Práctica 1: Dockers

Para iniciar el docker, escribimos el comando:

docker run --device /dev/snd:/dev/snd --name Pablocont -it ubuntu:18.04

Como vemos en la imagen, no encontrará la imagen en local, así que la descargará automáticamente.

```
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
2ab09b027e7f: Pull complete
Digest: sha256:67211c14fa74f070d27cc59d69a7fa9aeff8e28ea118ef3babc295a0428a6d21
Status: Downloaded newer image for ubuntu:latest
```

Al tener un docker, vemos que es como una máquina virtual dentro de una máquina virtual, así que para actualizar los repositorios escribimos apt update.

```
root@d31b82a9e419:/# apt update
```

Luego nos descargamos los siguientes paquetes, ya que con ellos trabajaremos con esta práctica:

apt install wget python3 ffmpeg mplayer python3-pip python3.7

```
root@d31b82a9e419:/# apt install wget python3 ffmpeg mplayer python3-pip python3.7
```

```
root@d31b82a9e419:/# wget https://yt-dl.org/downloads/latest/youtube-dl -O /usr/local/bin/youtube-dl
```

wget https://yt-dl.org/downloads/latest/youtube-dl -O /usr/local/bin/youtube-dl

```
Resolving yt-dl.org (yt-dl.org)... 95.143.172.170, 2001:1a50:11:0:5f:8f:acaa:177
Connecting to yt-dl.org (yt-dl.org)|95.143.172.170|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://yt-dl.org/downloads/2021.12.17/youtube-dl [following]
--2023-04-27 10:42:23--  https://yt-dl.org/downloads/2021.12.17/youtube-dl
Reusing existing connection to yt-dl.org:443.
HTTP request sent, awaiting response... 302 Found
Location: https://github.com/ytdl-org/youtube-dl/releases/download/2021.12.17/youtube-dl [following]
--2023-04-27 10:42:23--  https://github.com/ytdl-org/youtube-dl/releases/download/2021.12.17/youtube-dl
Resolving github.com (github.com)... 140.82.121.3
Connecting to github.com (github.com)|140.82.121.3|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://objects.githubusercontent.com/github-production-release-asset-2e65be/1039520/65476747-919e-4c56-a57f-ded64bed461f?X-Amz-
Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWNJYAX4CSVEH53A%2F20230427%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20230427T104123Z&X-
Amz-Expires=300&X-Amz-Signature=69be8ac1c20f368d623f284894fd87082d85ff95c2e8ddc0e8e28029d2003f1d&X-Amz-SignedHeaders=host&actor_id=0&key_i
d=0&repo_id=1039520&response-content-disposition=attachment%3B%20filename%3Dyoutube-dl&response-content-type=application%2Foctet-stream [f
ollowing]
--2023-04-27 10:42:23--  https://objects.githubusercontent.com/github-production-release-asset-2e65be/1039520/65476747-919e-4c56-a57f-ded6
4bed461f?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWNJYAX4CSVEH53A%2F20230427%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=2023
0427T104123Z&X-Amz-Expires=300&X-Amz-Signature=69be8ac1c20f368d623f284894fd87082d85ff95c2e8ddc0e8e28029d2003f1d&X-Amz-SignedHeaders=host&a
ctor_id=0&key_id=0&repo_id=1039520&response-content-disposition=attachment%3B%20filename%3Dyoutube-dl&response-content-type=application%2F
octet-stream
Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.111.133, 185.199.108.133, 185.199.110.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)|185.199.111.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1837828 (1.8M) [application/octet-stream]
Saving to: '/usr/local/bin/youtube-dl'

/usr/local/bin/youtube-dl          100%[===================================================================================>]   1.75M  --.-KB/s
  in 0.1s

2023-04-27 10:42:24 (18.1 MB/s) - '/usr/local/bin/youtube-dl' saved [1837828/1837828]
```

```
root@d31b82a9e419:/# chmod a+rx /usr/local/bin/youtube-dl
```

