aws elemental

# CONVERTING AMAZON ELASTIC TRANSCODER PRESETS TO AWS ELEMENTAL MEDIACONVERT

HOW TO

# CONTENTS

# INTRODUCTION

This document shows you how to use a script that will convert Amazon Elastic Transcoder (ETS) presets to AWS Elemental MediaConvert presets.

# SETTING UP ENIVROMENT

You will need to install Python 2.7 onto the machine where you are running the script.

## VERIFY PYTHON IS INSTALLED

Python may be installed by default on your machine, or you may have used it in a previous workflow. To verify if Python is installed and what version you have, run the following command:

```
python –version
```

Please make sure that the Python version is a variation of **2.7.x**. If this condition is met, you may skip the next section ‘Installing Python’.

## INSTALLING PYTHON

**Note: You will need to consult Pythons website on which 2.7.x build to download**

Here are the steps to install Python:

```
wget http://www.python.org/ftp/python/2.7.x/Python-2.7.x.tgz # Download
tar xvfz Python-2.7.x.tgz # unzip
cd Python-2.7.x # go into directory
./configure
make # build
su # or 'sudo su' if there is no root user
make install
```

## INSTALLING AWS CLI

Refer to the documentation in the link below for instructions on installing the latest AWS Command Line Interface on a variety of Operating Systems:

http://docs.aws.amazon.com/cli/latest/userguide/installing.html

## CONFIGURE AWS CLI

Once the AWS CLI is installed, configure the AWS CLI use your Amazon account ID that has access to Amazon Elastic Transcoder:

```
$ aws configure
AWS Access Key ID [****************1234]:
AWS Secret Access Key [****************abc]:
Default region name [us-east-1]:
Default output format [json]: json
```

### PRE-WORK

Download the ets_mediaconvert_preset.py script file to your machine, and then make it executable using the following chmod command:

```
chmod +x ets_mediaconvert_preset.py
```

## SCRIPT PARAMETERS

Running the ets_mediaconvert_preset.py script will provide the following help menu. You can also use the '-h' parameter to show the help menu:

```
$ python ets_mediaconvert_preset_v2.py
usage: ets_mediaconvert_preset_v2.py [-h] [-r REGION] [-p ETSID] [-v] [-i]
                                     [-c OUTPUTTYPE] [-f]

ETS to AWS Elemental MediaConvert preset converter

optional arguments:
  -h, --help            show this help message and exit
  -r REGION, --aws-region REGION
                        Valid ETS AWS Region to connect to
  -p ETSID, --preset-id ETSID
                        ETS Preset ID
  -v, --verbose         Verbose debug messages
  -i, --interactive     Interactive Mode for user
  -c OUTPUTTYPE, --output-type OUTPUTTYPE
                        Output group type for preset to move to ex: file,
                        apple, dash, smooth
  -f, --save            Save presets to file
```

The following parameters are required if you are not using interactive mode:

-r, -p, -c

If you use interactive mode ('-i'), then all other parameters fed in will be ignored and you will need to follow the prompts.

If you want verbose logging enabled, use the '-v' parameter. When verbose logging, you will see the JSON output for each step of the conversion process.

For the ETS Preset ID (-p, --preset-id), you can find a list of your presets by logging into the AWS Console, selecting Amazon Elastic Transcoder from the services menu, and clicking on Presets in the left hand navigation.

### ERROR HANDLING

The script handles improper configurations and warns the user when this happens.

Error examples:

1. Containers and Codecs not currently supported by AWS Elemental MediaConvert

2. Improper output group configurations, such as DASH with Transport Stream codecs

For feature mapping between the services, please consult the ETS to AWS Elemental MediaConvert Matrix and the AWS Elemental MediaConvert documentation at the end of this guide.

### SAVING PRESET TO FILE

When using the -f (or --save) flag, this will save two files. One contains the video and audio parameters and the other contains a Thumbnail preset. When this flag is excluded, the output of the script will just print on the terminal screen.

