

■ AI UGC Content Creation Workshop

> A comprehensive hands-on guide for building AI-powered content creation workflows.

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Introduction

Welcome to the **AI UGC Content Creation Workshop!** This guide will walk you through building a complete automated content creation pipeline using:

- ■ **OpenAI** - For AI-powered text and image generation
- ■■ **Google Cloud Platform** - For OAuth authentication and Google Drive API
- ■ **Google AI Studio** - For additional AI capabilities
- ■ **n8n** - For workflow automation
- ■ **Google Drive** - For content storage and organization

Workshop Structure

This workshop is divided into clear modules:

Modules 1-4: Credential Setup (Complete these first)

- **Module 1:** Get your OpenAI API key
- **Module 2:** Get Google Cloud OAuth Client ID & Secret, enable Google Drive API
- **Module 3:** Get your Google AI Studio API key
- **Module 4:** Add all credentials to n8n

Module 5: Workflow Import (After credentials are ready)

- Import the pre-built workflow into n8n
- Update workflow nodes to use your credentials

Module 6: Testing & Deployment

- Test your workflow
- Deploy to production

By the end of this workshop, you'll have a fully functional system that can automatically generate, process, and organize AI-created content.

Prerequisites

Before starting this workshop, ensure you have:

Accounts Required

- [] Google Account (Gmail)
- [] OpenAI Account
- [] n8n Account (cloud or self-hosted instance)

Technical Requirements

- [] Modern web browser (Chrome, Firefox, Edge)
- [] Stable internet connection
- [] Basic understanding of APIs

Module 1: OpenAI Setup

Goal: Obtain your OpenAI API key for AI content generation.

What you'll get: OpenAI API key (starts with sk-proj-...)

1.1 Creating Your OpenAI Account

1. Navigate to platform.openai.com

!OpenAI Login Page

2. Click **Sign Up** or **Log In** if you already have an account

3. Complete the registration process

1.2 Exploring the Platform

Once logged in, you'll see the OpenAI Platform dashboard.

The screenshot shows the OpenAI Platform homepage. On the left, there's a sidebar with navigation links like Get started, Overview, Quickstart, Models, Pricing, Libraries, Core concepts, Text generation, Images and vision, Audio and speech, Structured output, Function calling, Using GPT-5.1, and Migrate to Responses API. A modal window titled "Add credits" is open, prompting the user to run their next API request by adding credits, with a "Go to Billing" button. Below the sidebar, there are links for Cookbook and Forum. The main content area features a "Developer quickstart" section with a code snippet in JavaScript demonstrating how to make an API request using the OpenAI client. It also includes a "Models" section displaying three AI models: gpt-5.1 (yellow gradient background), gpt-5-mini (pink gradient background), and gpt-5-nano (blue gradient background). Each model has a brief description: gpt-5.1 is the best model for coding and agentic tasks with configurable reasoning effort; gpt-5-mini is a faster, cost-efficient version of GPT-5 for well-defined tasks; and gpt-5-nano is the fastest, most cost-efficient version of GPT-5.

Take a moment to explore:

- **Models** - Available AI models
- **Usage** - API usage statistics
- **Billing** - Payment and credits

1.3 Understanding Billing

The screenshot shows the OpenAI Platform Billing page. The left sidebar includes links for Settings, Your profile, Organization, General, API keys, Admin keys, People, Projects, Billing (which is selected and highlighted in grey), Limits, Usage, Service health, Data controls, Security, Project, Add credits (with a note about ChatGPT account status), and a "Go to Billing" button. The main content area is titled "Billing" and contains sections for "Free trial" (showing \$0.00 credit remaining), "Payment methods" (link to add or change method), "Billing history" (link to view past and current invoices), "Preferences" (link to manage billing information), "Usage limits" (link to set monthly spend limits), and "Pricing" (link to view pricing and FAQs).

OpenAI provides:

- Free trial credits for new accounts
- Pay-as-you-go pricing
- Usage limits and caps

1.4 Creating Your API Key

This is a critical step - your API key is how your applications authenticate with OpenAI.

