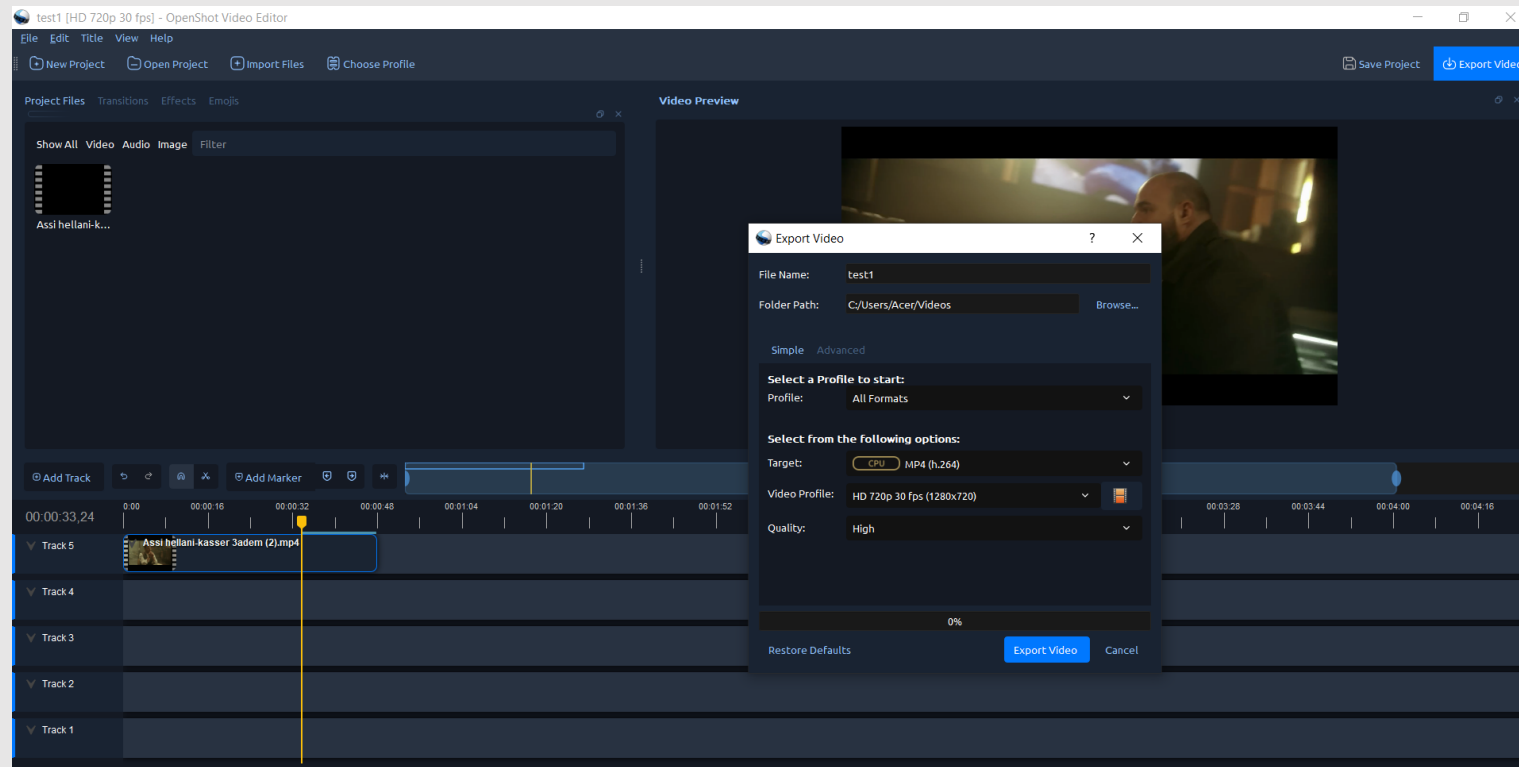


Introduction to audio/video editing

Duration : 2 h

Introduction to video editing





1 Introduction

Video editing basics and terminology

2 Practical demonstration

Openshot basics

Welcome to Video Editing



- Target audience: **Beginners**
- Skills Objective: **Understand video basics before starting editing**
- Duration: **2H**



What is a Video?

