

# Notes about Computers, Computing, Computations, Etc.

## Critical Software for Good Computing

1. [AltDrag](#) lets Windows 10 have Linux-style “hold down a key and click to move a window” support.  
1.48  
[Download](#)
2. [Divvy](#) divides up your screen and lets you move windows to different sections with keyboard shortcuts.  
[Download](#)

## Stable Diffusion

[stable diffusion notes](#)

## Programming

Some [notes\\_about\\_ionic](#).

[notes\\_about\\_qt](#)

[Notes about Yocto](#)

[Manipulating Dokuwiki Dates the Hard Way](#)

[Publii](#)

## Cache Clean-up

[Clean up a variety of caches on Windows](#)

## Video and Audio Stuff

Change video container from Matroska (mkv) to mp4 (assuming the video codec is supported by mp4):

```
ffmpeg -i name_of_input_file.mkv -codec copy output_file.mp4
```

```
# If there's issues with the audio codec:  
ffmpeg -i name_of_input_file.mkv -c:v copy -c:a aac output_file.mp4
```

Extract AAC audio from a directory of MP4 files and put them in a folder named audio:

```
for f in *.MP4; do ffmpeg -i "$f" -vn -c:a copy "audio/$f.m4a"; done
```

Download a Youtube playlist, keeping only the audio in AAC (.m4a) format:

```
yt-dlp -f 140 -o "%(playlist)s/%(playlist_index)s - %(title)s.%(ext)s"  
"https://www.youtube.com/playlist?list=PLaro_mvK6VEkTqkmTcUIvr4MnUzf434 -"
```

Download a Youtube video in a h264 video and AAC audio:

```
yt-dlp -f 22+140 https://www.youtube.com/watch?v=cnDJa_HZVP0
```

## Photo / Image Stuff

To fix photo dates when people email you photos and you need to import them into your photo manager and your photo manager shows all the photos as taken today even though you know they were taken weeks ago but people are so bad at sending photos....

```
# Inspect the original timestamp  
exiftool -r -DateTimeOriginal path_to_picture_folder  
# Inspect the modification timestamp  
exiftool -r -FileModifyDate path_to_picture_folder  
# If FileModifyDate doesn't match what you need, you can set it to the  
original timestamp  
# Note: The double quotes are important so that the shell doesn't think you're  
redirecting I/O from a file.  
exiftool -r "-FileModifyDate<DateTimeOriginal" path_to_picture_folder
```

## Tiling a Small Image into a Bigger One

Windows lock screen backgrounds don't support tiling so I use ImageMagick to create a large image made of my tiles:

```
convert -size 2560x1080 tile:image_to_tile.png tiled_img.jpg
```

## Windows

[moved to its own section](#)

# Linux

## Misc command lines

Repack 7zip files as ZIP, requires ``atool`` package to be installed.

```
arepack -e -F zip *.7z
```

## Jellyfin Setup

```
# Install it
apt install jellyfin
# create symlink because apparently the ubuntu 22.04 package of jellyfin 10.9
is looking at the wrong folder and I don't feel like editing config files.
ln -s /usr/share/jellyfin/web/ /usr/lib/jellyfin/bin/jellyfin-web

setfacl -m g:users:rwX Movies Music MusicVideos YouTube TV\ Shows Audiobooks
Workouts Podcasts Rifftrax Books
setfacl -d -m g:users:rwX Movies Music MusicVideos YouTube TV\ Shows
Audiobooks Workouts Podcasts Rifftrax Books
```

## Fedora Setup

Installed LXQt spin of Fedora 41. Some notes and commands:

- I hate Red Hat's installer. It's laid out like some Gnome app and has a terrible workflow.
- Pick the custom partition option (second option, not the Blivet option)
- Set it to LVM, make sure partitions are ext4.
- Enable LUKS encryption
- After boot, update with dnf and reboot.

```
# We don't want ZRAM swap
dnf remove zram-generator-defaults

# Use lsblk to figure out what disk has our encrypted LUKS data
lsblk # in my case it was /dev/sda3

# Enroll a FIDO2 key:
systemd-cryptenroll --fido2-device auto /dev/sda3 --fido2-with-user-
presence=true --fido2-with-client-pin=true
# you will be asked the LUKS passphrase, and then the FIDO2 key's PIN, and
then finally asked to touch the key to confirm presence.
```

```
# Create a file /etc/dracut.conf.d/fido2.conf with the contents:
add_dracutmodules+=" fido2 "
# the spaces are important - their can't be a space after the += and there
should be spaces around fido2

# Update with dracut
dracut -f -v # -v is optional, turns on verbose output.

# reboot and see if the FIDO2 key works.
```

Then install Nvidia driver support

```
sudo dnf install https://mirrors.rpmfusion.org/free/fedora/rpmfusion-free-
release-$(rpm -E %fedora).noarch.rpm
https://mirrors.rpmfusion.org/nonfree/fedora/rpmfusion-nonfree-release-$(rpm -
E %fedora).noarch.rpm

sudo dnf config-manager setopt fedora-cisco-openh264.enabled=1

sudo dnf install akmod-nvidia xorg-x11-drv-nvidia-cuda
```

Reboot. You may have to add "nomodeset" to the end of the kernel command line if you get a black screen. Need to research if a different parameter is more appropriate.

Run nvidia-smi to make sure your GPU was detected.

Set up old-fashioned swap:

```
# 32GB swapfile. We use dd because on file systems like ext4 and xfs,
fallocate won't work well.
dd if=/dev/zero of=/swapfile bs=1M count=32768 status=progress

# Restrict permissions to root
chmod 600 /swapfile

# Initialize swap
mkswap /swapfile

# Turn on swap
swapon /swapfile
```

To automatically enable swap on boot, add this line to your /etc/fstab

```
/swapfile none swap sw 0 0
```

Install packages you might need.

```
dnf install fuse fuse-libs git libxcrypt-compat gperftools
```

## EndeavourOS

I chose EndeavourOS as my Linux distro to use 100% at home. I have lots of notes at [EndeavourOS Setup](#), some of which may apply to Arch and perhaps even to other distros.

## Fail2Ban

Show bans

```
fail2ban-client banned
```

Unban a particular IP

```
fail2ban-client set apache unbanip 100.19.53.46
```

## Upgrading NextCloud

```
mv nextcloud nc-old
mkdir -p ~/nc/29/extracted
cd extracted
unzip ../nextcloud-XX.0.0.zip
mv nextcloud /var/www
cp ncold/config/config.php nextcloud/config/config.php
cd /var/www
chown -R www-data:www-data nextcloud
find nextcloud/ -type d -exec chmod 750 {} \;
find nextcloud/ -type f -exec chmod 640 {} \;
sudo -u www-data php occ upgrade
```

## nVidia Drivers

```
sudo apt install ubuntu-drivers-common
sudo ubuntu-drivers list --gpgpu
sudo ubuntu-drivers install --gpgpu
```

## Blocking Certain Applications from Network

Condensed from [this ServerFault post](#):

```
# Make group for no-net access, add user to group
groupadd no-net
usermod -a -G no-net USERNAME
groups USERNAME
# Rules to allow local network access
iptables -A OUTPUT -m owner --gid-owner no-net -d 192.168.1.0/24 -j ACCEPT
iptables -A OUTPUT -m owner --gid-owner no-net -d 127.0.0.0/8 -j ACCEPT
# Rule to block other network access
iptables -A OUTPUT -m owner --gid-owner no-net -j DROP
# Rule to block outbound IPv6
ip6tables -A OUTPUT -m owner --gid-owner no-net -j DROP
# Create a script called 'no-net' containing the following two lines:
#!/bin/bash
sg no-net "$@"
```

## Add GUI to Ubuntu 22.04 Server

There are a couple ways to install Xfce, I prefer the first option:

1. `apt install xubuntu-core - perfect`; includes whisker-menu for a good application launcher.
2. `apt install --no-install-recommends xubuntu-core - boots to GUI`, very barebones (not even `xfce4-terminal`).
3. `apt install xfce4 - gives basic installation`, still boots to console, so start GUI with `startx`.