1. From the OpenAI Platform home page, click the **Settings gear icon** in the top right corner of the page

!OpenAI Platform Dashboard

2. In the settings menu, navigate to **API Keys** section

3. Click **Create new secret key**

!OpenAI Create API Key

4. **IMPORTANT:** Save your API key immediately!

!OpenAI Save API Key Modal

■■ Warning: You will only see this key once. Copy it to a secure location.

5. Your key will appear in the API Keys list

!OpenAI API Keys List

1.5 Setting Up Billing

To use the API beyond free credits:

1. Go to **Billing** settings

!OpenAI Billing Add Payment

2. Add your payment method

3. Set up usage limits (recommended)

Module 2: Google Cloud Platform OAuth Configuration

Goal: Get OAuth Client ID and Secret for Google Drive integration, and enable the Google Drive API.

What you'll get:

- OAuth Client ID
- OAuth Client Secret
- Google Drive API enabled

2.1 Configuring OAuth Consent Screen

Important: You must configure the OAuth consent screen BEFORE you can create OAuth client credentials. This is a required first step.

1. Go to Google Cloud Console
2. Create a new project or select an existing one

!GCP Console Welcome

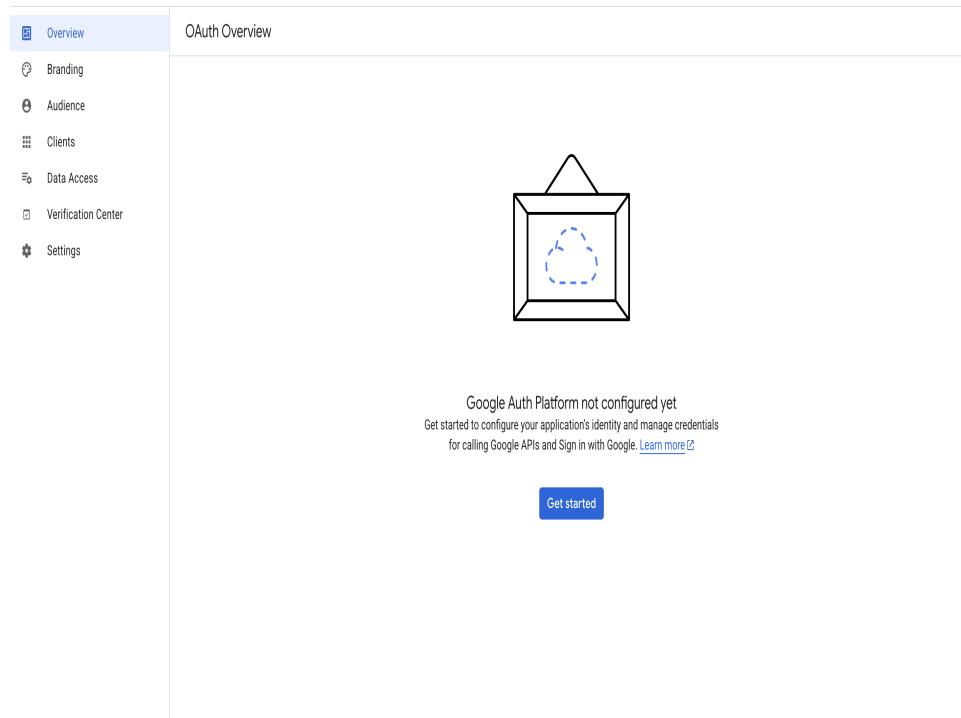
3. Use the **search bar at the top of the page** (not the library search) to search for "**Google Auth Platform**"

> **Important:** Use the search bar that appears at the top of the Google Cloud Console page, not any search bar that appears within the APIs & Services Library section.