## SCRIPT EXAMPLES

### TRANSPORT STREAM WITH APPLE HLS OUTPUT TYPE

```
$ python ets_mediaconvert_preset_v2.py -r us-west-2 -p 1351620000001-200030 -c apple
{
    "Description": "HLS 1M",
    "Name": "HLS 1M",
    "Settings": {
        "AudioDescriptions": [
            {
                "AudioSourceName": "Audio Selector 1",
                "AudioTypeControl": "FOLLOW_INPUT",
                "CodecSettings": {
                    "AacSettings": {
                        "AudioDescriptionBroadcasterMix": "NORMAL",
                        "Bitrate": 128000,
                        "CodecProfile": "LC",
                        "CodingMode": "CODING_MODE_2_0",
                        "RateControlMode": "CBR",
                        "RawFormat": "NONE",
                        "SampleRate": 44100,
                        "Specification": "MPEG4"
                    },
                    "Codec": "AAC"
                },
                "LanguageCodeControl": "FOLLOW_INPUT"
            }
        ],
        "ContainerSettings": {
            "Container": "M3U8",
            "M3u8Settings": {
                "AudioFramesPerPes": 2,
                "AudioPids": [
                    482,
                    483,
                    484,
                    485,
                    486,
                    487,
                    488,
                    489,
```

```
                    490,
                    491,
                    492
                ],
                "PatInterval": 100,
                "PcrControl": "PCR_EVERY_PES_PACKET",
                "PmtInterval": 100,
                "PmtPid": 480,
                "ProgramNumber": 1,
                "Scte35Source": "NONE",
                "TimedMetadata": "NONE",
                "VideoPid": 481
            }
        },
        "VideoDescription": {
            "AfdSignaling": "NONE",
            "AntiAlias": "ENABLED",
            "CodecSettings": {
                "Codec": "H_264",
                "H264Settings": {
                    "AdaptiveQuantization": "HIGH",
                    "Bitrate": 872000,
                    "CodecLevel": "LEVEL_3_1",
                    "CodecProfile": "MAIN",
                    "EntropyEncoding": "CAVLC",
                    "FlickerAdaptiveQuantization": "DISABLED",
                    "FramerateControl": "INITIALIZE_FROM_SOURCE",
                    "FramerateConversionAlgorithm": "DUPLICATE_DROP",
                    "GopBReference": "DISABLED",
                    "GopClosedCadence": 1,
                    "GopSize": 90,
                    "GopSizeUnits": "FRAMES",
                    "HrdBufferInitialFillPercentage": 90,
                    "HrdBufferSize": 1744000,
                    "InterlaceMode": "FOLLOW_BOTTOM_FIELD",
                    "MinIInterval": 0,
                    "NumberBFramesBetweenReferenceFrames": 0,
                    "NumberReferenceFrames": 3,
                    "ParControl": "INITIALIZE_FROM_SOURCE",
                    "QualityTuningLevel": "SINGLE_PASS",
                    "RateControlMode": "CBR",
                    "RepeatPps": "DISABLED",
                    "SceneChangeDetect": "ENABLED",
                    "Slices": 1,
                    "SlowPal": "DISABLED",
                    "Softness": 0,
                    "SpatialAdaptiveQuantization": "ENABLED",
                    "Syntax": "DEFAULT",
                    "Telecine": "NONE",
                    "TemporalAdaptiveQuantization": "ENABLED",
                    "UnregisteredSeiTimecode": "DISABLED"
                }
            },
            "ColorMetadata": "INSERT",
            "Height": 432,
            "RespondToAfd": "NONE",
            "ScalingBehavior": "DEFAULT",
            "Sharpness": 100,
```

```
            "TimecodeInsertion": "DISABLED",
            "Width": 640
        }
    }
}
=================== THUMBNAILS====================
=================SAVING FILES=======================
{
    "Settings": {
        "VideoDescription": {
            "CodecSettings": {
                "FrameCaptureSettings": {
                    "MaxCaptures": 10000000,
                    "FramerateDenominator": 300,
                    "FramerateNumerator": 1,
                    "Quality": 80
                },
                "Codec": "FRAME_CAPTURE"
            },
            "DropFrameTimecode": "ENABLED",
            "RespondToAfd": "NONE",
            "AntiAlias": "ENABLED",
            "Width": 192,
            "Sharpness": 50,
            "AfdSignaling": "NONE",
            "Height": 108,
            "ScalingBehavior": "DEFAULT",
            "ColorMetadata": "INSERT",
            "TimecodeInsertion": "DISABLED"
        },
        "ContainerSettings": {
            "Container": "RAW"
        }
    },
    "Description": "1351620000001-200030 Thumbnails",
    "Name": "1351620000001-200030 Thumbnails"
}
```