- A video is a series of images (frames) shown quickly to simulate motion.
- Includes audio and visual elements.
- Videos tell stories, convey messages, or capture moments.



Common Video File Formats

Format	Description
MP4	Widely used, great quality and compression
AVI	Older format, large file size
MOV	Apple format, good for editing
MKV	Supports multiple audio/subtitles
WMV	Windows format, compact size



What is a Codec?

- Codec = Compressor/Decompressor
- Used to reduce video file size.
- Must be supported to play or edit videos

Examples:

- H.264 (most common)
- H.265 / HEVC (better compression)
- VP9 (open-source, used by YouTube)



Video Resolution

- Resolution = width × height (in pixels)

Name	Resolution
SD	720×480
HD	1280×720
Full HD	1920×1080
2K	2048×1080
4K	3840×2160

- Higher resolution = clearer video but larger file.



Frame Rate (FPS)

- Frames per second (FPS) = How many images shown per second

FPS	Use Case
24	Cinematic look
30	Common for web
60	Smooth motion

- More FPS = smoother video



Video Editing Terminology

Term	Meaning
Cut	Remove part of a clip
Trim	Shorten clip start or end
Ripple Delete	Remove a clip, and delete blanks
Timeline	Organize video/audio elements
Transition	Effect between clips (fade, wipe)
Effect	Add visual style (color, blur)
Overlay	Show image/video on top
Import	Insert an element to the project, video, audio or image
Export	Save final video in a format like mp4



Compressed Videos

Format	Compression Type	Codec Used
MP4	Lossy	H.264, H.265
MOV	Can be lossy or lossless	H.264, ProRes
MKV	Lossy or lossless	VP9, H.264, etc.
WMV	Lossy	WMV codec
FLV	Lossy	Sorenson, VP6
WebM	Lossy	VP8, VP9

"Lossy" compression removes data to reduce size, while "lossless" preserves more detail but still compresses.



Uncompressed Videos

Format	Description
AVI (Uncompressed)	Can store raw video; very large
MOV (Uncompressed)	Often used in Final Cut Pro
YUV / YCbCr	Raw video formats used in broadcast
DPX	Used in digital cinema
RAW (e.g., Blackmagic RAW)	Direct camera sensor data



Summary

Type	Compressed?	File Size	Use Case
MP4	Yes	Small	Sharing, streaming
MOV (H.264)	Yes	Medium	Editing, web
AVI (raw)	No	Huge	Archiving, high-quality edit
RAW / DPX	No	Very Huge	Professional post-production



What is Bitrate in Video?

Bitrate refers to the amount of data processed per second in a video file. It determines:

- Video quality
- File size
- Streaming performance

In simple terms:

Higher bitrate = better quality + larger file size
Lower bitrate = smaller size + possible quality loss



How is Bitrate Measured?

Bitrate is measured in **bits per second (bps)**, but for video, we usually use larger units:

Unit	Meaning
Kbps	Kilobits per second (1,000 bps)
Mbps	Megabits per second (1,000,000 bps)



Typical Video Bitrates (Compressed Videos)

Bitrate is measured in **bits per second (bps)**, but for video, we usually use larger units:

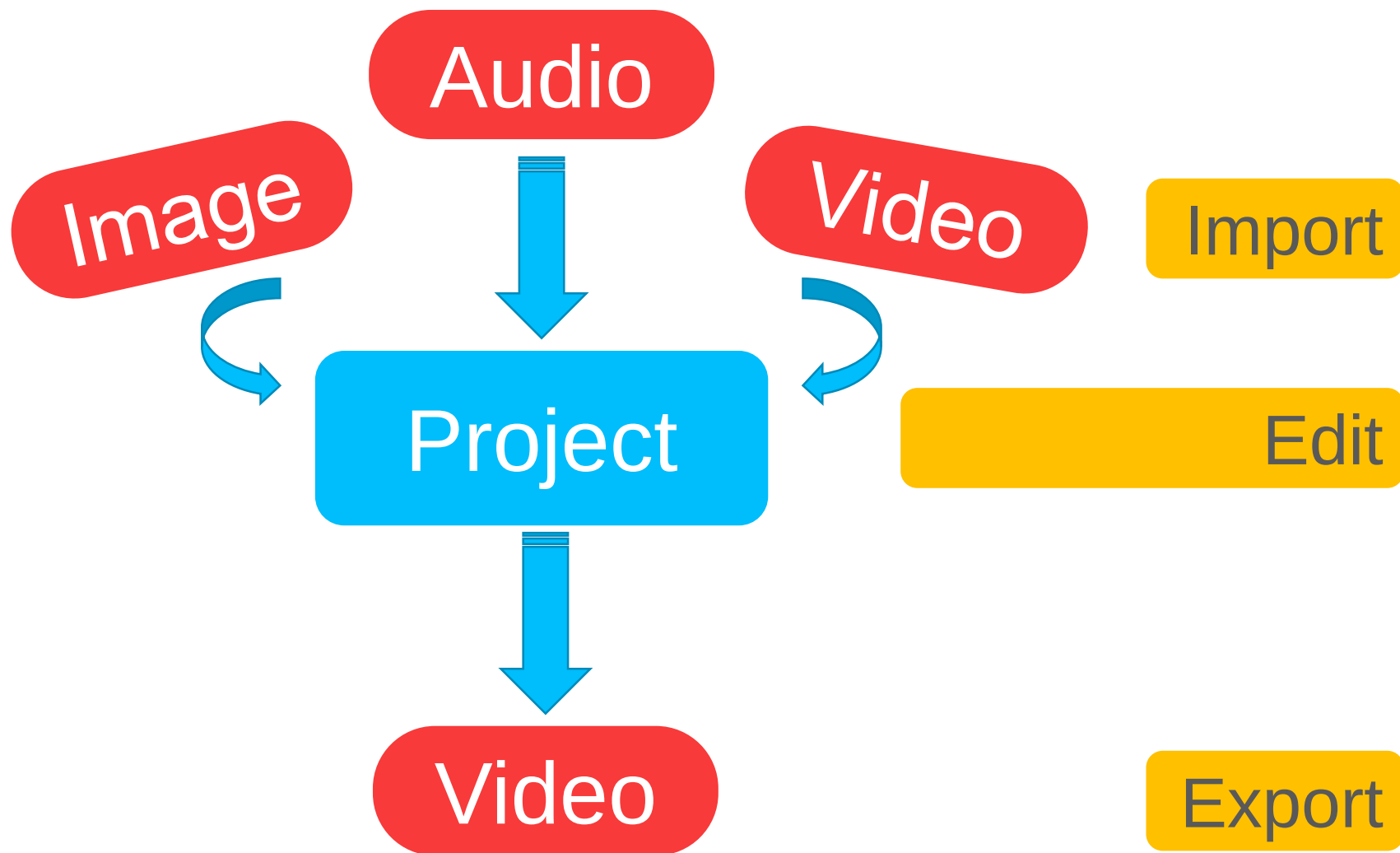
Resolution	Standard Bitrate Range	Notes
720p HD	2 – 5 Mbps	For YouTube and streaming
1080p FHD	5 – 10 Mbps	Good balance of quality/size
4K UHD	15 – 35 Mbps	High-quality video

Bitrate can be constant (CBR) or variable (VBR):

CBR: Same bitrate throughout the video

VBR: Adapts bitrate depending on scene complexity (more efficient)