chmod a+rx /usr/local/bin/youtube-dl

```
root@d31b82a9e419:/# python3.7 -m pip install --upgrade pip
Collecting pip
  Downloading https://files.pythonhosted.org/packages/08/e3/57d4c24a050aa0bcca46b2920bff40847db79535dc78141eb83581a52eb8/pip-23.1.2-py3-no
ne-any.whl (2.1MB)
    100% |                              | 2.1MB 1.1MB/s
Installing collected packages: pip
  Found existing installation: pip 9.0.1
    Not uninstalling pip at /usr/lib/python3/dist-packages, outside environment /usr
Successfully installed pip-23.1.2
```

```
root@d31b82a9e419:/# python3.7 -m pip install --upgrade pip
Collecting pip
  Downloading https://files.pythonhosted.org/packages/08/e3/57d4c24a050aa0bcca46b2920bff40847db79535dc78141eb83581a52eb8/pip-23.1.2-py3-no
ne-any.whl (2.1MB)
    100% |                              | 2.1MB 1.1MB/s
Installing collected packages: pip
  Found existing installation: pip 9.0.1
    Not uninstalling pip at /usr/lib/python3/dist-packages, outside environment /usr
Successfully installed pip-23.1.2
root@d31b82a9e419:/# python3.7 -m pip install yt-dlp==2023.3.4
Collecting yt-dlp==2023.3.4
  Downloading yt_dlp-2023.3.4-py2.py3-none-any.whl (2.9 MB)
                                    2.9/2.9 MB 19.3 MB/s eta 0:00:00
Collecting mutagen (from yt-dlp==2023.3.4)
  Downloading mutagen-1.46.0-py3-none-any.whl (193 kB)
                                    193.6/193.6 kB 36.0 MB/s eta 0:00:00
Collecting pycryptodomex (from yt-dlp==2023.3.4)
  Downloading pycryptodomex-3.17-cp35-abi3-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (2.1 MB)
                                    2.1/2.1 MB 18.6 MB/s eta 0:00:00
Collecting websockets (from yt-dlp==2023.3.4)
  Downloading websockets-11.0.2-cp37-cp37m-manylinux_2_5_x86_64.manylinux1_x86_64.manylinux_2_17_x86_64.manylinux2014_x86_64.whl (129 kB)
                                    129.9/129.9 kB 19.2 MB/s eta 0:00:00
Collecting certifi (from yt-dlp==2023.3.4)
  Downloading certifi-2022.12.7-py3-none-any.whl (155 kB)
                                    155.3/155.3 kB 29.4 MB/s eta 0:00:00
Collecting brotli (from yt-dlp==2023.3.4)
  Downloading Brotli-1.0.9-cp37-cp37m-manylinux1_x86_64.whl (357 kB)
                                    357.2/357.2 kB 23.2 MB/s eta 0:00:00
Installing collected packages: brotli, websockets, pycryptodomex, mutagen, certifi, yt-dlp
Successfully installed brotli-1.0.9 certifi-2022.12.7 mutagen-1.46.0 pycryptodomex-3.17 websockets-11.0.2 yt-dlp-2023.3.4
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is
recommended to use a virtual environment instead: https://pip.pypa.io/warnings/venv
```

```
root@d31b82a9e419:/# python3.7 -m pip install yt-dlp==2023.3.4
Requirement already satisfied: yt-dlp==2023.3.4 in /usr/local/lib/python3.7/dist-packages (2023.3.4)
Requirement already satisfied: mutagen in /usr/local/lib/python3.7/dist-packages (from yt-dlp==2023.3.4) (1.46.0)
Requirement already satisfied: pycryptodomex in /usr/local/lib/python3.7/dist-packages (from yt-dlp==2023.3.4) (3.17)
Requirement already satisfied: websockets in /usr/local/lib/python3.7/dist-packages (from yt-dlp==2023.3.4) (11.0.2)
Requirement already satisfied: certifi in /usr/local/lib/python3.7/dist-packages (from yt-dlp==2023.3.4) (2022.12.7)
Requirement already satisfied: brotli in /usr/local/lib/python3.7/dist-packages (from yt-dlp==2023.3.4) (1.0.9)
```

```
root@d31b82a9e419:/# yt-dlp -vx --audio-format mp3 https://www.youtube.com/watch?v=984xoStqrq0&list=PLoqOgJJaN57YiiY-JrdSvBVCprMPednXl&index=13
[1] 6901
[2] 6902
root@d31b82a9e419:/# [debug] Command-line config: ['-vx', '--audio-format', 'mp3', 'https://www.youtube.com/watch?v=984xoStqrq0']
[debug] Encodings: locale UTF-8, fs utf-8, pref UTF-8, out utf-8, error utf-8, screen utf-8