!GCP Search for Google Auth Platform

4. Click on **Google Auth Platform** from the search results
5. Navigate to **OAuth consent screen** from the Google Auth Platform sidebar

If you haven't set this up yet, you'll see a message indicating it's not configured:



1. Click **Get started** or navigate to **OAuth consent screen** from the Google Auth Platform sidebar

2. Select **External** user type (for most use cases)

3. Fill in the **App Information** step:

- **App name** - Choose a name for your application
- **User support email** - Your email address

!GCP OAuth Consent Screen App Information

4. Complete the remaining steps:

- **Audience** - Select who can use your app

- **Contact Information** - Add developer contact details

5. **Add scopes for Google Drive** - This is critical for Google Drive integration:

- In the OAuth consent screen configuration, navigate to the **Scopes** section

- Click **Add or Remove Scopes**

- Search for and select:

- <https://www.googleapis.com/auth/drive> (Full access to Google Drive)

- OR https://www.googleapis.com/auth/drive.file (Access to files created by the app)
- Click **Update** to save the scopes

6. Add Authorized Domains (for n8n Cloud users):

- In the OAuth consent screen configuration, navigate to **Authorized domains**
- Click **Add Domain**
- Enter n8n.cloud (without https://)
- Click **Add**
- This is required for n8n Cloud to connect to your Google Drive

7. Complete the consent screen setup

> ■■■ **Important:** Adding n8n.cloud to authorized domains is essential for n8n Cloud users. Without this, the Google Drive connection will fail even if you've added the correct scopes.

2.2 Setting Authorized Redirect URIs

Before creating your OAuth client, you should know what redirect URI you'll need. Configure this in the OAuth consent screen:

1. In the OAuth consent screen configuration, navigate to **Authorized domains**
2. For n8n Cloud users, you may need to add n8n.cloud as an authorized domain
3. Note the redirect URI you'll use:
 - **For n8n Cloud:** https://oauth.n8n.cloud/oauth2/callback
 - **For self-hosted n8n:** Your n8n instance URL followed by /rest/oauth2-credential/callback

2.3 Creating OAuth Credentials

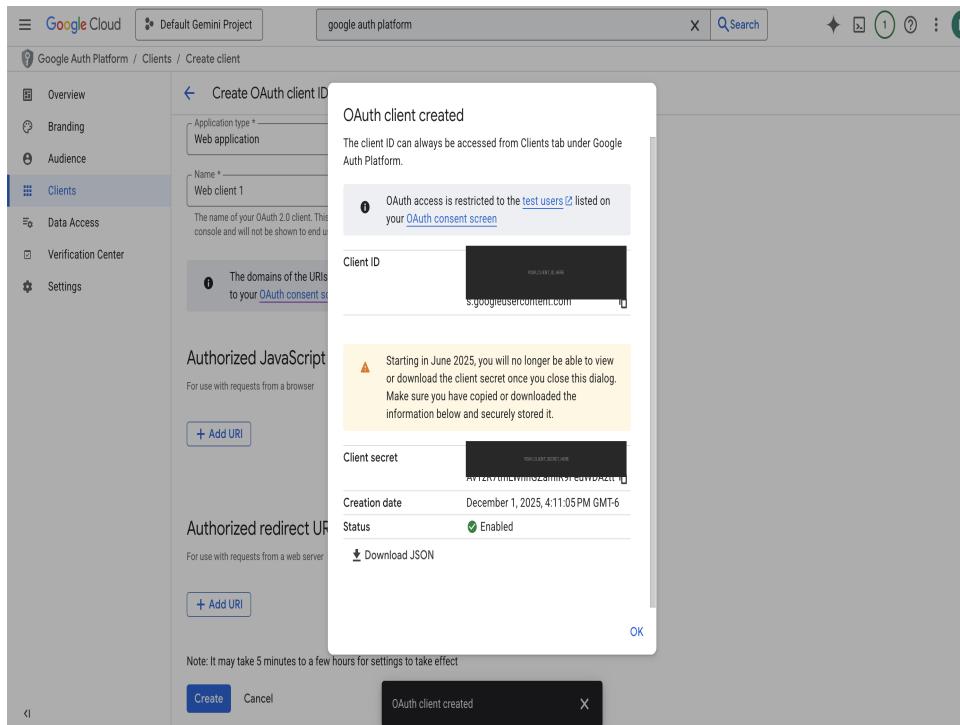
Now that the OAuth consent screen is configured, you can create your OAuth client credentials:

1. In Google Auth Platform, navigate to **Clients** from the sidebar
2. Click **Create Credentials > OAuth client ID**
3. Select **Web application**

!GCP OAuth Client Web App

4. Fill in the required fields:
 - **Name** - Choose a name for your OAuth client (e.g., "Web client 1")
 - **Authorized redirect URIs** - Add the callback URL:
 - **For n8n Cloud:** https://oauth.n8n.cloud/oauth2/callback
 - **For self-hosted n8n:** Your n8n instance URL followed by /rest/oauth2-credential/callback
5. Click **Create**

After creating your OAuth client, you'll see a confirmation modal with your Client ID and Client Secret:



Important: Save your Client ID and Client Secret immediately! You'll need these in Module 4.

2.4 Enabling Google Drive API

Before you can use Google Drive with n8n, you must enable the Google Drive API in your GCP project:

1. In the Google Cloud Console, use the search bar at the top to search for "**Google Drive API**"

!GCP Search for Google Drive API

2. Click on **Google Drive API** from the search results (it will appear in the "Top results" or "Marketplace" section)

3. You'll be taken to the Google Drive API product details page. Click the blue **Enable** button to activate the API for your project

!GCP Google Drive API Product Details

4. After enabling, you'll be redirected to the API/Service Details page where you can verify the API is enabled

!GCP Google Drive API Enabled

■ **Verification:** You should see **Status: Enabled** on this page, confirming the API is active for your project.

■■ **Note:** If you don't see the Enable button on the product details page, the API may already be enabled. You can verify this in the **APIs & Services > Enabled APIs** section.

> ■■ **Note:** It may take 5 minutes to a few hours for settings to take effect.

Module 3: Google AI Studio Setup

Goal: Obtain your Google AI Studio API key for Gemini API access.