## MP2TS VIDEO AND MP2 AUDIO WITH FILE OUTPUT

```
python ets_mediaconvert_preset_v2.py -r us-west-2 -p 1502608946539-ivtldc -c file
{
    "Description": "2018-05-21 11-07-03",
    "Name": "Test",
    "Settings": {
        "AudioDescriptions": [
            {
                "AudioSourceName": "Audio Selector 1",
                "AudioTypeControl": "FOLLOW_INPUT",
                "CodecSettings": {
                    "Codec": "MP2",
                    "Mp2Settings": {
                        "Bitrate": 160000,
                        "Channels": 2,
                        "SampleRate": 48000
                    }
                },
                "LanguageCodeControl": "FOLLOW_INPUT"
```

```
            }
        ],
        "ContainerSettings": {
            "Container": "M2TS",
            "M2tsSettings": {
                "AudioBufferModel": "ATSC",
                "AudioFramesPerPes": 2,
                "AudioPids": [
                    482,
                    483,
                    484,
                    485,
                    486,
                    487,
                    488,
                    489,
                    490,
                    491,
                    492
                ],
                "Bitrate": 0,
                "BufferModel": "MULTIPLEX",
                "DvbSubPids": [
                    460,
                    461,
                    462,
                    463,
                    464,
                    465,
                    466,
                    467,
                    468,
                    469,
                    470,
                    471,
                    472,
                    473,
                    474,
                    475,
                    476,
                    477,
                    478,
                    479
                ],
                "DvbTeletextPid": 499,
                "EbpAudioInterval": "VIDEO_INTERVAL",
                "EbpPlacement": "VIDEO_AND_AUDIO_PIDS",
                "EsRateInPes": "EXCLUDE",
                "NullPacketBitrate": 0,
                "PatInterval": 100,
                "PcrControl": "PCR_EVERY_PES_PACKET",
                "PmtInterval": 100,
                "PmtPid": 480,
                "PrivateMetadataPid": 503,
                "ProgramNumber": 1,
                "RateMode": "CBR",
                "Scte35Source": "NONE",
                "SegmentationMarkers": "NONE",
```

```
                "SegmentationStyle": "MAINTAIN_CADENCE",
                "VideoPid": 481
            }
        },
        "VideoDescription": {
            "AfdSignaling": "NONE",
            "AntiAlias": "ENABLED",
            "CodecSettings": {
                "Codec": "MPEG2",
                "Mpeg2Settings": {
                    "Bitrate": 5400000,
                    "CodecLevel": "AUTO",
                    "CodecProfile": "MAIN",
                    "FramerateControl": "SPECIFIED",
                    "FramerateConversionAlgorithm": "DUPLICATE_DROP",
                    "FramerateDenominator": 1,
                    "FramerateNumerator": 30,
                    "GopClosedCadence": 1,
                    "GopSize": 90,
                    "GopSizeUnits": "FRAMES",
                    "HrdBufferSize": 10800000,
                    "InterlaceMode": "FOLLOW_BOTTOM_FIELD",
                    "MinIInterval": 0,
                    "NumberBFramesBetweenReferenceFrames": 2,
                    "ParControl": "INITIALIZE_FROM_SOURCE",
                    "QualityTuningLevel": "SINGLE_PASS",
                    "RateControlMode": "CBR",
                    "SceneChangeDetect": "ENABLED",
                    "SlowPal": "DISABLED",
                    "Softness": 0,
                    "SpatialAdaptiveQuantization": "ENABLED",
                    "Telecine": "NONE",
                    "TemporalAdaptiveQuantization": "ENABLED"
                }
            },
            "ColorMetadata": "INSERT",
            "Height": 1080,
            "RespondToAfd": "NONE",
            "ScalingBehavior": "DEFAULT",
            "Sharpness": 100,
            "TimecodeInsertion": "DISABLED",
            "Width": 1920
        }
    }
}
=================== THUMBNAILS====================
=================SAVING FILES=======================
{
    "Settings": {
        "VideoDescription": {
            "CodecSettings": {
                "FrameCaptureSettings": {
                    "MaxCaptures": 10000000,
                    "FramerateDenominator": 60,
                    "FramerateNumerator": 1,
                    "Quality": 80
                },
                "Codec": "FRAME_CAPTURE"
```

```
            },
            "DropFrameTimecode": "ENABLED",
            "RespondToAfd": "NONE",
            "AntiAlias": "ENABLED",
            "Width": 192,
            "Sharpness": 50,
            "AfdSignaling": "NONE",
            "Height": 108,
            "ScalingBehavior": "DEFAULT",
            "ColorMetadata": "INSERT",
            "TimecodeInsertion": "DISABLED"
        },
        "ContainerSettings": {
            "Container": "RAW"
        }
    },
    "Description": "1502608946539-ivtldc Thumbnails",
    "Name": "1502608946539-ivtldc Thumbnails"
}
```

