AVIAN

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Case Study

Automating SOP-to-Training Video Generation

01 Project Overview

Project Overview

The objective was to streamline and automate the transformation of basic SOPs into fully rendered training videos. These videos would serve as visual aids for onboarding and staff training using AI-powered scripting, scene generation, and video rendering, all done without human video editing.

02 Problems

Problems

01 SOPs are often minimal, unclear, & hard to visualize.

02 Manual process resulted in long turnaround times and high costs.

03 Existing processes are slow, labor-intensive, and lack scalability.

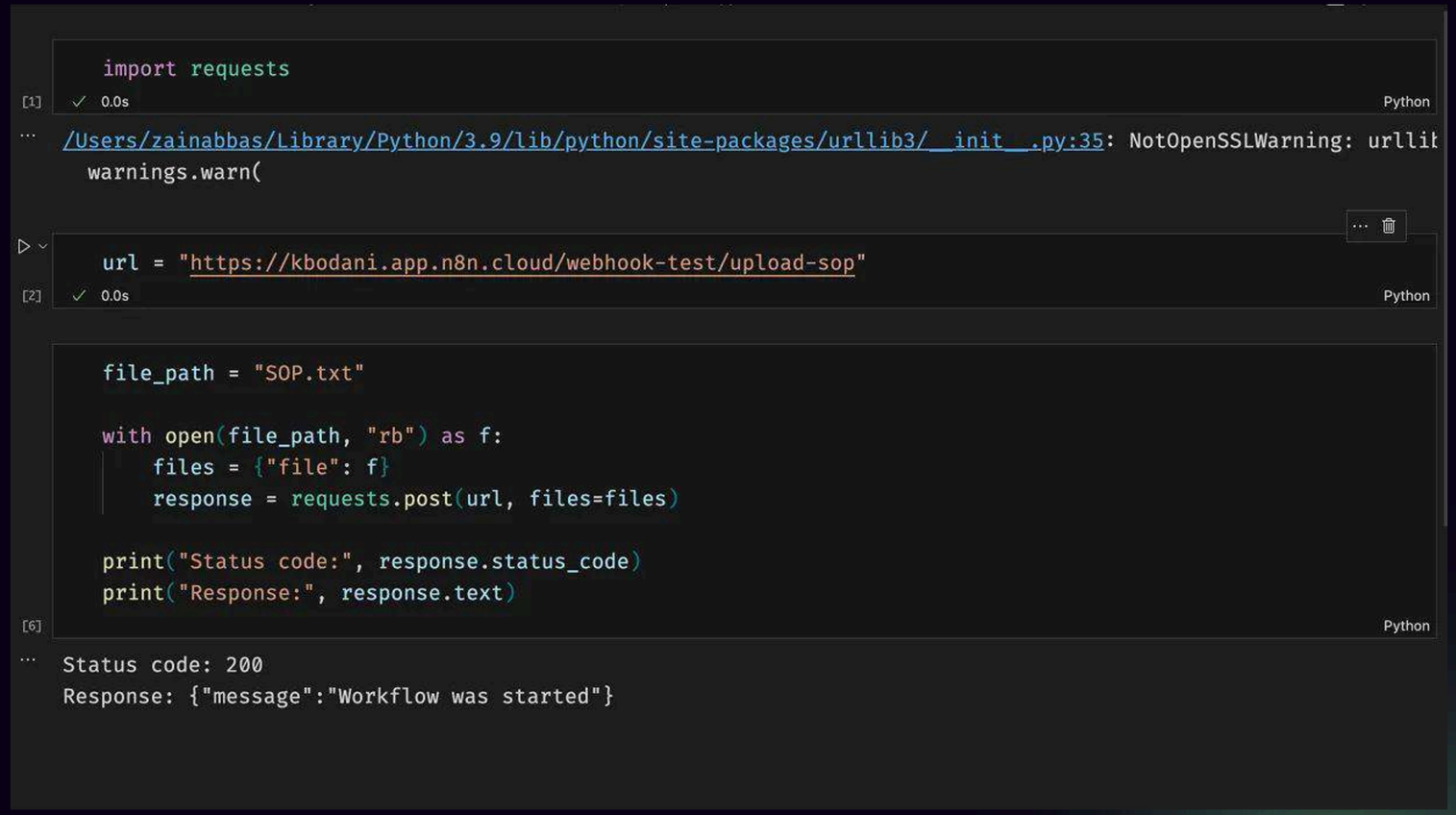
04 The solution needed to be fast, automated, and scalable.