What you'll get: Google AI Studio API key

3.1 Accessing Google AI Studio

1. Navigate to Google AI Studio

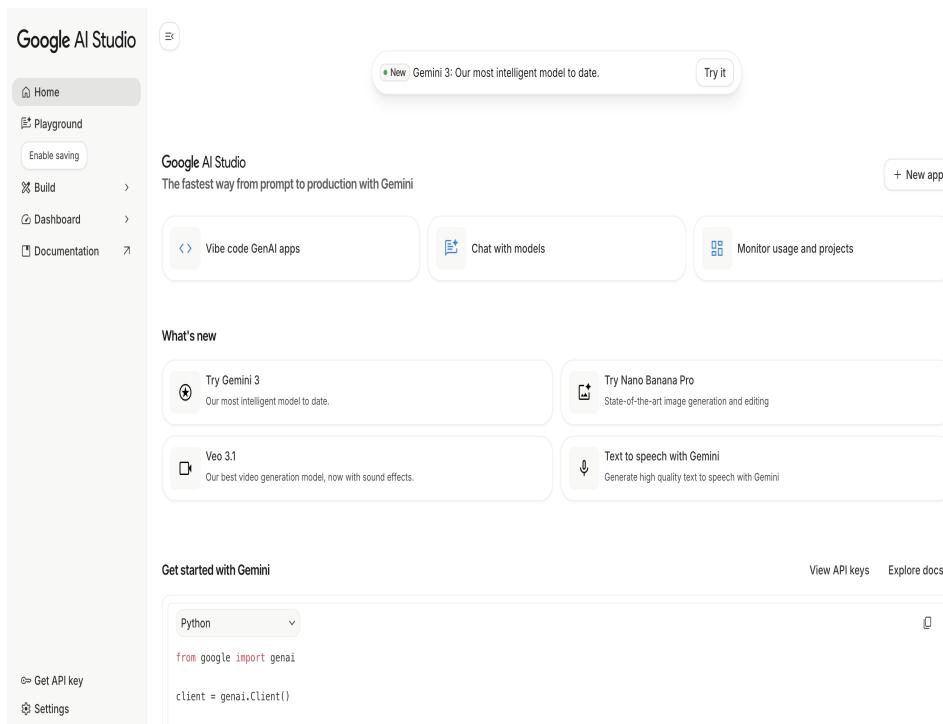
!Google AI Studio Landing Page

2. Sign in with your Google account

3. Accept the welcome modal

!Google AI Studio Welcome Modal

3.2 Dashboard Overview



The dashboard provides access to:

- Model playground
- API key management
- Project settings

3.3 Creating an API Key

1. Navigate to API Keys

!Google AI Studio API Keys List

2. Click **Create API Key**

!Google AI Studio Create New API Key

3. Select or create a project

3.4 GCP Billing Setup (Required for Gemini API)

■■ Important: To use the Gemini API (required for this workflow), you **must** have a billing account with a credit card attached. The Gemini API requires Tier 1 billing access.

If your project requires billing:

1. You may see a billing requirement message

!GCP Project Has No Billing Account

2. Set up a billing account with a credit card

!GCP Set Billing Account

3. View existing billing accounts

!GCP Billing Account Management

4. Create a new billing account if needed (requires credit card)

!GCP Create New Billing Account

> **■ Note:** You may need to add a credit card to move into Tier 1 billing, which is required for Gemini API access.

5. Confirm your billing setup with free trial credit

!GCP Billing Overview with Free Trial

■■ Important Note: To move into Tier 1 (beyond free tier limits), you may need to add a credit card to your Google Cloud billing account. The free trial provides \$300 in credits, but some services require a payment method on file to access Tier 1 quotas.

Module 4: n8n Workflow Platform

Goal: Add all your credentials to n8n so the workflow can authenticate with external services.

What you'll create:

- Google Drive OAuth2 credential in n8n
- OpenAI API credential in n8n
- Header Auth credential for Google AI Studio in n8n

4.1 Accessing n8n

1. Log into your n8n instance
2. View your workflows

!n8n Overview Workflows List

4.2 Setting Up Google Drive Credentials

1. Go to **Credentials** in n8n

2. Click **Add Credential**

3. Search for **Google Drive**

!n8n Add Credential Google Drive Search

4. Configure OAuth2 connection

!n8n Google Drive OAuth2 Connection Form

5. Enter your credentials:

- Client ID: YOUR_CLIENT_ID_HERE

- Client Secret: YOUR_CLIENT_SECRET_HERE

4.3 Setting Up OpenAI Credentials

1. Add a new credential

2. Search for **OpenAI**

!n8n Add Credential OpenAI Search

3. Configure the connection

!n8n OpenAI Credential Connection Form

4. Enter your API key: YOUR_API_KEY_HERE

4.4 Setting Up Header Auth Credentials (For Google AI Studio)

For Google AI Studio API integration, you'll need to set up Header Auth credentials:

1. In n8n, go to **Credentials** and click **Add Credential**

2. Search for **Header Auth**

!n8n Add Credential Header Auth Search

3. Configure the header authentication:

- **Name:** x-goog-api-key

- **Value:** Your Google AI Studio API key (from Module 3.3)

!n8n Header Auth Credential Connection Form

4. Click **Save** to store the credential

4.5 Credential Summary

By the end of Module 4, you should have created the following credentials in n8n:

- ■ **Google Drive OAuth2** - Using Client ID and Client Secret from Module 2

- ■ **OpenAI API** - Using API key from Module 1.4

- ■ **Header Auth (x-goog-api-key)** - Using Google AI Studio API key from Module 3.3

Make sure all credentials are saved and test each one to ensure they're working correctly before proceeding to Module 5.