## MXF MPEG2 AND PCM AUDIO WITH FILE OUTPUT TYPE

```
{
    "Description": "Full HD 1080i50 - XDCAM422",
    "Name": "Full HD 1080i50 - XDCAM42",
    "Settings": {
        "AudioDescriptions": [
            {
                "AudioSourceName": "Audio Selector 1",
                "AudioTypeControl": "FOLLOW_INPUT",
                "CodecSettings": {
                    "Codec": "WAV",
                    "WavSettings": {
                        "BitDepth": 24,
                        "Channels": 2,
                        "SampleRate": 192000
                    }
                },
                "LanguageCodeControl": "FOLLOW_INPUT"
            }
        ],
        "ContainerSettings": {
            "Container": "MXF"
        },
        "VideoDescription": {
            "AfdSignaling": "NONE",
            "AntiAlias": "ENABLED",
            "CodecSettings": {
                "Codec": "MPEG2",
                "Mpeg2Settings": {
                    "Bitrate": 50000000,
                    "CodecLevel": "AUTO",
                    "CodecProfile": "MAIN",
                    "FramerateControl": "SPECIFIED",
                    "FramerateConversionAlgorithm": "DUPLICATE_DROP",
                    "FramerateDenominator": 1,
                    "FramerateNumerator": 25,
                    "GopClosedCadence": 1,
```

```
                    "GopSize": 12,
                    "GopSizeUnits": "FRAMES",
                    "HrdBufferSize": 100000,
                    "InterlaceMode": "FOLLOW_BOTTOM_FIELD",
                    "MinIInterval": 0,
                    "NumberBFramesBetweenReferenceFrames": 2,
                    "ParControl": "SPECIFIED",
                    "ParDenominator": 30,
                    "ParNumerator": 40,
                    "QualityTuningLevel": "SINGLE_PASS",
                    "RateControlMode": "CBR",
                    "SceneChangeDetect": "ENABLED",
                    "SlowPal": "DISABLED",
                    "Softness": 0,
                    "SpatialAdaptiveQuantization": "ENABLED",
                    "Telecine": "NONE",
                    "TemporalAdaptiveQuantization": "ENABLED"
                }
            },
            "ColorMetadata": "INSERT",
            "Height": 1080,
            "RespondToAfd": "NONE",
            "ScalingBehavior": "DEFAULT",
            "Sharpness": 100,
            "TimecodeInsertion": "DISABLED",
            "Width": 1920
        }
    }
}
=================== THUMBNAILS====================
=================SAVING FILES=========================
{
    "Settings": {
        "VideoDescription": {
            "CodecSettings": {
                "FrameCaptureSettings": {
                    "MaxCaptures": 10000000,
                    "FramerateDenominator": 300,
                    "FramerateNumerator": 1,
                    "Quality": 80
                },
                "Codec": "FRAME_CAPTURE"
            },
            "DropFrameTimecode": "ENABLED",
            "RespondToAfd": "NONE",
            "AntiAlias": "ENABLED",
            "Width": 1920,
            "Sharpness": 50,
            "AfdSignaling": "NONE",
            "Height": 1080,
            "ScalingBehavior": "DEFAULT",
            "ColorMetadata": "INSERT",
            "TimecodeInsertion": "DISABLED"
        },
        "ContainerSettings": {
            "Container": "RAW"
        }
    },
```

```
    "Description": "1351620000001-100230 Thumbnails",
    "Name": "1351620000001-100230 Thumbnails"
}
```

# THUMBNAILS IN AWS ELEMENTAL MEDIACONVERT

## INTRODUCTION

Generating thumbnails works differently in AWS Elemental MediaConvert compared to Amazon Elastic Transcoder. In Elastic Transcoder, if users attach a video configuration to a preset, they are also required to attach a thumbnail configuration by default. In AWS Elemental MediaConvert, generating thumbnails is optional. Users are required to create a file output group, remove the audio from the output, change the codec to JPEG Frame Capture, and under Output Settings, change the container to 'No Container'. Users can then configure the image resolution and interval (framerate controller).

