

LiveKit Voice Pipeline Agent API Documentation

LiveKit's Voice Pipeline Agent with a **Flask backend** to validate and trim audio before Text-to-Speech (TTS) processing. It includes a Flask API that checks if the estimated audio length exceeds **60 seconds** and trims it if necessary. The script runs Flask in a background thread while simultaneously starting the **LiveKit Voice Pipeline Agent**. The agent uses a **callback function** to estimate text-based audio length before processing and interacts with the Flask API to validate it. The setup involves installing dependencies, configuring **LiveKit API credentials**, and running the script. The documentation also provides troubleshooting steps and configuration details.

Package used

Flask,livekit

Workflow

1. Estimating Audio Length

- The `estimate_audio_length(text)` function estimates the length of text-based audio before TTS.
- It assumes an average speech rate of 2 words per second.

2. Flask Backend Validation

- The `before_tts_cb(session, text)` function calls the `/validate_audio` endpoint to check if the estimated length exceeds 60 seconds.
- If the response indicates trimming, it adjusts the audio accordingly.

3. LiveKit Integration

- The script initializes `livekit.VoicePipelineAgent` with LiveKit API credentials.
- The `before_tts_callback` is set to `before_tts_cb` to validate audio length before TTS.
- The agent starts processing voice interactions.

Output Screenshot :