Don't bother with `apt install xfce4 --no-install-recommends` because apparently installing `xorg` is just a recommendation, so `startx/startxfce` will fail :D

## Some Standard Configs for Ubuntu Server 22.04

```
# Get rid of cloud init
apt purge -y cloud-init
# Disable IPv6 in the kernel by modifying the CMDLINE options in
/etc/default/grub:
GRUB_CMDLINE_LINUX_DEFAULT="ipv6.disable=1"
GRUB_CMDLINE_LINUX="ipv6.disable=1"
update-grub
# Edit /etc/default/keyboard to include:
XKBOPTIONS="ctrl:nocaps"
```

## Enable Newer Kernel on Ubuntu Server 22.04

```
sudo apt install linux-generic-hwe-22.04
```

## Synology ABB on a Linux

[Guide to getting Synology ActiveBackup running on Ubuntu 20.04](#)

## Looking Good

Settings for a good-looking Xfce4 installation:

- Style: Greybird
- Icons: Elementary Xfce dark
- Window Theme: Arc-dark

On Debian these are installed with: `sudo apt install greybird-gtk-theme elementary-xfce-icon-theme arc-theme`

## Setting up Django / PostgreSQL / Nginx on Ubuntu 20.04

Here are some [extensive notes](#) on setting this up. I also have [a version for CentOS 8 \(RIP\)](#) but don't maintain/update it.

## Setting up Kanboard on Ubuntu 20.04

Notes on [setting up Kanboard on Ubuntu](#).

## Writing a Systemd Service file

Sometimes you have to make a program start automatically at boot. Here's [how I do it with systemd](#).

## Disable Automounting for Xfce

This came up because I was messing with partition layouts for a project and Xfce kept automatically mounting the drives while I was working on them.

```
# Don't automount drives
xfconf-query -c thunar-volman -p /automount-drives/enabled -s false
# Don't automount media (CDs?)
xfconf-query -c thunar-volman -p /automount-media/enabled -s false
```

## Backup and Restore a Raspberry Pi

```
# backup
dd bs=4M if=/dev/mmcblk0 | gzip > /mnt/recovery-usb/backupbot-20210715.img.gz
# restore
gunzip --stdout backupbot-20210715.img.gz | sudo dd bs=4M of=/dev/{whatever
the device is}
```

## Postgresql basic commands

Add a user: `createuser someusername -P`

Create a database: `CREATE DATABASE somedb OWNER someusername TEMPLATE template0 ENCODING 'UTF8';`

`GRANT CREATE ON SCHEMA public TO username;`

## Postgresql - Upgrade 11 to 13

</usr/share/doc/postgresql-common/README.md>

## Text and File Manipulation

### Add a newline to the start of a file

```
# In particular, an LRC lyric file.
sed '1 s/^\n/' */*.lrc -i
```

Or realize you made a mistake and don't want newlines at the start of every file.

```
sed -z -i 's/^\n//' */*.lrc
```

### Find file names with non-ASCII characters

```
LC_ALL=C find . -name '*[! -~]*'
```

### Find lyric files with a BOM

From <https://www.yiiframework.com/wiki/570/remove-byte-order-mark-bom-from-files-recursively>

```
# Make a list of the files
grep -rI '\xEF\xBB\xBF' . | grep .lrc > file_with_boms.txt
# Remove the BOM
while read l; do sed -i '1 s/^\xef\xbb\xbf//' "$l"; done < file_with_boms.txt
```

From:

<https://woltman.com/wiki/> - John's Wiki

Permanent link:

<https://woltman.com/wiki/doku.php/notes>

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