**Note:** Jobs containing only thumbnail outputs are invalid and not supported in AWS Elemental MediaConvert. Thumbnail creation needs to be included with output groups that contain video/audio configurations.

Example JSON:

```
{
  "Description": "Thumbnail Template",
  "Name": "Thumbnail Template",
  "Settings": {
    "VideoDescription": {
      "Width": 1080,
      "ScalingBehavior": "DEFAULT",
      "Height": 720,
      "TimecodeInsertion": "DISABLED",
      "AntiAlias": "ENABLED",
      "Sharpness": 50,
      "CodecSettings": {
        "Codec": "FRAME_CAPTURE",
        "FrameCaptureSettings": {
          "FramerateNumerator": 1,
          "FramerateDenominator": 5,
          "MaxCaptures": 10000000,
          "Quality": 80
        }
      },
      "AfdSignaling": "NONE",
      "DropFrameTimecode": "ENABLED",
      "RespondToAfd": "NONE",
      "ColorMetadata": "INSERT"
    },
    "ContainerSettings": {
      "Container": "RAW"
    }
  }
}
```

## DOCUMENTATION

Included with this guide is a matrix that maps Amazon Elastic Transcoder preset parameters to AWS Elemental MediaConvert preset parameters.

The Elastic Transcoder parameters marked in red indicate there is not an equivalent in AWS Elemental MediaConvert. The Elastic Transcoder parameters marked in orange means there is an equivalent in AWS Elemental MediaConvert. The Elastic Transcoder *audio* parameters mapped in green means there are equivalent parameters in AWS Elemental MediaConvert. The AWS Elemental MediaConvert *video* parameters marked in green are parameters that are new to the service.

Note that some fields in Elastic Transcoder may be broken into two parameters in MediaConvert. For example, in ETS framerate is a single string value. (i.e. “30”), while in MediaConvert this is two integer or float values (FramerateDenominator, FramerateNumerator).

AWS Elemental MediaConvert parameters marked in yellow indicate new parameters.