Module 5: Importing and Configuring the UGC Workflow

Now that you have all your credentials set up in n8n, it's time to import the pre-built workflow and connect it to your credentials.

5.1 Understanding the Workflow

The "Automate UGC Content Creation with N8N and Sora 2" workflow automates the creation of User-Generated Content (UGC) videos. Here's what it does:

Workflow Overview:

1. **Form Trigger** - Collects a product image and product name from users
2. **Persona Generation** - Uses OpenAI to analyze the product and generate an ideal customer persona
3. **Script Generation** - Uses Google AI Studio (Gemini) to create 3 authentic UGC video scripts based on the persona
4. **Video Creation** - Generates 3 videos using OpenAI's Sora 2 model:
 - Creates a first frame image using Gemini
 - Generates 12-second videos with Sora 2
 - Polls for video completion
 - Downloads completed videos
5. **Storage** - Uploads all generated videos to Google Drive

Key Components:

- **Input:** Product image (file) + Product name (text)
- **AI Services Used:** OpenAI (GPT-4o, Sora 2), Google AI Studio (Gemini 2.5)
- **Output:** 3 UGC videos uploaded to Google Drive

5.2 Obtaining the Workflow

The UGC Content Creation workflow is available as a premium digital asset.

To obtain the workflow:

1. Purchase access to the workflow through the designated platform
 2. Download the workflow package (ZIP file)
 3. Extract the contents, which include:
 - `ugc_workflow.json` - The complete n8n workflow file
 - `README.md` - Setup and usage instructions
 - Link to this workshop guide
 4. Locate the `ugc_workflow.json` file in the extracted package
- > **Note:** The workflow file contains all nodes, connections, and configurations. You'll need to update the credentials after importing.

5.3 Importing the Workflow into n8n

1. Log into your n8n instance
2. Click **Workflows** in the left sidebar (or use the **Overview** page)

In8n Overview Workflows List

3. Click the **three dots menu** (■) in the top right corner of the workflows page
4. Select **Import from File** from the dropdown menu
5. Choose the ugc_workflow.json file from your downloaded package
6. Click **Import** to add the workflow to n8n
7. The workflow will appear in your workflows list

> **Alternative:** You can also use **Paste JSON** option if you prefer to copy and paste the workflow JSON directly.

5.4 Updating Workflow Nodes with Your Credentials

After importing, you need to update each node to use the credentials you created in Modules 1-4. The workflow contains several node types that require credential configuration:

5.4.1 Update OpenAI Nodes

The workflow uses OpenAI for persona generation, script extraction, and Sora 2 video generation. Update these nodes:

OpenAI LangChain Nodes:

- **"Generate Ideal Persona"** - Analyzes product image and creates customer persona
- **"Extract Prompts"** - Extracts and formats video script prompts

HTTP Request Nodes (OpenAI API):

- **"generate_ad_prompts"** - This is an HTTP Request node that may show a red error indicator until configured
- **"Generate Video With SORA"** - Creates videos using Sora 2
- **"Get Video Creation Status"** - Checks video generation status
- **"Download Video"** - Downloads completed videos

Steps to Update:

1. Click on each OpenAI node in the workflow
2. In the node configuration panel, find the **Credential** dropdown
3. Select your **OpenAI credential** (created in Module 4.3)
4. For HTTP Request nodes using OpenAI API, look for **Authentication** → **Predefined Credential Type** → **OpenAI API**
5. Repeat for all OpenAI-related nodes in the workflow

> ■■ **Sora Verification Note:** If you've never used Sora before, you may need to verify your OpenAI organization. If the "Generate Video With SORA" step fails, n8n will display an error message indicating what the issue may be. Common issues include:

- > - Organization verification required
- > - API access not enabled for your account
- > - Billing setup incomplete

5.4.2 Update Google Drive Nodes

The workflow uses Google Drive to store generated videos:

Google Drive Node:

- **"upload_video"** - Uploads completed videos to Google Drive

Steps to Update:

1. Click on the "**upload_video**" node in the workflow
2. In the node configuration panel, find the **Credential** dropdown
3. Select your **Google Drive OAuth2 credential** (created in Module 4.2)
4. Complete the OAuth flow if prompted (this authorizes n8n to access your Google Drive)
 - You may be redirected to Google to authorize access
 - Click **Allow** to grant permissions
5. **Optional:** Update the folder path in the node configuration if you want videos saved to a specific Google Drive folder

> **Important:** If you're using n8n Cloud and having trouble connecting Google Drive, make sure you've:
 > - Added Google Drive scopes in the OAuth consent screen (Module 2.1)
 > - Added `n8n.cloud` to the **Authorized domains** in your OAuth consent screen configuration
 > - Used the **Google Drive OAuth2** credential type (not the generic Google OAuth)

5.4.3 Update Google AI Studio (Gemini) Nodes

The workflow uses Google AI Studio (Gemini) for script generation and first frame image creation:

HTTP Request Nodes (Gemini API):

- **"generate_ad_prompts"** - Generates 3 UGC video scripts using Gemini 2.5 Pro
- **"Generate First Frame Image"** - Creates first frame image using Gemini 2.5 Flash Image Preview

Steps to Update:

1. Click on each HTTP Request node that calls Gemini API (look for URLs containing `generativelanguage.googleapis.com`)
2. In the node configuration, find the **Authentication** section
3. Select **Generic Credential Type → Header Auth**
4. Choose your **Header Auth credential** with `x-goog-api-key` (created in Module 4.4)
5. Verify the header name is set to `x-goog-api-key` in the node configuration
6. Repeat for both Gemini API nodes:
 - `generate_ad_prompts` (Gemini 2.5 Pro)
 - `Generate First Frame Image` (Gemini 2.5 Flash Image Preview)

5.5 Verifying Node Connections

After updating all credentials, verify the workflow is properly configured:

1. Check Credentials:

- ■ All OpenAI nodes have your OpenAI credential selected
- ■ Google Drive node has your Google Drive OAuth2 credential selected
- ■ Both Gemini HTTP Request nodes have your Header Auth credential selected

2. Verify Node Connections:

- ■ Node connections (the lines between nodes) are intact
- ■ No red error indicators are present on any nodes
- ■ All required parameters are filled in

3. Key Nodes to Verify:

- **Form Trigger** - Should be active and ready to receive submissions
- **OpenAI Nodes** - Verify model selection (GPT-4o, GPT-5-mini, Sora 2)
- **Gemini HTTP Request Nodes** - Check URLs point to correct Gemini endpoints
- **Google Drive Node** - Confirm folder path is set (or will use default)
- **Video Generation Nodes** - Ensure Sora 2 API endpoints are correct

4. Optional Configuration:

- Update the Google Drive folder path in the upload_video node if you want videos saved to a specific location
- Review the form trigger settings if you want to customize the input fields
- Check video generation parameters (duration, size) if you want to modify defaults

5.6 Workflow Execution Flow

Understanding the workflow execution will help you troubleshoot if needed:

Execution Flow:

1. **Form Submission** → User submits product image + name via form trigger
2. **Image Processing** → Product image converted to base64 format
3. **Persona Generation** → OpenAI analyzes product and generates ideal customer persona
4. **Script Generation** → Gemini creates 3 authentic UGC video scripts
5. **Script Extraction** → OpenAI formats scripts into structured prompts
6. **Video Loop** (runs 3 times, once per script):
 - **First Frame** → Gemini generates first frame image
 - **Resize** → Image resized to video format (720x1280)
 - **Video Generation** → Sora 2 creates 12-second video
 - **Status Check** → Polls for video completion (with 15-second delays)
 - **Download** → Downloads completed video
 - **Upload** → Saves video to Google Drive

Expected Output:

- 3 UGC videos (12 seconds each, 720x1280 resolution)
- Videos saved to Google Drive with names like "UGC Video #1", "UGC Video #2", "UGC Video #3"

> ■ **Tip:** The workflow includes retry logic and error handling. If a video generation fails, the workflow will retry automatically. Check the execution logs in n8n if you encounter issues.

