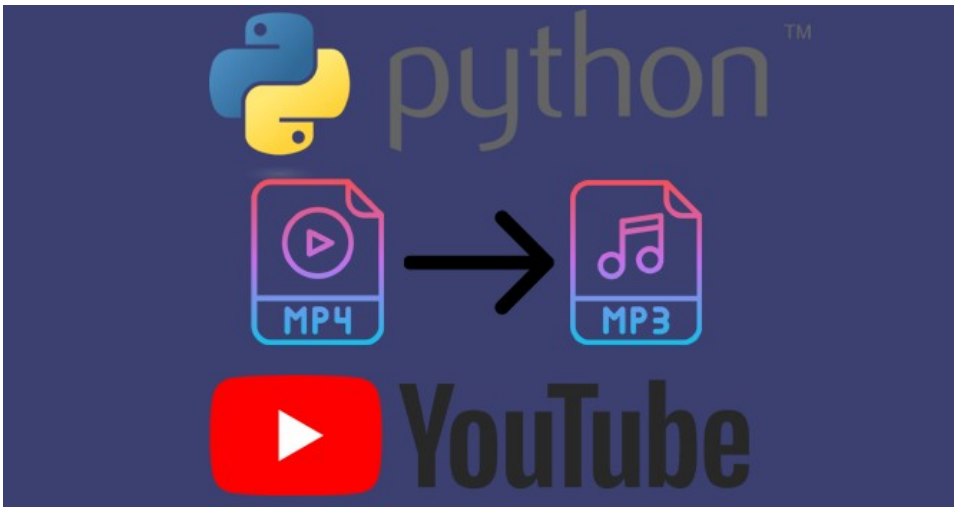
Download Audio from YouTube: Convert MP4 to MP3 [Python + Pytube + FFmpeg]

https://harshananayakkara.medium.com/download-audio-from-youtube-convert-mp4-to-mp3-python-pytube-ffmpeg-6163498c051f

Download audio from any YouTube video of your choice and convert to MP3 format.

UPDATE: The Initial code has been updated to set a customized location — instead downloading the file to the same location where code resides — for the downloaded audio file. Therefore, the article also has been updated using the ***UPDATE*** keyword where necessary.



I usually like to download music or songs from YouTube, just the audio. However, I saw that many online downloaders download the audio in MP4 format. Conversely, I prefer all my audio files to be in MP3 format. Therefore, I thought to write a program that will help me to download and convert the audio files at once.

This code covers the below use-cases;

- •This code is written on Windows machine so some steps may differ for other operating systems.
- •Asks for user input to get the YouTube video URL.
- •Initially, downloads the highest bit-rate audio stream in mp4.
- •***UPDATE:*** Custom path can be set as the download location.
- •Rename the downloaded file name.
- •Convert the file to mp3.
- •Delete the initially downloaded mp4 file after conversion.

Prerequisites:

- Pytube: https://pytube.io/en/latest/user/install.html
- FFmpeg for Windows: https://www.gyan.dev/ffmpeg/builds/ffmpeg-git-full.7z

Now, let's dive into the code.

First of all we need to import the required libraries.

```
from pytube import YouTube
import os
```

UPDATE: Path variable added to customize the download location. For example, the following line will set the download path as `D:\Music\Mix\` .

```
path = 'D:\Music\Mix\\'
```

Then, we have to let the user to enter the YouTube URL and save it in `video_url` variable. After that, YouTube object is created named `yt` .

```
video_url = input("Please enter the video URL: ")
yt = YouTube(video_url)
```

Now, using the YouTube object we can get the highest bit-rate audio stream from the available codecs (defaults to mp4). Once it is selected, the file can be downloaded using the `download()` method.