03 Solutions

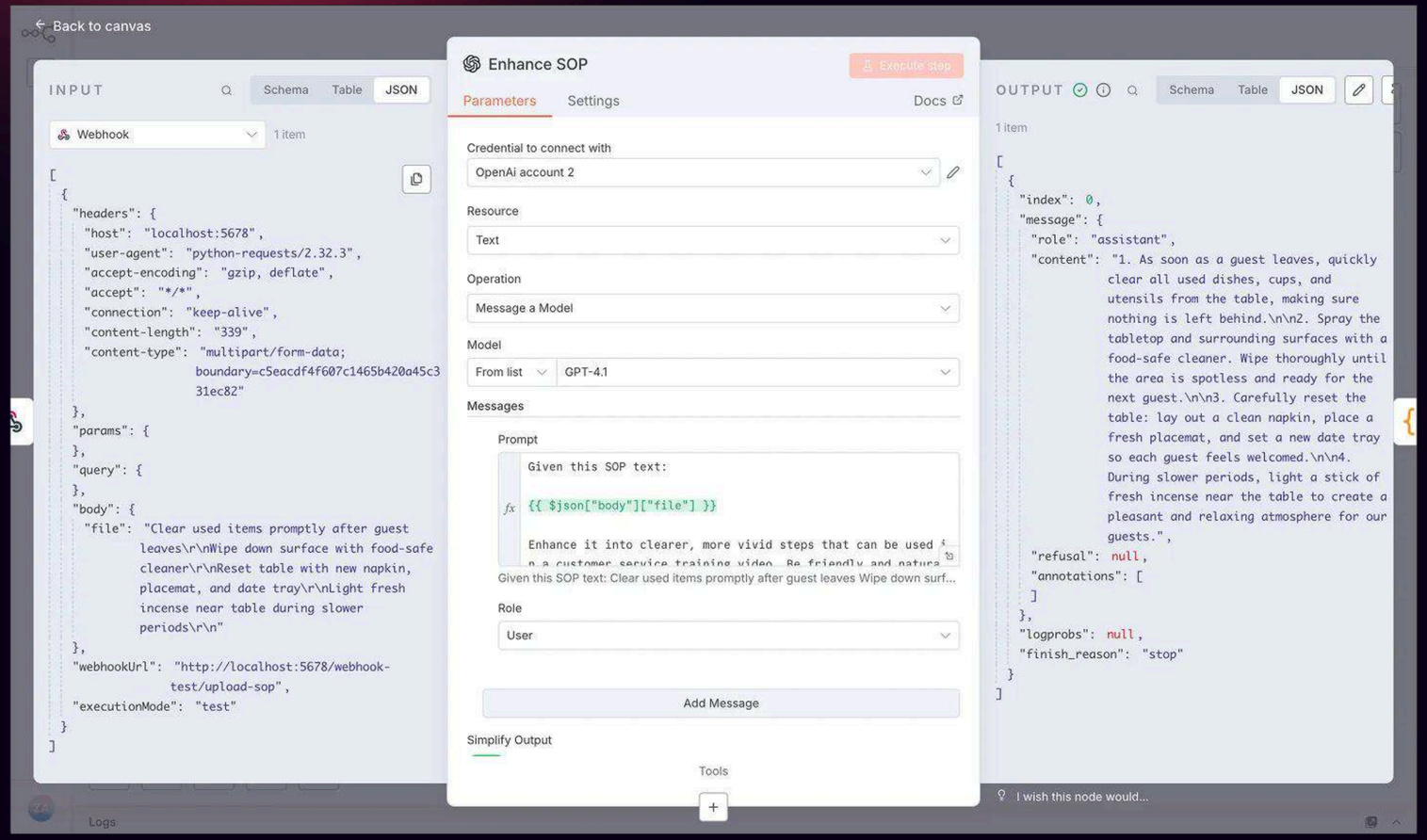
Upload SOP to n8n Webhook

01

A lightweight Python script was created to upload SOP text files directly to an n8n webhook, removing the need for manual file uploads or copy-pasting. This allowed the pipeline to be triggered programmatically, saving time and reducing user intervention.