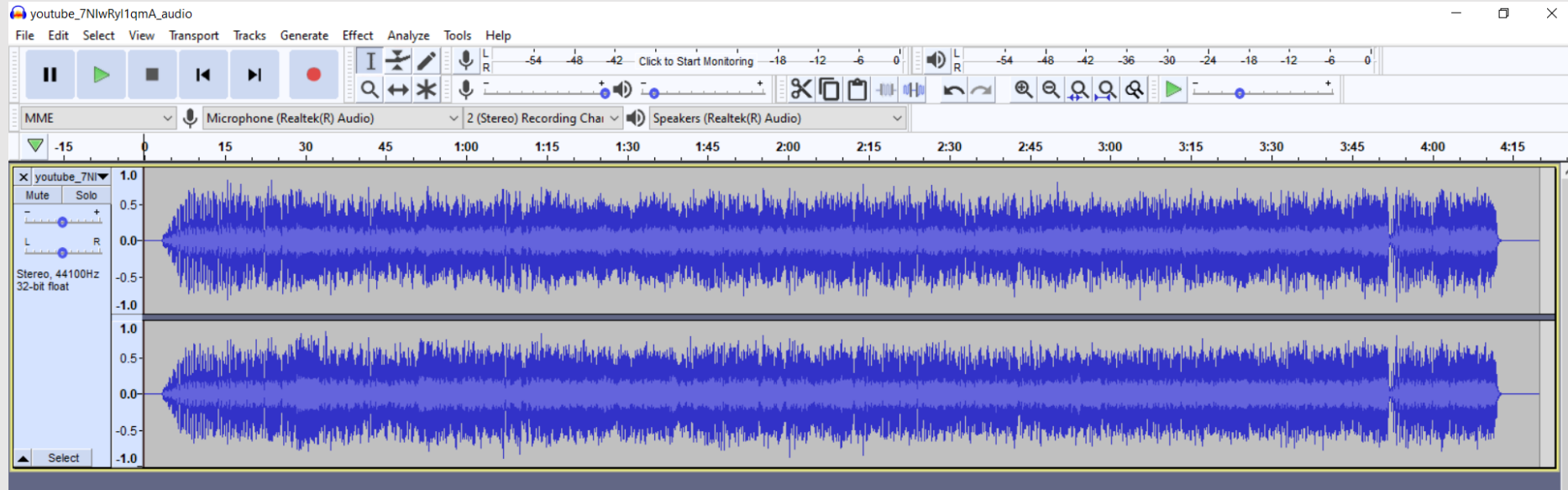
Video editing process





Questions?

Introduction to audio editing



Introduction to Audio Editing



Audio editing = modifying or improving sound recordings

Common tasks:

- Cutting unwanted parts
- Adjusting volume
- Removing noise
- Adding effects (echo, fade, etc.)
- Mixing multiple audio tracks



What is MP3 Format?

MP3 = MPEG-1 Audio Layer III

A **compressed audio format** to reduce file size

Keeps good sound quality while removing less noticeable audio data (called **lossy compression**)

♪ **MP3 is the most common audio format for:**

- Music
- Podcasts
- Voice recordings



MP3 Bitrate and Quality

Bitrate	Audio Quality	File Size
128 Kbps	Medium	Small
192 Kbps	Good (standard)	Moderate
256 Kbps	Very good	Larger
320 Kbps	Excellent (near CD)	Largest



Common Audio Editing Terms

Term	Meaning
Cut/Trim	Remove part of the audio
Fade in/out	Gradual volume increase/decrease
Normalize	Adjust volume to a standard level
Noise Reduction	Remove background noise
Equalizer (EQ)	Adjust frequencies (bass, treble)
Track	An individual audio line in a project



Recording Tips for Clear Audio

- Use a quiet environment
- Keep microphone steady and close to mouth
- Monitor your levels (avoid red zone = clipping)