UPDATE: Further, customized download path has been set using the `output_path` parameter.

```
audio = yt.streams.get_audio_only()audio.download(output_path=path)
```

Now the mp4 audio file should have been downloaded. Next, it is required to start the conversion. For that, we need the downloaded file name with extension.

```
file_name = audio.default_filename
```

UPDATE: Path and file name needs to be taken as an input for the next step, which is to rename the file to exclude any white spaces.

```
source = path + file_name
```

I have used FFmpeg to do the conversion. Therefore, for the program to work correctly no white spaces are allowed in the file name. So, I have replaced white spaces with underscore (_).

```
if ' ' in file_name:
    os.rename(source, source.replace(' ', '_'))
    file_name = source.replace(' ','_')
```

`os.rename` replaces the white spaces with underscore in the downloaded mp4 file. `source.replace` will do the same thing but, will assign the new name to `file_name` variable for us to use later.

Up to now we have file name with mp4 extension. We also need to set the output file with mp3 format. For that, I have taken the same name without the extension. `os.path.splitext()` splits the extension and the rest of the file name. `os.path.splitext(file_name)[0]` will give us only the file name without the extension part.

```
file_without_ext = os.path.splitext(file_name)[0]
```

Now we have all parameters needed for the mp4 to mp3 conversion using FFmpeg.

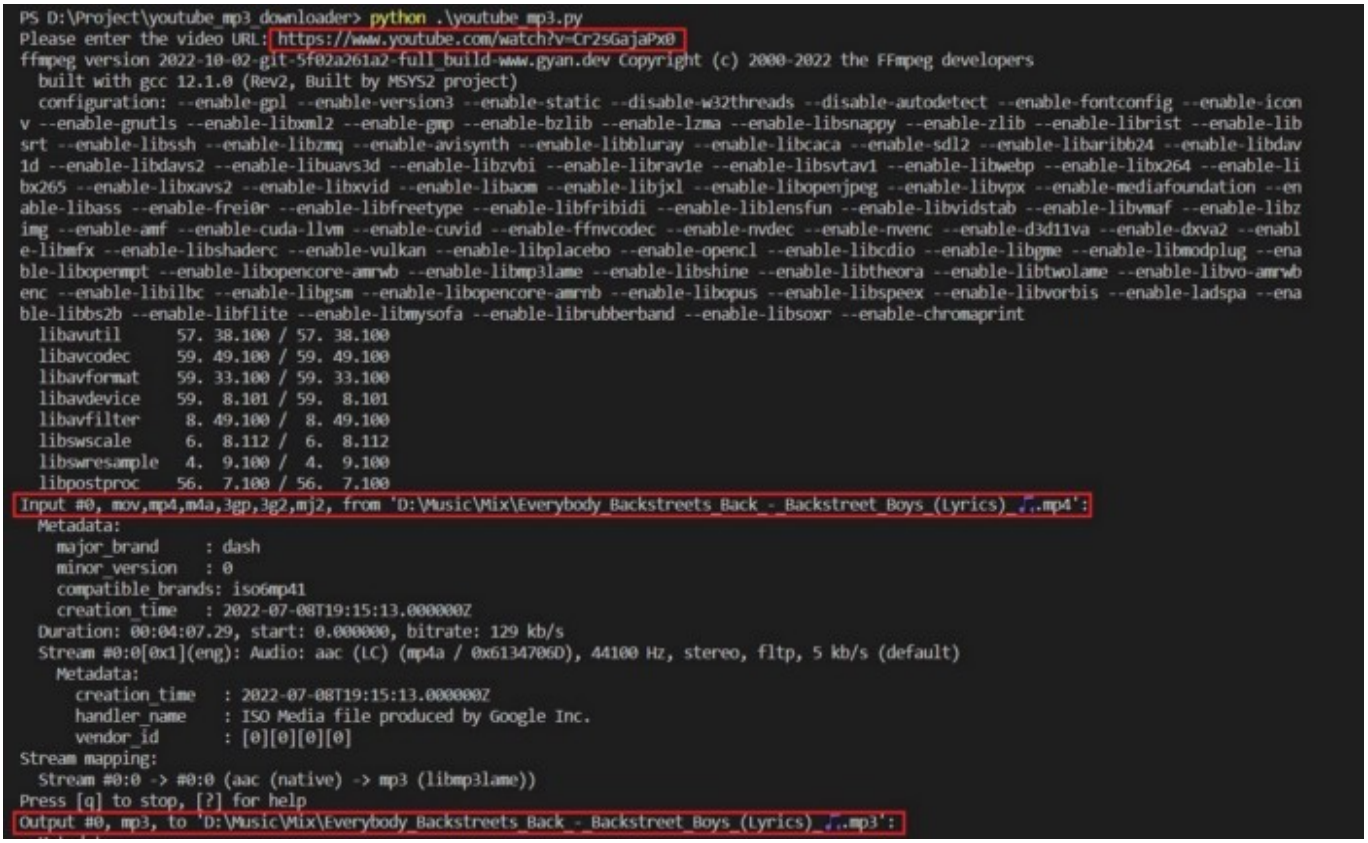
> *Note: `ffmpeg\bin` should be added to the Windows Environment Variable in order to the command to work.*
>
> *Otherwise, it will give following error*
>
> *'ffmpeg' is not recognized as an internal or external command, operable program or batch file.*

```
subprocess.Popen([ffmpeg, '-i', file_name, file_without_ext + '.mp3'])
```

