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## Topic

ffmpeg How-To Guide

## Description

Write a guide with screenshots that explains how to use the command-line program ffmpeg to convert a video from one format to another. Include a brief explanation of the video formats you have chosen and be sure to list out user requirements.

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# How to Convert a Video from MKV to MP4 using ffmpeg


### Requirements:

- Windows 10 operating system
- ffmpeg (<https://ffmpeg.org/download.html>)
- Experience with Command Prompt




Video editing is a popular hobby and there is no shortage of software you can use to edit videos. Most mainstream editing software supports a large range of video formats, but there is one popular format that is not widely supported: Matroska (**.mkv**). Matroska is an open-standards multimedia container format and it is popular because it is free to create and modify **.mkv** files. Because it is a newer format than some popular containers such as **.avi** or **.mp4**, support is still being added to major programs.

Today I will be showing you a quick and convenient way to convert your **.mkv** videos to **.mp4** format so you can open them in your video editor of choice!

1. Go to the ffmpeg Downloads page (<https://ffmpeg.org/download.html>) and download the latest Windows build

 **Get packages & executable files**

FFmpeg only provides source code. Below are some links that provide it already compiled and ready to go.



## Windows EXE Files

Windows builds by Zerano

## FFmpeg Builds

FFmpeg is the leading multimedia framework to decode, encode, transcode, mux, demux, stream, filter and play. All builds require at least Windows 7 or Mac OS X 10.10.

4.3.1 ▼

Windows 64-bit ▼

Static ▼

GPL 3.0 ▼

### Version

Release builds are published approximately every six months, while Git builds are compiled multiple times a week. Git builds should be preferred unless a specific release version needs to be targeted.

### Architecture


Builds are provided for Windows and macOS, with very few configuration differences between the two. 32-bit Windows builds are provided for historical purposes, but will be removed in the future.

### Linking

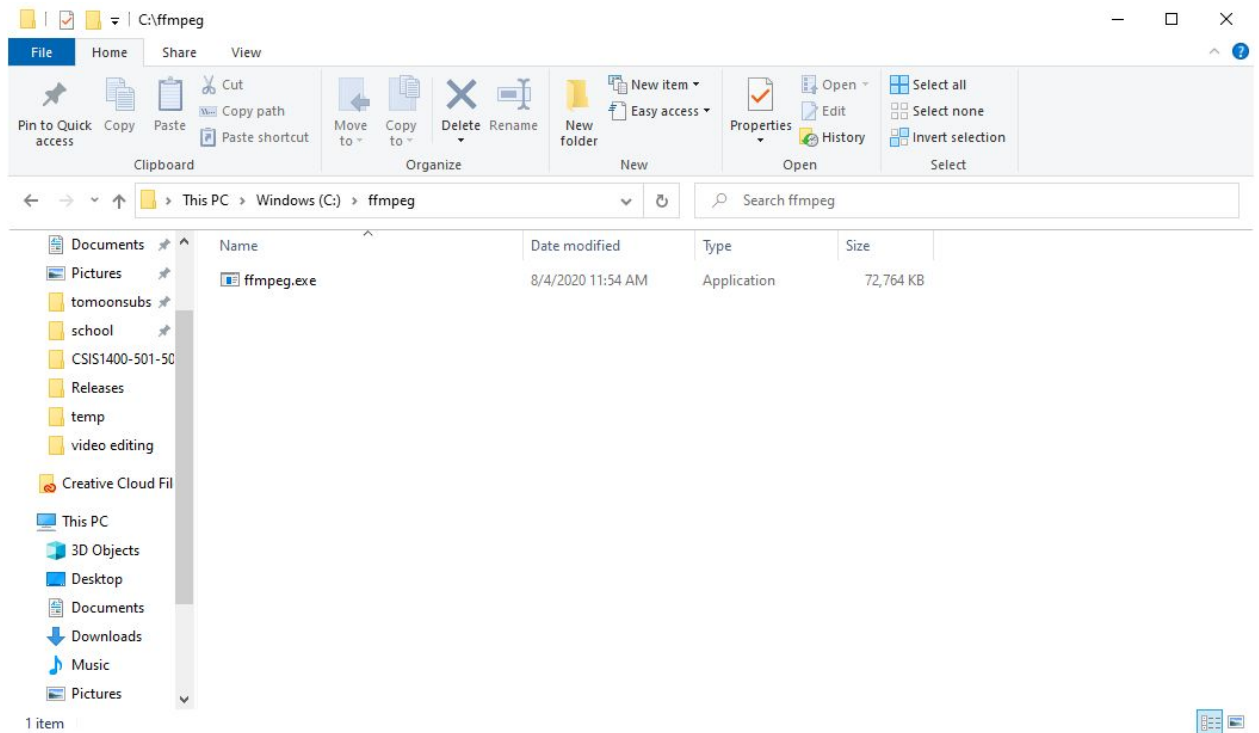
Static builds include all components linked into the executable, while shared builds rely on libraries (.dll or .dylib) to operate. Dev builds provide header files, and will be used in development with a shared build. Most users should use the static build, while developers need to use both the shared and dev builds.