| Amazon Elastic Transcoder | | | AWS Elemental MediaConvert | | |
|---|---|---|---|---|---|
| **object/propertyName** | **propertyName** | **propertyValue** | **object/propertyName** | **propertyName / Settings** | **propertyValue** |
| Video | | | Mpeg2Settings/VideoDescription | | |
| Video | Codec | mpeg2 | | AdaptiveQuantization | OFF\| LOW \| MEDIUM \| HIGH |
| Video | Bitrate | string | | Bitrate | int |
| Video | SizingPolicy | Fit \| Fill \| Stretch \| Keep \| ShrinkToFit \| ShrinkToFill | | HrdBufferInitialFillPercentage | int |
| Video\CodecOptions | BufferSize | string | | HrdBufferSize | int |
| Video | MaxWidth | string | | CodecLevel | AUTO \| LOW \| MAIN \| HIGH1440 \| HIGH |
| Video | PaddingPolicy | Pad \| NoPad | | CodecProfile | MAIN\| PROFILE_422 |
| Video | MaxHeigth | string | | Syntax | DEFAULT\| D_10 |
| | | | | FramerateDenominator | int |
| | | | | FramerateControl | INITIALIZE_FROM_SOURCE \| SPECIFIED |
| Video | FrameRate | 10 \| 15 \| 23.97 \| 27 \| 25 \| 29.97 \| 30 \| 60 | | FramerateNumerator | int |
| | | | | GopClosedCadence | int |
| | | | | NumberBFramesBetweenReferenceFrames | int |
| Video | KeyframesMaxDist | string | | GopSize | double |
| Video | FixedGOP | true \| false | | | |
| | | | | GopSizeUnits | frames \| seconds |
| Video\CodecOptions | InterlacedMode | Progressive \| TopFirst \| BottomFirst \| auto | | InterlaceMode | progressive \| top_field \| bottom_field \| follow_top_field \| follow_bottom_field |
| | | | | InterpolateFrc | true \| false |
| | | | | LookAheadRateControl | auto \| intra_dc_percision_8 \| intra_dc_precision_9 \| intra_dc_precision_10 \| intra_dc_prevision_11 |
| Video\CodecOptions | MaxBitrate | string | | MaxBitrate | int |
| | | | | MinBitrate | int |
| | | | | MinBufOcc | int |
| | | | | MinIInterval | int |
| | | | | ParDenominator | int |
| | | | | ParControl | INITIALIZE_FROM_SOURCE \| SPECIFIED |
| Video | DisplayAspectRatio | auto \| 1:1 \| 4:3 \| 3:2 \| 16:9 | | ParNumerator | int |
| | | | | QualityTuningLevel | SINGLE_PASS \| MULTI_PASS |
| | | | | RateControlMode | VBR \| CBR |
| Video | ColorSpaceConversionMode | None \| Bt709toBt601 \| Bt601toBt709 \| Audio | | SceneChangeDetect | DISABLED \| ENABLED |
| | | | | SlowPal | DISABLED \| ENABLED |
| | | | | Softness | int |
| | | | | SpatialAdaptiveQuantization | DISABLED \| ENABLED |
| | | | | Telecine | NONE\| SOFT \| HARD |
| | | | | TemporalAdaptiveQuantization | DISABLED \| ENABLED |
| | | | | | |
| Video | | | H2642Settings/VideoDescription | | |
| Video | Codec | H.264 | | AdaptiveQuantization | OFF\| LOW \| MEDIUM \| HIGH \| HIGHER \| MAX |
| Video | Bitrate | string | | Bitrate | int |
| Video | MaxWidth | string | | HrdBufferInitialFillPercentage | int |
| Video | MaxHeigth | string | | HrdBufferSize | int |
| | | | | Cabac | true \| false |
| Video\CodecOptions | Level | 1\|1b\|1.1\|1.2\|1.3\|2\|2.1\|2.2\|3\|3.1\|3.2\|4\|4.1 | | CodecLevel | AUTO\| LEVEL_1 \| LEVEL_1_1 \| LEVEL_1_2 \| LEVEL_1_3 \| LEVEL_2 \| LEVEL_2_1 \| LEVEL_2_2 \| LEVEL_3 \| LEVEL_3_1 \| LEVEL_3_2 \| LEVEL_4 \| LEVEL_4_1 \| LEVEL_4_2 \| LEVEL_5 \| LEVEL_5_1 \| LEVEL_5_2 |
| Video\CodecOptions | Profile | baseline\|main\|high\|0\|1\|2\|3 | | CodecProfile | BASELINE \| HIGH \| HIGH_10BIT \| HIGH_422 \| HIGH_422_10BIT \| MAIN |
| | | | | FlickerAdaptiveQuantization | DISABLED \| ENABLED |
| | | | | | |
| | | | | FramerateDenominator | int |
| | | | | FramerateControl | INITIALIZE_FROM_SOURCE \| SPECIFIED |
| Video | FrameRate | 10 \| 15 \| 23.97 \| 27 \| 25 \| 29.97 \| 30 \| 60 | | FramerateNumerator | int |
| | | | | GopBReference | DISABLED \| ENABLED |
| Video\CodecOptions | MaxReferenceFrames | string | | GopClosedCadence | int |
| | | | | GopNumBFrames | int |
| | | | | GopSize | double |
| | | | | GopSizeUnits | FRAMES \| SECONDS |
| Video\CodecOptions | InterlaceMode | Progressive \| TopFirst \| BottomFirst \| auto | | InterlaceMode | PROGRESSIVE \| TOP_FIELD \| BOTTOM_FIELD \| FOLLOW_TOP_FIELD \| FOLLOW_BOTTOM_FIELD |
| | | | | FramerateConversionAlgorithm | DUPLICATE_DROP \|INTERPOLATE |
| | | | | | |
| | | | | MaxBitrate | int |
| | | | | | |
| | | | | HrdBufferInitialFillPercentage | int |
| | | | | MinIInterval | int |
| | | | | ParDenominator | int |
| | | | | ParControl | INITIALIZE_FROM_SOURCE \| SPECIFIED |
| | | | | ParNumerator | int |
| Video | DisplayAspectRatio | auto \| 1:1 \| 4:3 \| 3:2 \| 16:9 | | QualityTuningLevel | SINGLE_PASS \| MULTI_PASS |
| | | | | RateControlMode | VBR \| CBR |
| | | | | SceneChangeDetect | DISABLED \| ENABLED |
| | | | | SlowPal | DISABLED \| ENABLED |
| | | | | Softness | int |
| | | | | SpatialAdaptiveQuantization | DISABLED \| ENABLED |
| Video | ColorSpaceConversionMode | None \| Bt709toBt601 \| Bt601toBt709 \| Audio | | Telecine | NONE\| SOFT \| HARD |
| | | | | TemporalAdaptiveQuantization | DISABLED \| ENABLED |