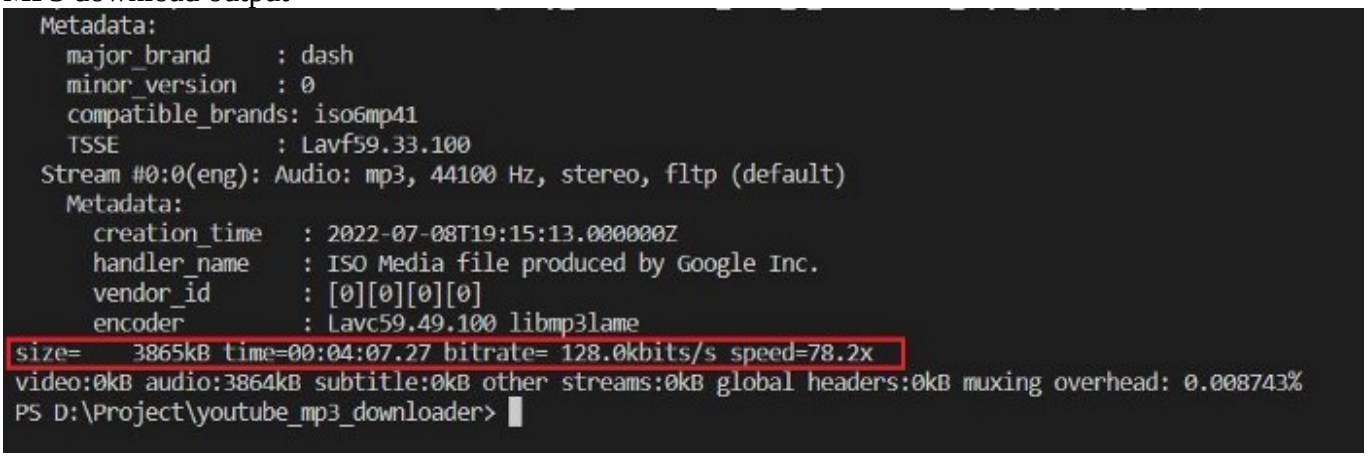
Finally, we have to instruct the OS to run the above command and clean up the previously downloaded mp4 file.

```
os.system(command)os.remove(file_name)
```

Great! We have now completed the code. Let's see how it works.



MP3 download output



MP3 download output

Voila! Happy downloading 😎

Code in GitHub: https://github.com/haarsh85/youtube_mp3_downloader

I sincerely hope this article will be useful. I highly value your feedback and support!