### License

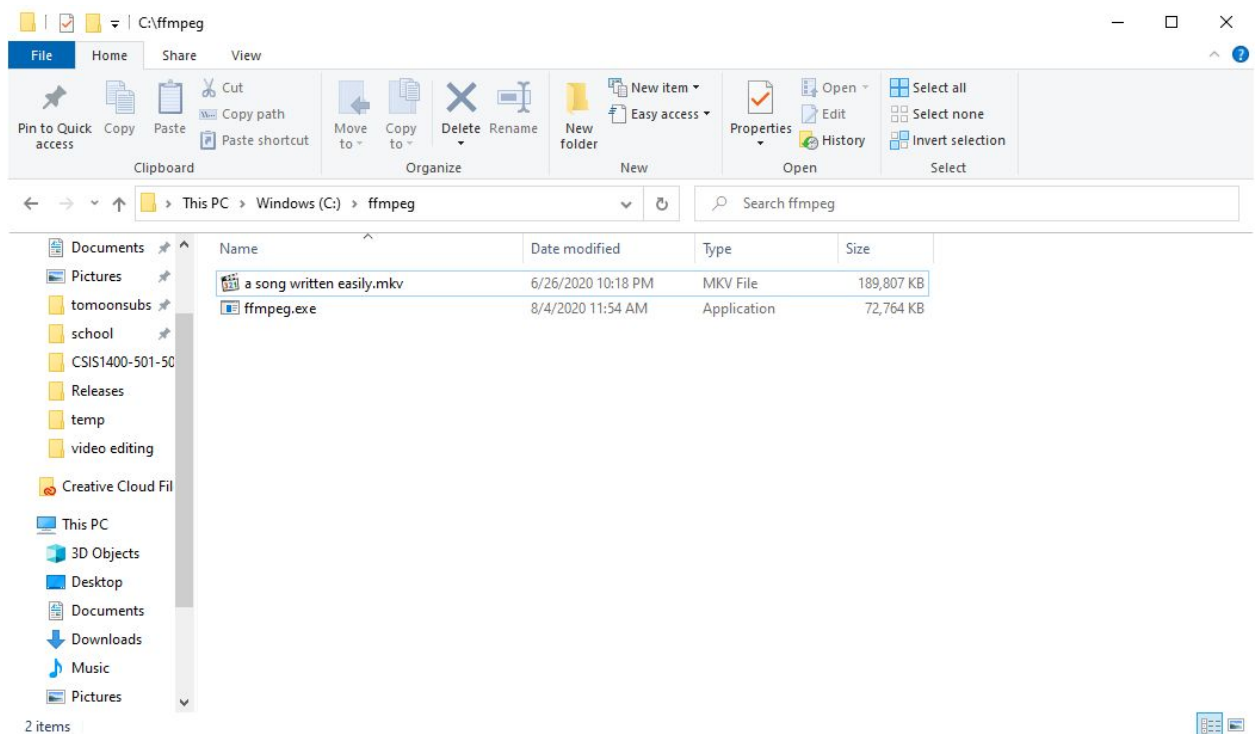
All nightly builds are licensed as GPL 3.0, while GPL 3.0 and LGPL 3.0 builds are provided for releases. GPL 3.0 builds are more complete than LGPL 3.0 builds as they can include x264 and x265.

Download Build	Name	Size	Modified
	ffmpeg-4.3.1-win64-static.zip	75.81 MB	Aug 4, 2020 10:34 AM

- Open the zip file and locate **ffmpeg.exe** in the **bin** folder. Extract this file to a convenient location (I am using **C:\ffmpeg**)



3. Move the **.mkv** file you want to convert to this folder



4. Open Command Prompt (Type **cmd** in the Windows search bar) and navigate to your folder using **cd C:\ffmpeg**

```
GA Command Prompt
Microsoft Windows [Version 10.0.18363.1082]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\nettle>cd C:\ffmpeg
C:\ffmpeg>
```

5. Use the `dir` command to verify that ffmpeg and your video are located in the current folder

```
GA Command Prompt
Microsoft Windows [Version 10.0.18363.1082]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\nettle>cd C:\ffmpeg
C:\ffmpeg>dir
Volume in drive C is Windows
Volume Serial Number is 2479-0282

Directory of C:\ffmpeg

09/13/2020  08:51 PM    <DIR>          .
09/13/2020  08:51 PM    <DIR>          ..
06/26/2020  10:18 PM       194,362,247  a song written easily.mkv
08/04/2020  11:54 AM       74,509,824  ffmpeg.exe
               2 File(s)      268,872,071 bytes
               2 Dir(s)    77,631,926,272 bytes free

C:\ffmpeg>
```