Module 6: Testing & Deployment

6.1 Testing Your Workflow

1. Click **Execute Workflow** in n8n
2. Monitor the execution
3. Check for errors in each node
4. Verify content in Google Drive

6.2 Deployment Checklist

- [] All credentials are valid and connected
- [] API keys are not expired
- [] Billing is set up for all services
- [] Error handling is configured
- [] Notifications are working

6.3 Production Considerations

- Set up monitoring and alerts
- Configure retry logic for failed API calls
- Implement rate limiting
- Back up your workflow regularly

Troubleshooting Appendix

Common Issues and Solutions

Issue 1: OpenAI API Key Not Working

Symptoms:

- 401 Unauthorized error
- "Invalid API key" message

Solutions:

1. Verify the API key is copied correctly (no extra spaces)
2. Check if the key has been revoked
3. Ensure billing is set up on your OpenAI account
4. Create a new API key if necessary

Issue 2: Google OAuth Connection Failed

Symptoms:

- "Access denied" error
- Redirect loop

Solutions:

1. Verify OAuth consent screen is configured
2. Check redirect URIs match exactly
3. Ensure required scopes are added
4. Try re-authenticating

Issue 3: n8n Credential Connection Failed

Symptoms:

- "Could not connect" error
- Timeout errors

Solutions:

1. Verify credentials are entered correctly
2. Check for typos in Client ID/Secret
3. Ensure the API is enabled in GCP
4. Check n8n instance can reach external APIs

Issue 4: Google Drive Upload Failed

Symptoms:

- "Insufficient permissions" error
- "File not found" error

Solutions:

1. Re-authenticate Google Drive credentials
2. Check folder permissions
3. Verify the target folder exists
4. Ensure Drive API is enabled

Issue 5: Rate Limiting Errors

Symptoms:

- 429 Too Many Requests
- "Rate limit exceeded" message

Solutions:

1. Add delays between API calls
2. Implement exponential backoff
3. Upgrade to higher API tier
4. Distribute requests over time

Issue 6: GCP Billing Not Set Up

Symptoms:

- "Billing account required" message
- API calls blocked

Solutions:

1. Go to GCP Console > Billing
2. Create or link a billing account
3. Enable billing for your project
4. Wait a few minutes for propagation

Issue 7: Workflow Not Triggering

Symptoms:

- Workflow doesn't start
- No execution history

Solutions:

1. Check trigger configuration
2. Verify workflow is active
3. Test with manual trigger first
4. Check for disabled nodes

Issue 8: Image Generation Failed

Symptoms:

- Empty image response
- "Content policy violation" error

Solutions:

1. Review prompt for policy violations
2. Try a different prompt
3. Check image generation credits
4. Verify API endpoint is correct

Error Code Reference

Code	Meaning	Action
401	Unauthorized	Check API key
403	Forbidden	Check permissions
404	Not Found	Verify endpoint URL
429	Rate Limited	Add delays
500	Server Error	Retry later
503	Service Unavailable	Check service status

Getting Additional Help

If you're still experiencing issues:

1. Check the FAQs
2. Review the Installation Guide
3. Open an issue in the repository
4. Consult the official documentation:
 - OpenAI Docs
 - n8n Docs
 - Google Cloud Docs

Conclusion

Congratulations! ■ You've completed the AI UGC Content Creation LiveLab.

You now have:

- ■ OpenAI API integration
- ■ Google Cloud OAuth configuration
- ■ Google AI Studio access
- ■ A working n8n workflow
- ■ Automated content creation pipeline

Next Steps

1. Customize the workflow for your use case
2. Add more AI models and capabilities
3. Set up scheduled triggers
4. Build a content library in Google Drive
5. Share your creations!

```
<p align="center">
<strong>Happy Creating! ■</strong>
</p>
```