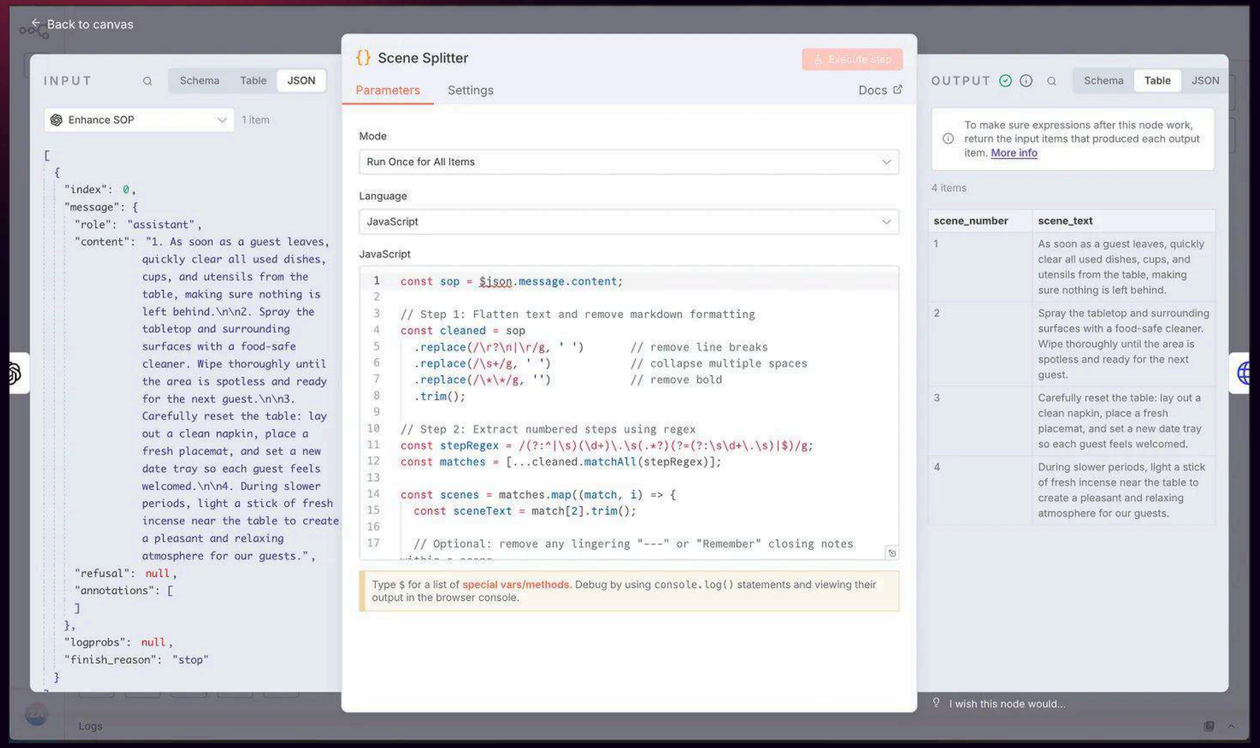
Enhance SOP Using GPT-4



02

Once uploaded, the SOP was processed by GPT-4 to improve clarity, add detail, and break down vague instructions into precise, actionable steps. This ensured the SOP was ready for visual conversion without misinterpretation.

