev`)

Note: these are required to compile Linux kernel: `libncurses5-dev` `build-essential` `libssl-dev` `libelf-dev` `git` `bison` `flex` (need to check if these are already installed by the above selection, e.g. `build-essential` and `git` are covered)

work in progress...?

Last XFCE Installation

- using default xfce desktop
 - this is my primary choice, but I have installed cinnamon on other machines
- replace `wicd` with `network-manager`
 - `$ apt install network-manager network-manager-gnome`
 - `network-manager-gnome` provides `nm-applet` (not needed if using `nmcli`)
 - `$ apt purge wicd wicd-gtk`

- \$ apt autoremove

Minimal Desktop Installation

I want a basic installation with dwm.

- install base (use netinstall iso... or, maybe use debootstrap?)
- install my usual stuffs

```
$ apt install build-essential linux-headers-amd64 vim git curl
```

- install xorg stuffs

```
$ apt install xorg libx11-dev libxft-dev libxinerama-dev
```

- install suckless stuffs

```
$ apt install stterm suckless-tools
```

- install dwm from source
 - use my1ubuild script
- looks good, but i need acpi stuffs

```
$ apt install acpid
```

- for laptop, maybe add acpi-support
- if need command-line utility, add acpi

work in progress...

Install Using debootstrap

- boot using my1live-devuan
- need to install gisk debootstrap
 - optionally, install lvm2
- run

```
$ apt install gisk debootstrap lvm2
```

- prepare disk (/dev/sda) layout
 - 1 uefi partition (ef00)
 - 1 root partition (8300)
 - 1 home partition (8e00/8300)
 - 1 swap partition (8200)
- run

```
$ gdisk /dev/sda
```

- format/mount root partition

```
$ mkfs.ext4 -L MY1B00T /dev/sda2
$ mount /dev/sda2 /mnt/disk
```

- run debootstrap

```
$ debootstrap chimaera /mnt/disk https://deb.devuan.org/merged/
```

- while debootstrap runs, format other partitions

```
$ mkdosfs -n MY1UEFI /dev/sda1
$ mkfs.ext4 -L MY1B00T /dev/sda2
$ mkswap -L MY1SWAP /dev/sda4
```

- will use lvm in this example

```
$ pvcreate /dev/sda3
$ vgcreate homevg /dev/sda3
$ lvcreate -l +100%FREE -n home0 homevg
$ mkfs.ext4 -L MY1HOME /dev/homevg/home0
```

- mount efi/home partitions

```
$ mkdir -p /mnt/disk/boot/efi
$ mount /dev/sda1 /mnt/disk/boot/efi
$ mount /dev/homevg/home0 /mnt/disk/home
```

- chroot and install/setup

```
$ chroot /mnt/disk
$ apt update
$ apt install linux-image-amd64 build-essential linux-headers-amd64 vim
git lvm2
$ apt install firmware-linux firmware-iwlwifi firmware-atheros
firmware-realtek
$ apt install cinnamon-desktop-environment
```

- update initramfs (add lvm support)

```
$ update-initramfs -u -k all
```

- i prefer all-lowercase path names

```
$ cd /etc ; vi xdg/user-dirs.defaults ; cd - >/dev/null
```

- setup locale

```
$ apt install locales
$ cd /etc ; echo "en_US.UTF-8 UTF-8 >>locale.gen" ; cd - >/dev/null
$ locale-gen
```

- setup grub

```
$ apt install grub-efi-amd64
```

```
$ grub-install /dev/sda
$ update-grub
```

- run efibootmgr to make sure

```
$ efibootmgr
```

- edit fstab

```
cd /etc ; vi fstab ; cd - >/dev/null
```

- setup root password

```
$ passwd
```

- change hostname

```
$ cd /etc ; vi hostname ; cd - >/dev/null
```

- reboot

Note: I got to Cinnamon Desktop and everything looks ok - BUT, I simply cannot run gnome-terminal! Well, I can if I run `dbus-update-activation-environment` first. So, I missed something coz when I reinstalled using the full dvd, everything works fine.

work in progress...

Devuan upgrade (chimaera to daedalus)

Personal note - basically from devuan.org.