6. We will be using a simple ffmpeg command to convert the video:

```
ffmpeg -i "a song written easily.mkv" -c:a copy -c:v copy "a song
```

written easily.mp4"

execute the program  
called "ffmpeg"

name of the original "input" file

name of the new "output" file

ffmpeg -i "a song written easily.mkv" -c:a copy -c:v copy "a song written easily.mp4"

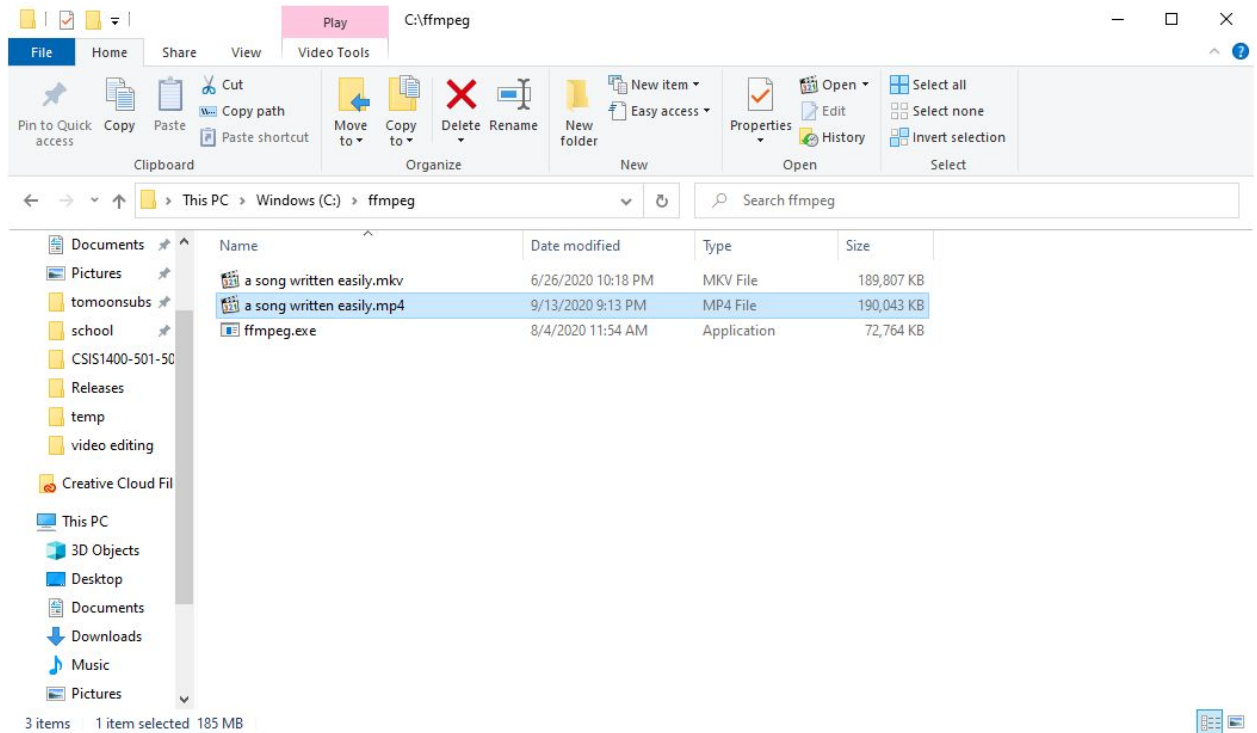
input flag shows what file  
is being sent to ffmpeg

audio/video codec flags using "copy" option  
tell the program to copy the streams instead of rewriting them