Scene Splitting



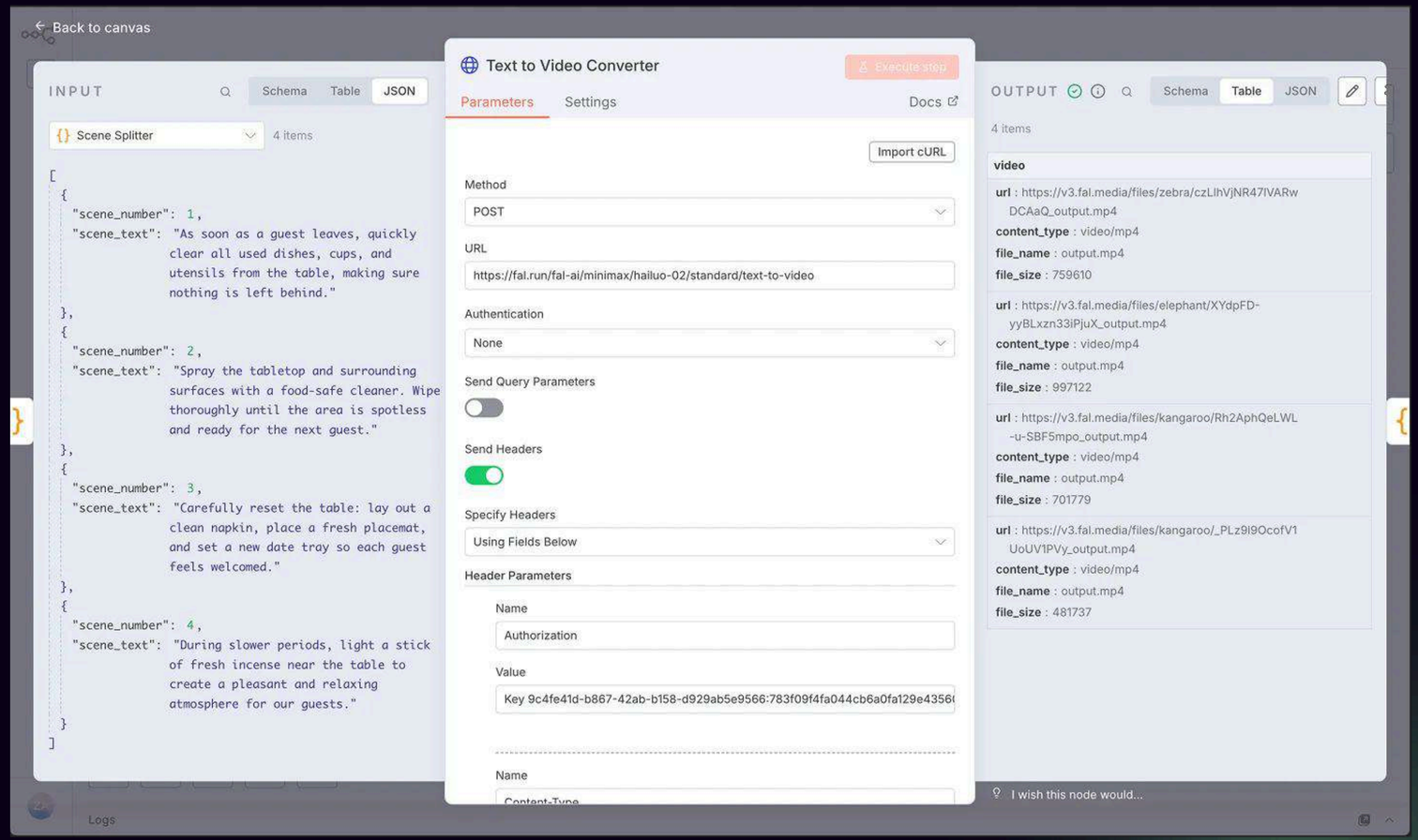
03

A custom JavaScript function split the enhanced SOP into individual scenes using regex and text-cleaning logic. This step made the content video-friendly by creating manageable, modular segments for rendering later used by Fal.ai to curate the video