[devuan_upgrade.txt](#)

```
upgrade chimaera to daedalus (from devuan.org)

- update/upgrade chimaera
$ apt update
$ apt upgrade

- update apt sources.list
$ cd /etc ; sed -i 's/chimaera/daedalus/g' apt/sources.list ; cd -
>/dev/null

- update pkg list from daedalus
$ apt update

- kill screensaver (if running)
$ killall xscreensaver

- upgrade/dist-upgrade
$ apt upgrade
```

```
$ apt dist-upgrade

- in case of failures, fix and rerun
$ apt -f install
$ apt dist-upgrade

- cleanup
$ apt autoremove --purge
$ apt autoclean

deb https://deb.devuan.org/merged daedalus main non-free-firmware non-free contrib
deb https://deb.devuan.org/merged daedalus-security main non-free-firmware non-free contrib
deb https://deb.devuan.org/merged daedalus-updates main non-free-firmware non-free contrib

#deb-src https://deb.devuan.org/merged daedalus main
#deb-src https://deb.devuan.org/merged daedalus-security main
#deb-src https://deb.devuan.org/merged daedalus-updates main
```

2026/02/09 22:23

Setting Up Devuan

These depends on my need when using that particular machine.

- using virtualbox from oracle (just like my slackware setup)
- using texlive ([install using tlmgr](#))
 - alternatively, install texlive texlive-latex-extra texlive-science
- install freecad kicad openscad (project stuffs)
- install ntp ntpdate (system management)

Development

- getting *OpenGL* stuffs (glut): `$ apt install freeglut3-dev`
- getting *sqlite* stuffs: `$ apt install sqlite3 libsqlite3-dev`
- getting glade (will also get gtk library): `$ apt install glade`
- getting *wxwidgets* stuffs: `$ apt install lib-wxgtk3.0dev`
- getting *mylimpro* stuffs: `$ apt install libavcodec-dev libavdevice-dev libavformat-dev libswscale-dev`
- to compile *sdcc*: `$ apt install bison flex libboost-dev texinfo`

note: [Setting up mingw-w64 cross-compiler](#)

Web Server

- Install webserver

```
$ apt install //apache2//
```

- default path for web is /var/www/html
- configure

```
$ cd /etc ; vi apache2/apache2.conf ; cd - >/dev/null
```

- add *ServerName* (remove annoying startup message!)
- my *mylapisrv* code need these for *www* dir config

```
Options FollowSymLinks
AllowOverride All
Require all granted
```

- Install php

```
$ apt install php php-cgi libapache2-mod-php php-mysql php-sqlite3
```

- enable pdo support

```
cd /etc ; vim php/7.0/apache2/php.ini ; cd - >/dev/null
```

- create required links in mods-enabled and conf-enabled
 - my *mylapisrv* code need rewrite
 - both folders are in apache2 (/etc)
- if running dokuwiki

```
$ apt install php-xml
```

- my API client php code needs this

```
$ apt install php-curl
```

- Install database

```
$ apt install mariadb-server
```

Multi-Arch (a.k.a. Multi-Lib)

To run 32-bit binary:

- Enable multi-arch: \$ `dpkg --add-architecture i386`
- Update package list: \$ `apt update`
- Most probably need libc: \$ `apt install libc6:i386`
- Install required libraries: (<package>:i386)

To build 32-bit binary:

- Install compiler(s): `$ apt install gcc-multilib g++-multilib`
 - Notice that these are 64-bit packages (no :i386 suffix) → cross compilers!
- Use `-m32` gcc option to compile!

Gaming

To play steam games:

- enable multi-arch
- install steam

```
$ apt install steam
```

NFS setup

Dumping this as it is for now:

- client
 - install

```
$ apt install nfs-common
```

- mount

```
$ mount -t nfs <host>:/path <mount-point>
```

- server
 - install

```
$ apt install nfs-kernel-server
```

- [optional]

```
$ mount --bind /path/to/share /mount/point
```

- modify accordingly

```
$ cd /etc ; vim exports ; cd - >/dev/null
```

- start

```
$ service nfs-kernel-server start
```

Others

My iso2boot script need *isohybrid* from syslinux/isolinux project:

- `$ apt install syslinux-utils`

2026/02/09 22:23

Devuan Management

Some are applicable to any APT-based distro.