[debug] yt-dlp version stable@2023.03.04 [392389b7d] (pip)
[debug] Python 3.7.5 (CPython x86_64 64bit) - Linux-5.15.0-69-generic-x86_64-with-Ubuntu-18.04-bionic (OpenSSL 1.1.1  11 Sep 2018, glibc 2.26)
[debug] exe versions: ffmpeg 3.4.11, ffprobe 3.4.11
[debug] Optional libraries: Cryptodome-3.17, brotli-1.0.9, certifi-2022.12.07, mutagen-1.46.0, sqlite3-2.6.0, websockets-11.0.2
[debug] Proxy map: {}
[debug] Loaded 1786 extractors
[youtube] Extracting URL: https://www.youtube.com/watch?v=984xoStqrq0
[youtube] 984xoStqrq0: Downloading webpage
[youtube] 984xoStqrq0: Downloading android player API JSON
[debug] Sort order given by extractor: quality, res, fps, hdr:12, source, vcodec:vp9.2, channels, acodec, lang, proto
[debug] Formats sorted by: hasvid, ie_pref, quality, res, fps, hdr:12(7), source, vcodec:vp9.2(10), channels, acodec, lang, proto, filesize, fs_approx,
 tbr, vbr, abr, asr, vext, aext, hasaud, id
[info] 984xoStqrq0: Downloading 1 format(s): 251
[debug] Invoking dashsegments downloader on "https://rr1---sn-h5qzen7s.googlevideo.com/videoplayback?expire=1682614368&ei=AFRKZLXpG4mUW8HhpOAG&ip=80.32
.145.128&id=o-AH7MLVFQ7ifk5qdsfJX3cKfe9UjW-4t16c_vgPQdJJuO&itag=251&source=youtube&requiressl=yes&mh=gY&mm=31%2C29&mn=sn-h5qzen7s%2Csn-h5q7knez&ms=au%2
Crdu&mv=m&mvi=1&pl=17&initcwndbps=1223750&spc=qEK7B684Zc15WwSJ_5EmtbOW7cBdXY0&vprv=1&svpuc=1&mime=audio%2Fwebm&gir=yes&clen=1955723&dur=118.081&lmt=166
13811955532799&mt=1682592312&fvip=3&keepalive=yes&fexp=24007246&c=ANDROID&txp=5311224&sparams=expire%2Cei%2Cip%2Cid%2Citag%2Csource%2Crequiressl%2Cspc%2
Cvprv%2Csvpuc%2Cmime%2Cgir%2Cclen%2Cdur%2Clmt&sig=AOq0QJ8wRQIgNIQ2VjpVyG1oVO1041o5ndSBELd75ysB1hoOCbF1XGjICIQChk7-LRDtocbG3ZC_6jAHUaR0sg0R8h7xoTQq74Z-1W
Q%3D%3D&lsparams=mh%2Cmm%2Cmn%2Cms%2Cmv%2Cmvi%2Cpl%2Cinitcwndbps&lsig=AG3C_xAwRQIhAPwnAHRDKqqtIURzZ3GbN2MzXLgEBghG06JTfnUWQ93pAiAGFoGHKTYLEiKAnT4BYKJl_
HLrKUNawC524tq5MNO3A%3D%3D"
```

```
root@d31b82a9e419:/# ls
'Good Egg Galaxy - Super Mario Galaxy [984xoStqrq0].mp3'   bin   dev   home   lib64   mnt   proc   run   srv   tmp   var
'Wii Channel -  Super Mario Galaxy [HX8oURu-E-o].mp3'      boot  etc   lib    media   opt   root   sbin  sys   usr
root@d31b82a9e419:/# mplayer Good\ Egg\ Galaxy\ -\ Super\ Mario\ Galaxy\ \[984xoStqrq0\].mp3
MPlayer 1.3.0 (Debian), built with gcc-7 (C) 2000-2016 MPlayer Team
do_connect: could not connect to socket
connect: No such file or directory
Failed to open LIRC support. You will not be able to use your remote control.

Playing Good Egg Galaxy - Super Mario Galaxy [984xoStqrq0].mp3.
libavformat version 57.83.100 (external)
Audio only file format detected.
Load subtitles in ./
================================================================
Opening audio decoder: [mpg123] MPEG 1.0/2.0/2.5 layers I, II, III
AUDIO: 48000 Hz, 2 ch, s16le, 32.0 kbit/2.08% (ratio: 4000->192000)
Selected audio codec: [mpg123] afm: mpg123 (MPEG 1.0/2.0/2.5 layers I, II, III)
================================================================
AO: [pulse] Init failed: Connection refused
Failed to initialize audio driver 'pulse'
AO: [alsa] 48000Hz 2ch s16le (2 bytes per sample)
Video: no video
Starting playback...
A:  10.1 (10.1) of 117.0 (01:57.0)  0.2%
```

```
root@enti:/home/enti# docker save ubuntu:18.04 > prueba.tar
root@enti:/home/enti# docker load < prueba.tar
Loaded image: ubuntu:18.04
root@enti:/home/enti# docker ps -a
CONTAINER ID   IMAGE          COMMAND        CREATED         STATUS                     PORTS     NAMES
d31b82a9e419   ubuntu:18.04   "/bin/bash"    34 minutes ago  Up 34 minutes                        gifted_pasteur
c6b5ce386ab2   ubuntu:18.04   "/bin/bash"    2 days ago      Exited (255) 43 hours ago            unruffled_northcutt
```