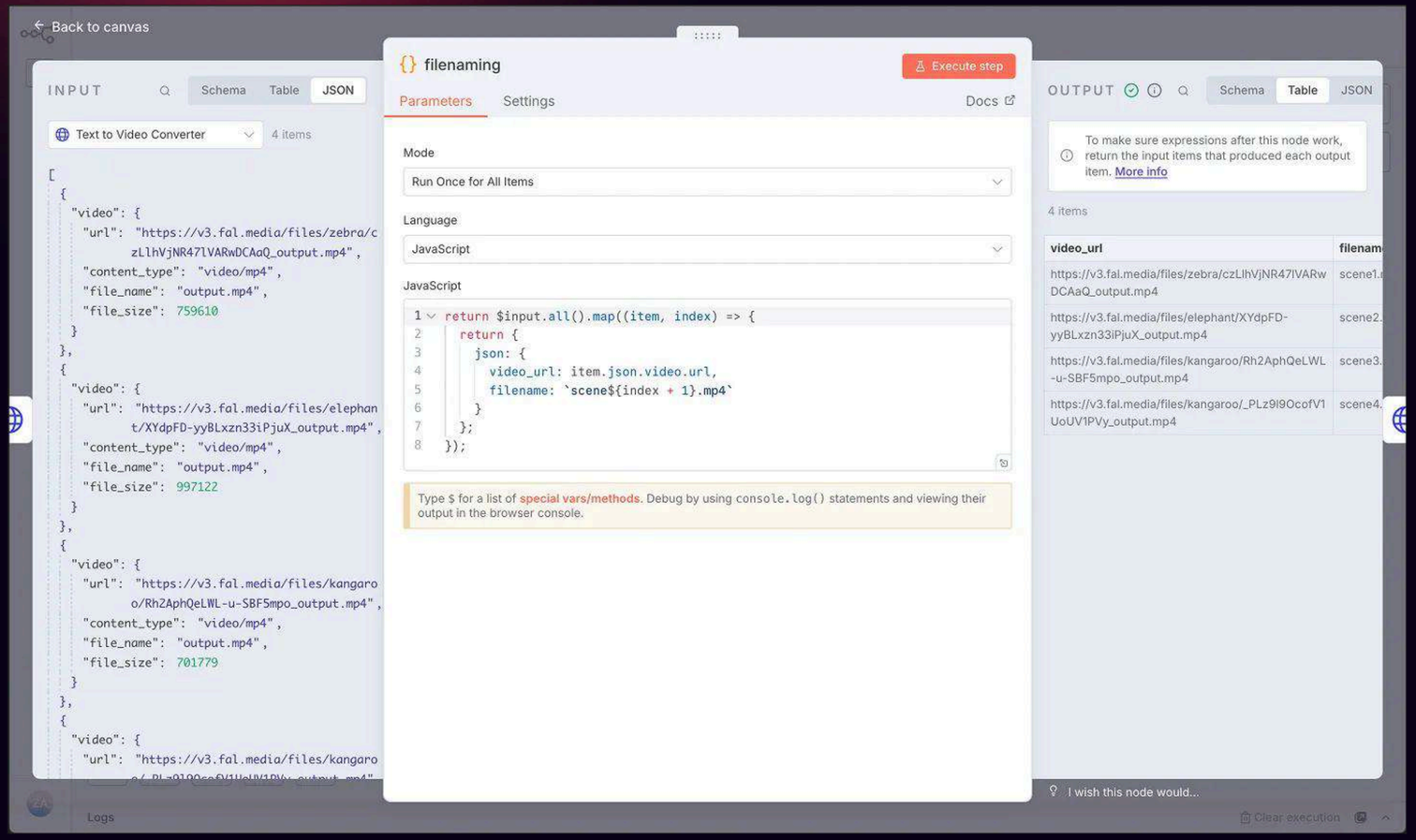
Text-to-Video via Fal.video API

04

Each scene was sent to the Fal.ai API to automatically generate a professional video clip based on the provided instructions. This eliminated the need for manual filming, voiceovers, or video editing and helps save a lot of time for the business owner.