Note: To remove translations,

```
$ cd /etc ; echo "Acquire::Languages { \"none\"; };" >
apt/apt.conf.d/99translation ; cd - >/dev/null
```

Note: To automatically update system essentials,

```
$ apt install unattended-upgrades ; dpkg-reconfigure --priority=low
unattended-upgrades
```

Upgrading

To do an upgrade:

- Modify `/etc/apt/sources.list` and replace the release codenames

```
# sed -i 's/old_release/new_release/g' /etc/apt/sources.list
```

- skip `-i` option for a dry-run

- Update package list

```
# apt update
```

- Upgrade distribution

```
# apt dist-upgrade
```

- To make sure EVERYTHING is upgraded (avoids old packages held back)

- `# apt full-upgrade`

- Do house cleaning

```
# apt autoremove
# apt clean
```

That should do it!

List Installed Packages

Using apt tool

```
$ apt list --installed 2>/dev/null | grep installed
```

Note that apt will issue a warning when piping its output in shell. Hence, the need to redirect stderr to /dev/null. We can further grep away the packages that were automatically installed.

Using the basic dpkg tool

```
$ dpkg --get-selections | sed -n 's/^\([^\\t]*\\)\t.*$/\1/ p'
```

This version, however, only provides package name. To extract similar output from apt (assuming output was redirected into a file called temp.txt), run

```
$ cat temp.txt | sed -n 's|^\(.*\\)/.*$/\1| p'
```

Adding More Repo

Get proper signature key from that source (*.asc file) and add to system using apt-key.

```
# cat <key-file.asc> | apt-key add -
```

Create a listing file for source URL in /etc/apt/sources.list.d/.

```
# echo "deb [arch=?] <new-repo-url> <version> main" >  
/etc/apt/sources.list.d/new-repo.list
```

After doing an apt update, should be able to apt install <pkg>...

Reconfigure Package

Basically, run a dpkg-reconfigure <pkg>

e.g. To change timezone

```
# dpkg-reconfigure tzdata
```

Search package for specific binary

- There is a specific tool for that

```
# apt install apt-file
```

- Update the package/file mapping database

```
# apt-file update
```

- Search for “top”

```
# apt-file search --regexp '/top$'
```

Avoiding marking package as manually installed

- Use dry-run (simulation) option -s

```
# apt install -s <pg1> ... <pkgN> 2>/dev/null|grep manually
```

- Removed the package(s) displayed from your install list and re-run without -s

GRUB Stuffs

To prevent GRUB from looking for other OS every time it is updated:

- edit /etc/default/grub and insert

```
GRUB_DISABLE_OS_PROBER=true
```

- run update-grub

To add a custom entry:

- add a menuentry in /etc/grub.d/40_custom
- uses the same menuentry format as in /boot/grub/grub.cfg
 - e.g. to boot my Slackware partition I can insert

```
menuentry 'Slackware' --class slackware --class gnu-linux --class gnu
--class os $menuentry_id_option 'mylpart-<uuid>' {
    insmod part_gpt
    insmod ext2
    set root='hd0,gpt4'
    if [ x$feature_platform_search_hint = xy ]; then
        search --no-floppy --fs-uuid --set=root --hint-bios=hd0,gpt4
--hint-efi=hd0,gpt4 --hint-baremetal=ahci0,gpt4  <uuid>
    else
        search --no-floppy --fs-uuid --set=root 4d95a526-2518-4fd6-
```

```
a904-f7bd2729145d
fi
linux /boot/vmlinuz-huge-4.4.240 root=/dev/sda4
}
```

- use `initrd` (after `linux` line) to specify an `initrd/initramfs`
- of course, `<uuid>` should be a valid filesystem `uuid`
- run `update-grub`

KVM Stuffs

If KVM group is missing, simply create one...

```
# [ -z "$(cat /etc/group|grep kvm)" ] && addgroup --gid 125 kvm
```

2026/02/09 22:23

Issues

Issues... and maybe fixes (if any).

Image Magick's convert error

I found an error when using image magick's `convert` to create EPS from fig that provides this message:

```
convert-im6.q16: attempt to perform an operation not allowed by the security
policy `EPS' @error/constitute.c/IsCoderAuthorized/421
```

Solution:

- (as root) edit `/etc/ImageMagick-6/policy.xml`
- modify following line (change `none` → `read|write`)

```
<policy domain="coder" rights="none" pattern="EPS" />
```

GRUB Prompt

In some cases, after an installation is complete, the system boots to a GRUB prompt. The issue may be caused by a different disk assignment during installation. Things is not so bad since GRUB prompt is very shell-like (e.g. double-tab for completion):