- After executing the command, you should see a wall of scrolling text appear in the command-line window. This means the conversion worked! If you run into an error, double-check the command and make sure nothing was typed incorrectly

```
Command Prompt
C:\ffmpeg>ffmpeg -i "a song written easily.mkv" -c:a copy -c:v copy "a song written easily.mp4"
ffmpeg version 4.3.1 Copyright (c) 2000-2020 the FFmpeg developers
  built with gcc 10.2.1 (GCC) 20200726
  configuration: --enable-gpl --enable-version3 --enable-sdl2 --enable-fontconfig --enable-gnutls
 --enable-iconv --enable-libass --enable-libdav1d --enable-libbluray --enable-libfreetype --enable-
 libmp3lame --enable-libopus --enable-libpangocore --enable-libpangotools --enable-libopenjpeg --enable-
 libopus --enable-libshine --enable-lsnpappy --enable-libsoxr --enable-lsrt --enable-libtheora
 --enable-libtwolame --enable-libvpx --enable-libwavpack --enable-libwebp --enable-libx264 --enable-
 libx265 --enable-libxvid --enable-libzimg --enable-lzma --enable-zlib --enable-gmp --enable-lib
 vidstab --enable-libvmaf --enable-libvorbis --enable-libvo-amrwbenc --enable-libmysofa --enable-l
 ibspeex --enable-libxvid --enable-libaom --enable-libgsm --enable-librav1e --enable-libzmq --enable-
 libbrotli --enable-libbrotli --enable-ffnvcodec --enable-cuda-llvm --enable-cuvid --enable-d3d11va --enable-nve
 nc --enable-nvdec --enable-dxva2 --enable-avisynth --enable-libopenmpt --enable-amf
  libavutil 56. 51.100 / 56. 51.100
  libavcodec 58. 91.100 / 58. 91.100
  libavformat 58. 45.100 / 58. 45.100
  libavdevice 58. 10.100 / 58. 10.100
  libavfilter 7. 85.100 / 7. 85.100
  libswscale 5. 7.100 / 5. 7.100
  libswresample 3. 7.100 / 3. 7.100
  libpostproc 55. 7.100 / 55. 7.100
Input #0: matroska,webm, from 'a song written easily.mkv':
Metadata:
  MAJOR_BRAND       : isom
  MINOR_VERSION     : 512
  COMPATIBLE_BRANDS : isomiso2avc1mp41
  ENCODER           : Lavf58.42.102
Duration: 00:03:36.32, start: 0.000000, bitrate: 7187 kb/s
  Stream #0:0: Video: h264 (High), yuv420p(progressive), 1920x1080 [SAR 1:1 DAR 16:9], 59.98 fp
s, 59.98 tbr, 1k tbn, 119.95 tbc (default)
Metadata:
  HANDLER_NAME      : VideoHandler
  ENCODER           : Lavc58.82.100 libx264
  DURATION          : 00:03:36.320000000
  Stream #0:1: Audio: aac (LC), 48000 Hz, stereo, fltp (default)
Metadata:
  HANDLER_NAME      : SoundHandler
  ENCODER           : Lavc58.82.100 aac
  DURATION          : 00:03:36.319000000
Output #0: mp4, to 'a song written easily.mp4':
Metadata:
  MAJOR_BRAND       : isom
  MINOR_VERSION     : 512
  COMPATIBLE_BRANDS : isomiso2avc1mp41
  ENCODER           : Lavf58.45.100
  Stream #0:0: Video: h264 (High) (avc1 / 0x31637661), yuv420p(progressive), 1920x1080 [SAR 1:1
DAR 16:9], q=2-31, 59.98 fps, 59.98 tbr, 16k tbn, 1k tbc (default)
Metadata:
  HANDLER_NAME      : VideoHandler
  ENCODER           : Lavc58.82.100 libx264
  DURATION          : 00:03:36.320000000
  Stream #0:1: Audio: aac (LC) (mp4a / 0x6134706D), 48000 Hz, stereo, fltp (default)
Metadata:
  HANDLER_NAME      : SoundHandler
  ENCODER           : Lavc58.82.100 aac
  DURATION          : 00:03:36.319000000
Stream mapping:
  Stream #0:0 -> #0:0 (copy)
  Stream #0:1 -> #0:1 (copy)
Press [q] to stop, [?] for help
frame=12972 fps=0.0 q=1.0 Lsize= 190042kB time=00:03:36.29 bitrate=7197.6kb/s speed= 890x
video:185394kB audio:4246kB subtitle:0kB other streams:0kB global headers:0kB muxing overhead: 0.
211751%
C:\ffmpeg>
```

- Now you have a shiny, new **.mp4** video!



This is only one of many ways to convert a video from **.mkv** to **.mp4**, but an explanation of all the different settings and options is outside of the scope of this tutorial.

Thank you for reading!

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## References

Matroska Media Container Homepage. (n.d.). Retrieved September 13, 2020, from

<https://www.matroska.org/index.html>

Ffmpeg Documentation. (n.d.). Retrieved September 13, 2020, from

<https://ffmpeg.org/ffmpeg.html>

Supported Video Formats. (n.d.). Retrieved September 13, 2020, from

[http://img.movavi.com/online-help/videoeditor/8/supported\\_video\\_formats.htm](http://img.movavi.com/online-help/videoeditor/8/supported_video_formats.htm)

Premiere Pro supported file formats. (n.d.). Retrieved September 13, 2020, from

<https://helpx.adobe.com/premiere-pro/using/supported-file-formats.html>