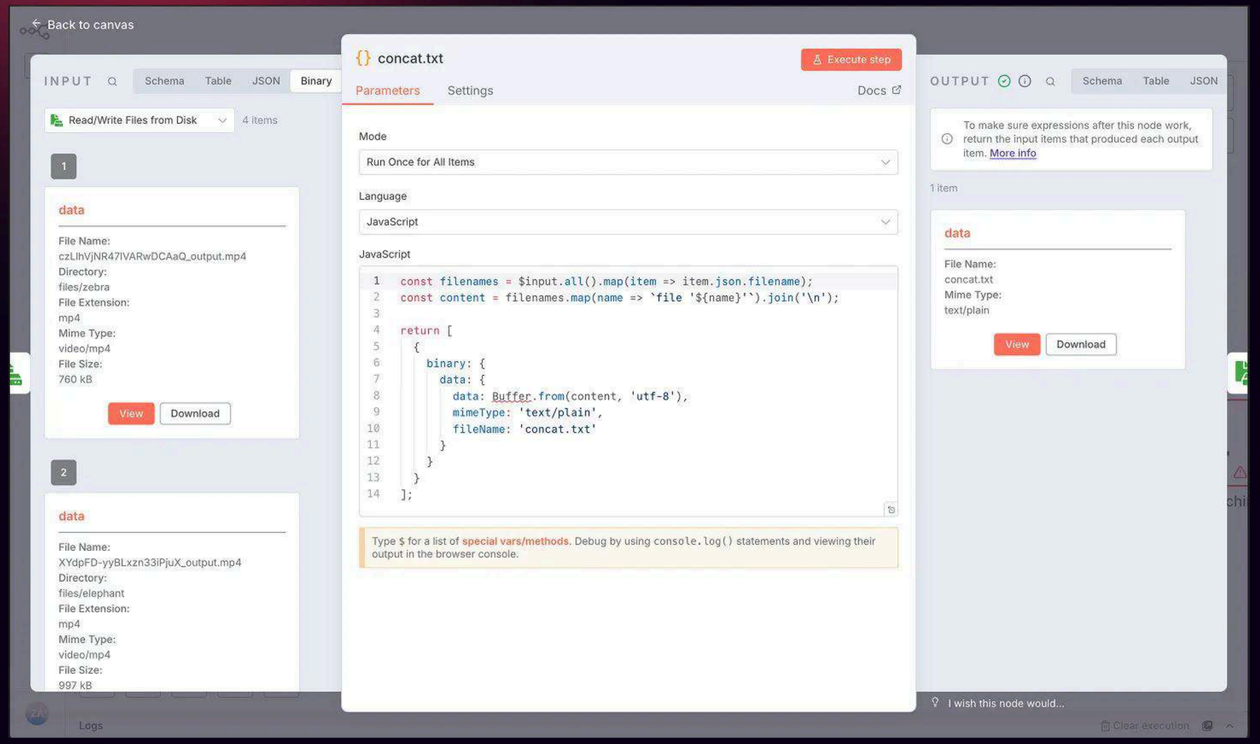
Filename Assignment



05

The generated video clips were renamed sequentially (e.g., scene1.mp4, scene2.mp4) to ensure smooth processing during batch merging. This consistent naming structure prevented concatenation errors.

