

# Multi-track audio files for VOD / pre-recorded sessions

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 This article is designated for administrators.

## About

Kaltura Player supports the playback of multi-track audio files, as long as they're prepared, ingested, and delivered correctly.

## Prerequisites

For the files to be ingested and heard correctly in the player, a matching transcoding profile needs to be in place to ingest and transcode the additional language tracks. Each audio track should have a corresponding language flavor, in the account's transcoding profile.



Configuring your account to enable multi-audio tracks requires PS setup; please contact your CSM for assistance.

## Creating a multi-track audio file

The client needs to create an mp4 file with one video track and multiple audio tracks, mixed in (muxed). Additionally, the extra audio tracks need to be notated with the correct language code, for each track. The language notations are in the [ISO 636-2](#) language codes (3 letters).

Creating mp4 files with multiple audio tracks can be achieved using some NLEs, AV encoders, and command line tools (FFmpeg, MP4Box...)

The following shell script uses FFmpeg to add English, Spanish, French, and Chinese to an existing mp4 file. The command below is a **minimum** working example. You will most probably need to adjust the inputs, processing, and output to make it work.

```
#!/bin/bash

# Input/Output
input=path/to/source/video.mp4
output=path/to/target/video.mp4

# Language tracks
file1=path/to/audio/english.aac
file2=path/to/audio/spanish.aac
file3=path/to/audio/french.aac
file4=path/to/audio/chinese.aac

# Language notations
lang0=eng
lang1=eng
lang2=spa
lang3=fr
lang4=zho

# Mixing command
ffmpeg -i "$input" \
-i "$file1" \
-i "$file2" \
-i "$file3" \
-i "$file4" \
-map 0 -map 1 -map 2 -map 3 -map 4 -shortest \
-metadata:s:a:0 language=$lang0 \
-metadata:s:a:1 language=$lang1 \
-metadata:s:a:2 language=$lang2 \
-metadata:s:a:3 language=$lang3 \
-metadata:s:a:4 language=$lang4 \
-codec copy -y "output"
```

## Inspecting the file for audio tracks (optional)

After creating your multi-track audio file, play and inspect it to verify it's working.

In VLC, go to the [Window](#) menu → Media Information → Codec Details.

You should see multiple audio streams after the video stream.

In [MediaInfo](#), you should see something similar to this:

<b>Audio #1</b>	
<b>ID</b>	: 2
<b>Format</b>	: AAC LC
<b>Format/Info</b>	: Advanced Audio Codec Low Complexity
<b>Codec ID</b>	: mp4a-40-2
<b>Duration</b>	: 2 min 10 s
<b>Source duration</b>	: 2 min 10 s
<b>Bit rate mode</b>	: Constant
<b>Bit rate</b>	: 132 kb/s
<b>Channel(s)</b>	: 2 channels
<b>Channel layout</b>	: L R
<b>Sampling rate</b>	: 44.1 kHz

**Frame rate** : 43.066 FPS (1024 SPF)  
**Compression mode** : Lossy  
**Stream size** : 2.01 MiB (21%)  
**Source stream size** : 2.01 MiB (21%)  
**Title** : ISO Media file produced by Google Inc. Created on:  
 02/14/2019.  
**Language : English**  
**Default** : Yes  
**Alternate group** : 1  
**mdhd\_Duration** : 130101

#### **Audio #2**

**ID** : 3  
**Format** : AAC LC  
**Format/Info** : Advanced Audio Codec Low Complexity  
**Codec ID** : mp4a-40-2  
**Duration** : 2 min 10 s  
**Source duration** : 2 min 10 s  
**Bit rate mode** : Variable  
**Bit rate** : 85.5 kb/s  
**Maximum bit rate** : 128 kb/s / 128 kb/s  
**Channel(s)** : 2 channels  
**Channel layout** : L R  
**Sampling rate** : 48.0 kHz  
**Frame rate** : 46.875 FPS (1024 SPF)  
**Compression mode** : Lossy  
**Stream size** : 1.33 MiB (14%)  
**Source stream size** : 1.33 MiB (14%)  
**Language : English**  
**Default** : No  
**Alternate group** : 1  
**mdhd\_Duration** : 130091