To list available disks:

```
> ls
```

To list content of first partition on the first disk (/dev/sda1) that is using GPT:

```
> ls (hd0,gpt1)
```

So, to boot an installation on second partition instead:

```
> linux (hd0,gpt2)/boot/vmlinuz<...>
> initrd (hd0,gpt2)/boot/initrd.img<...>
> boot
```

BCM Wireless

Device:

```
# lspci -nn | grep BCM
02:00.0 Network controller [0280]: Broadcom Limited BCM43142 802.11b/g/n
[14e4:4365] (rev 01)
```

Install: broadcom-sta-dkms, firmware-linux, firmware-b43-installer (b43-fwcutter)

note: only solves the Wireless Driver part... NOT the bluetooth hardware!

```
# lsusb | grep BCM
Bus 002 Device 004: ID 0a5c:216d Broadcom Corp. BCM43142A0 Bluetooth 4.0
# dmesg | grep blue
[ 8.850007] bluetooth hci0: firmware: failed to load
brcm/BCM43142A0-0a5c-216d.hcd (-2)
[ 8.850197] bluetooth hci0: Direct firmware load for
brcm/BCM43142A0-0a5c-216d.hcd failed with error -2
```

So, download BCM43142A0-0a5c-21d6.hcd in [here](#) and place it /lib/firmware/brcm/ (create that path if it does not exist).

XFCE Desktop

- tapping on my laptop touchpad is NOT working
 - moving around & button clicks are working
 - need to create file /etc/X11/xorg.conf.d/90-touchpad.conf

[90-touchpad.conf](#)

```
Section "InputClass"
    Identifier "libinput touchpad catchall"
    MatchIsTouchpad "on"
    MatchDevicePath "/dev/input/event*"
EndSection
```

```
Driver "libinput"
Option "Tapping" "on"
EndSection
```

- lid event does not trigger suspend (but manual suspend works)
 - this is a systemd-related aftermath: xfce power manager allows/assumes login to handle lid
 - fix:

```
$ xfconf-query -c xfce4-power-manager -p /xfce4-power-manager/logind-handle-lid-switch -s false
```

- issues when logging out/shutdown
 - may be caused by intel graphics library? i915?
 - can install lightdm - but shutdown/restart always gets login page (=logout)
- wicd feature is an issue for system with multiple users
 - shared wifi password, no option to make private

Cinnamon DE

- login page (lightdm?) - cannot shutdown/reboot! read [here...](#)
 - found a fix [here](#)
 - i just needed to edit /etc/pam.d/lightdm-greeter and changed pam_systemd.so to pam_elogind.so (but, may cause issues with suspend/hibernate?)
- laptop battery quickly drain below 30 percent
 - setup higher critical value for power management

```
gsettings list-keys org.cinnamon.settings-daemon.plugins.power
gsettings set org.cinnamon.settings-daemon.plugins.power use-time-for-policy false
gsettings set org.cinnamon.settings-daemon.plugins.power percentage-low 30
gsettings set org.cinnamon.settings-daemon.plugins.power percentage-critical 25
gsettings set org.cinnamon.settings-daemon.plugins.power percentage-action 23
```

- or use dconf-editor

PulseAudio

Youtube videos keep resetting the volume settings to 100%! The culprit is flat-volumes. Modify /etc/pulse/daemon.conf and set flat-volumes=no.

(Re)-Compiling Syslinux

I need to recompile syslinux - just to remind myself, other than the usual development packages (build-essential, etc), I also need nasm and upx-ucl.

```
apt install nasm and upx-ucl
```

Unwanted Background Program

I found this in my old notes... I somehow found an autostart program geoclue-demo-agent.desktop, which I obviously do not need. So, simply remove that from autostart path

```
# rm /etc/xdg/autostart/geoclue-demo-agent.desktop
```

Sound muted on startup on my HP laptop

trying two options found... so far, not successful? keeping this here for reference.

1. option 1:
 - install alsa-utils
 - make sure sound is not muted and set to desired volume level
 - run (as root) alsactl store
2. option 2:
 - edit (as root) /etc/pulse/defaults.pa
 - can also copy this to home folder ??? for 1-user solution...
 - comment out 'load-module module-device-restore'

General Issues

- wifi firmware missing after first restart
 - manually install firmware-ralink
- network manager cannot connect using wifi
 - edit /etc/NetworkManager/NetworkManager.conf
 - add

```
[device]
wifi.scan-rand-mac-address=no
```

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