FFmpeg Concatenated File



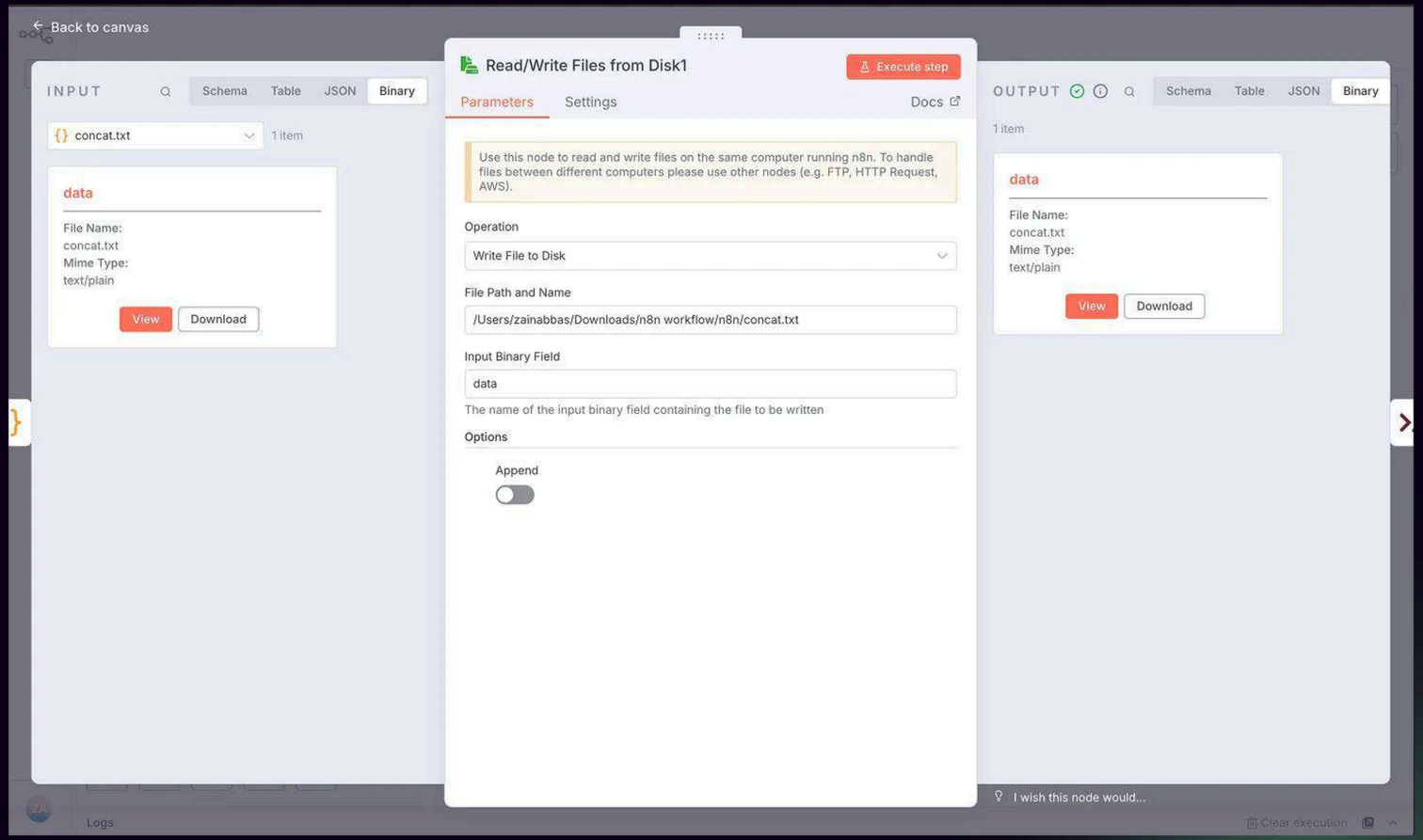
06

An FFmpeg-compatible concat.txt file was auto-generated with all video filenames in the correct format. This eliminated formatting mistakes and made merging seamless.

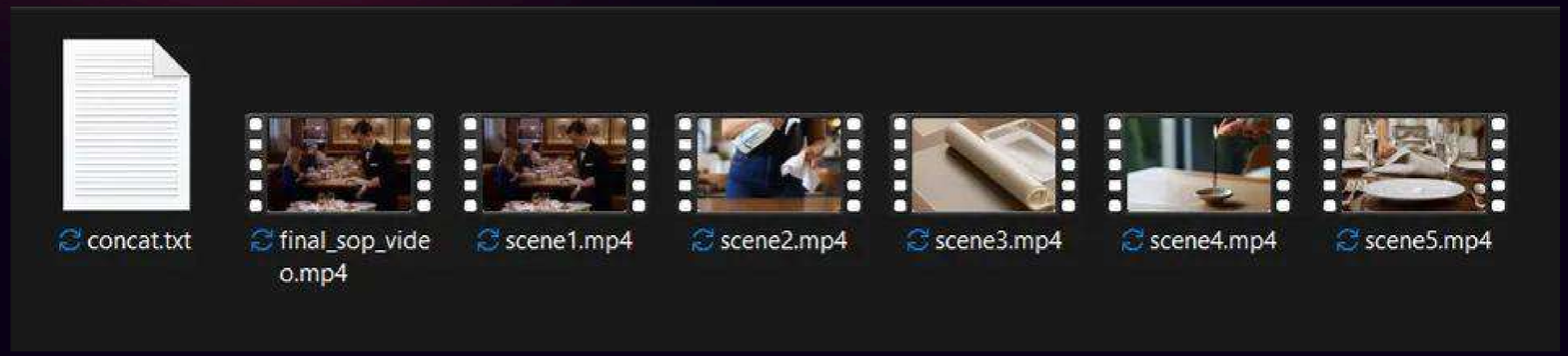
AI Enrichment via ChatGPT

07

The concatenation file was stored alongside the video clips, enabling immediate FFmpeg processing without any additional setup or adjustments. This enabled quick uploads for the business owner right from the disk as a single mp4 clip.



Final Output — All Videos & Script



08

The automation produced sequential video clips, the concatenation file, and the merged final_sop_video.mp4. This provided a fully polished training video directly from a plain-text SOP, with zero manual editing.

04 Conclusion

Conclusion

This project demonstrates how a lean AI and automation stack (Python, n8n, GPT, Fal.video, and FFmpeg) can save hours of editing time, eliminate creative bottlenecks, and transform basic SOPs into scalable visual training assets. The solution is particularly effective for hospitality and service training, eLearning and onboarding, and enterprise knowledge transfer.

Thank You