#### **Audio #3**

**ID** : 4  
**Format** : AAC LC  
**Format/Info** : Advanced Audio Codec Low Complexity  
**Codec ID** : mp4a-40-2  
**Duration** : 2 min 10 s  
**Source duration** : 2 min 10 s  
**Bit rate mode** : Variable  
**Bit rate** : 88.2 kb/s  
**Maximum bit rate** : 128 kb/s / 128 kb/s  
**Channel(s)** : 2 channels  
**Channel layout** : L R  
**Sampling rate** : 48.0 kHz  
**Frame rate** : 46.875 FPS (1024 SPF)  
**Compression mode** : Lossy  
**Stream size** : 1.37 MiB (14%)  
**Source stream size** : 1.37 MiB (14%)  
**Language : Spanish**  
**Default** : No  
**Alternate group** : 1  
**mdhd\_Duration** : 130091

#### **Audio #4**

**ID** : 5  
**Format** : AAC LC

<b>Format</b>	<b>: AAC LC</b>
<b>Format/Info</b>	<b>: Advanced Audio Codec Low Complexity</b>
<b>Codec ID</b>	<b>: mp4a-40-2</b>
<b>Duration</b>	<b>: 2 min 10 s</b>
<b>Source duration</b>	<b>: 2 min 10 s</b>
<b>Bit rate mode</b>	<b>: Variable</b>
<b>Bit rate</b>	<b>: 86.3 kb/s</b>
<b>Maximum bit rate</b>	<b>: 128 kb/s / 128 kb/s</b>
<b>Channel(s)</b>	<b>: 2 channels</b>
<b>Channel layout</b>	<b>: L R</b>
<b>Sampling rate</b>	<b>: 48.0 kHz</b>
<b>Frame rate</b>	<b>: 46.875 FPS (1024 SPF)</b>
<b>Compression mode</b>	<b>: Lossy</b>
<b>Stream size</b>	<b>: 1.34 MiB (14%)</b>
<b>Source stream size</b>	<b>: 1.34 MiB (14%)</b>
<b>Language : <u>French</u></b>	
<b>Default</b>	<b>: No</b>
<b>Alternate group</b>	<b>: 1</b>
<b>mdhd_Duration : 130091</b>	

#### **Audio #5**

<b>ID</b>	<b>: 6</b>
<b>Format</b>	<b>: AAC LC</b>
<b>Format/Info</b>	<b>: Advanced Audio Codec Low Complexity</b>
<b>Codec ID</b>	<b>: mp4a-40-2</b>
<b>Duration</b>	<b>: 2 min 10 s</b>
<b>Source duration</b>	<b>: 2 min 10 s</b>
<b>Bit rate mode</b>	<b>: Variable</b>
<b>Bit rate</b>	<b>: 72.0 kb/s</b>
<b>Maximum bit rate</b>	<b>: 128 kb/s / 128 kb/s</b>
<b>Channel(s)</b>	<b>: 2 channels</b>
<b>Channel layout</b>	<b>: L R</b>
<b>Sampling rate</b>	<b>: 48.0 kHz</b>
<b>Frame rate</b>	<b>: 46.875 FPS (1024 SPF)</b>
<b>Compression mode</b>	<b>: Lossy</b>
<b>Stream size</b>	<b>: 1.10 MiB (11%)</b>
<b>Source stream size</b>	<b>: 1.10 MiB (11%)</b>
<b>Language : <u>Chinese</u></b>	
<b>Default</b>	<b>: No</b>
<b>Alternate group</b>	<b>: 1</b>
<b>mdhd_Duration : 130091</b>	



Notice there are several audio tracks - #1, #2, #3, #4, #5, each with a language identifier.

## **Playing multi-audio tracks**

If several audio tracks are available on the media, Kaltura Player detects them automatically and enables users to effortlessly choose the preferred audio track. Here's how:

1. Play a multi-audio track with the Kaltura Player.

2. Select the Settings icon.
3. Select the desired language from the Audio options.



To learn more, see [Captions and Audio Tracks](#).