| Amazon Elastic Transcoder | | | AWS Elemental MediaConvert | | |
|---|---|---|---|---|---|
| **object/propertyName** | **propertyName** | **propertyValue** | **object/propertyName** | **propertyName / Settings** | **propertyValue** |
| | | | AudioDescriptions | | |
| | | | | AudioSourceName | string (ie: "Audio Selector 1") |
| | | | | AudioType | int |
| | | | | AudioTypeControl | FOLLOW_INPUT \| USE_CONFIGURED |
| | | | | LanguageCodeControl | FOLLOW_INPUT \| USE_CONFIGURED |
| | | | | | |
| Audio | | | AacSettings/AudioDescriptions | | |
| | AudioPackingMode | SingleTrack \| OneChannelPerTrack\| OneChannelPerTrackWithMosTo8Tracks | | AudioDescriptionBroadcasterMix | NORMAL \| BROADCASTER_MIXED_AD |
| | BitRate | int | | Bitrate | int |
| | Codec | aac | | Codec is in AudioDescriptions object | |
| Audio/CodecOptions | | | | CodecProfile | LC\|HEV1\|HEV2 |
| | BitDepth | | | CodingMode | AD_RECEIVER_MIX \| CODING_MODE_1_0 \| CODING_MODE_1_1 \| CODING_MODE_2_0 \| CODING_MODE_5_1 |
| | BitOrder | | | RawFormat | LATAM_LOAS \| NONE |
| | Profile | auto \| AAC-LC \| HE-AAC \| HE-AACv2 | | Specification | MPEG2 \| MPEG4 |
| | Signed | | | RateControlMode | VBR \| CBR |
| Audio | SampleRate | auto \| 22050 \| 32000 \|44100 \| 48000 \| 96000 | | SampleRate | 8000 \| 12000\| 16000 \| 22050 \| 24000\| 32000\| 44100 \|48000\| 96000 (int) |
| | | | | VbrQuality | LOW \| MEDIUM_LOW \| MEDIUM_HIGH \| HIGH |
| | | | | | |
| Audio | | | WavSettings/AudioDescriptions | | |
| | Codec | pcm | | Codec is in AudioDescriptions object | |
| Audio/CodecOptions | BitDepth | 16 \| 24 | | BitDepth | 16 \| 24 |
| | BitOrder | | | | |
| | Profile | | | | |
| | Signed | | | | |
| | Channels | auto \| 0 \| 1 \| 2 | | Channels | 1 \| 2 \| 4 \| 8 |
| | SampleRate | auto \| 22050 \| 32000 \|44100 \| 48000 \| 96000 | | SampleRate | 8000 \| 44100 \| 192000 |
| | AudioPackingMode | SingleTrack \| OneChannelPerTrack\| OneChannelPerTrackWithMosTo8Tracks | | | |
| | | | | | |
| Audio | | | Mp2Settings/AudioDescriptions | | |
| | Codec | mp2 | | Codec is in AudioDescriptions object | |
| | BitRate | int | | Bitrate | int |
| | Channels | audio \| 0 \| 1 \| 2 | | Channels | 1 \| 2 |
| | SampleRate | auto \| 22050 \| 32000 \|44100 \| 48000 \| 96000 | | SampleRate | 32000 \| 44100 \| 48000 |
| | AudioPackingMode | null | | | |
| CodecOptions | | null | | | |