

■ 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

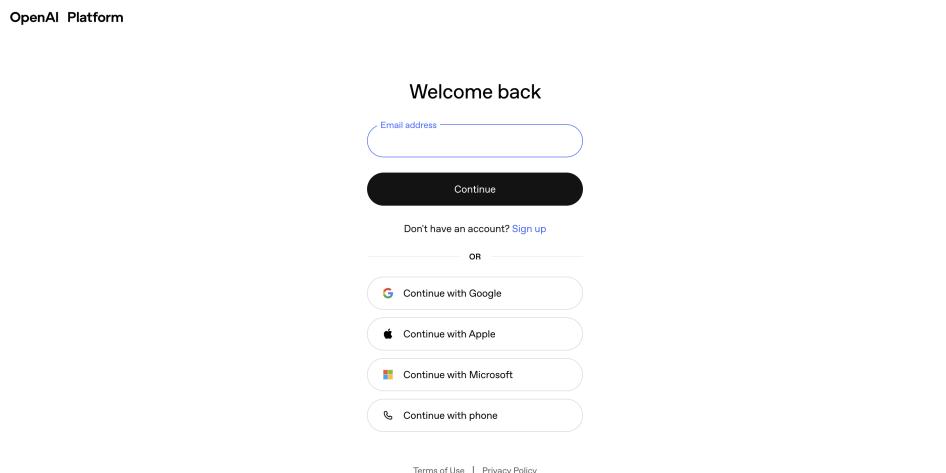
Module 1: OpenAI Setup

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 dashboard with the 'Models' section selected in the sidebar. The main area displays three AI model cards: 'gpt-3.5-turbo', 'gpt-4', and 'gpt-4-0314'. Each card includes a brief description and a 'View all' link. To the right, there's a snippet of JavaScript code demonstrating how to use the API. The top navigation bar includes links for 'Your profile', 'Terms & policies', 'Help', and 'Log out'.

OpenAI Platform Models Overview

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 dashboard with the 'Billing' section selected in the sidebar. The main area displays a 'Free trial' section showing '\$0.00' and buttons for 'Add payment details' and 'View usage'. Below this is a note: 'Note: This does not reflect the status of your ChatGPT account.' To the right, there are four sections: 'Payment methods', 'Billing history', 'Preferences', and 'Usage limits'. The 'Payment methods' section shows a placeholder for adding a payment method. The 'Billing history' section shows a placeholder for viewing invoices. The 'Preferences' section shows a placeholder for managing billing information. The 'Usage limits' section shows a placeholder for setting monthly spend limits. The top navigation bar includes links for 'Docs', 'API reference', and 'Start building'.

OpenAI Billing Overview

OpenAI provides:

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

> ■ Important Cost Information:

- > - Each workflow run costs approximately **\$10** but produces **3 videos**

- > - You'll need **at least \$15** in your OpenAI account to run the workflow
- > - Make sure you have sufficient credits before testing the workflow

1.4 Creating Your API Key

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

Access Your Profile:

1. From the OpenAI Platform home page, click your **profile icon** in the top right corner
2. Click on "**Your profile**" from the dropdown menu

The screenshot shows the OpenAI Platform home page. On the left, there's a sidebar with various sections like 'Get started', 'Overview', 'Models', 'Pricing', etc. In the center, there's a 'Developer quickstart' section with sample code for creating a GPT-3 response. Below it is a 'Models' section featuring three cards for 'gpt-3.5-turbo', 'gpt-3.5-turbo-0301', and 'gpt-3.5-turbo-0613'. On the right, there's a 'Your profile' dropdown menu with options like 'Terms & policies', 'Help', and 'Log out'.

OpenAI Platform Models Overview

3. Navigate to **API Keys** section

The screenshot shows the 'Profile' section of the OpenAI Platform. The left sidebar has a 'Settings' section with 'Your profile' selected. Under 'General', the 'API keys' option is highlighted with a red box. The main area shows a 'Profile' card with fields for 'Name' (placeholder: 'The name associated with this account') and a 'Save' button. At the bottom of the sidebar, the 'API keys' option is also highlighted.

OpenAI API Keys via Profile

Creating the API Key:

3. Click **Create new secret key**

The screenshot shows the OpenAI Platform's developer quickstart section. It includes a sidebar with navigation links like 'Get started', 'Quickstart' (which is selected), 'Models', 'Pricing', 'Libraries', 'Core concepts', 'Text generation', 'Images and vision', 'Audio and speech', 'Structured output', 'Function calling', 'Using GPT-3.5', 'Migrate to Responses API', 'Add credits', 'Go to Billing', 'Cookbook', and 'Forum'. The main content area has a heading 'Developer quickstart' with a 'Copy page' button. It explains the API's interface and how to get started with an API Key. Below this is a 'Create and export an API key' section with a 'Create an API Key' button. It provides instructions for exporting the key to a file (e.g., .zshrc) and shows a code snippet for macOS/Linux: `1 export OPENAI_API_KEY="your_api_key_here"`. A note says OpenAI SDKs automatically read the API key from the environment. Finally, it covers 'Install the OpenAI SDK and Run an API Call' for various languages (JavaScript, Python, .NET, Java, Go).

OpenAI Create API Key

4. IMPORTANT: Save your API key immediately!

The screenshot shows the 'API keys' section of the OpenAI Platform. The sidebar includes 'Create', 'Chat', 'Agent Builder', 'Audio', 'Images', 'Videos', 'Assistants', 'Manage', 'Usage', 'API keys' (which is selected), 'Logs', 'Storage', 'Batches', 'Optimize', 'Evaluation', and 'Fine-tuning'. A note about adding credits is present. The main area lists an 'API key' named 'myapikey' with status 'Active', last used 'Never', created by 'OpenAI Bee', and permissions 'All'. A modal window titled 'Save your key' appears, warning the user to save the key in a safe place and keep it secure. It includes a 'Copy' button and a link to 'Learn more about API key best practices'. Below the modal, a 'Permissions' section shows 'Read and write API resources'.

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

The screenshot shows the 'API keys' section of the OpenAI Platform. On the left, there's a sidebar with various project management options like Chat, Agent Builder, Audio, Images, Videos, Assistants, Usage, API keys (which is selected), Logs, Storage, Batches, Optimize, Evaluation, and Fine-tuning. 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. The main table lists one API key:

NAME	STATUS	SECRET KEY	CREATED	LAST USED	CREATED BY	PERMISSIONS
myapikey	Active	[REDACTED]	Dec 1, 2025	Never	[REDACTED] Bruce Bee	All

OpenAI API Keys List

1.5 Setting Up Billing

To use the API beyond free credits, you need to add payment details:

1. From the OpenAI Platform home page, click your **profile icon** in the top right corner
2. Click on "**Your profile**" from the dropdown menu
3. Navigate to **Billing** settings
4. Add your payment method

The screenshot shows the 'Billing' settings page. The sidebar includes options like Settings, Your profile, Organization, General, API keys, Admin keys, People, Projects, Billing (selected), Limits, Usage, Service health, Data controls, Security, Project, and a 'Go to Billing' button. A modal window titled 'Add payment details' is open, prompting the user to add credit card information. It includes fields for Card number, Name on card, Billing address (Country, Address line 1, Address line 2, City, Postal code), and State, county, province, or region. There's also a checkbox for 'Purchasing as a business'. At the bottom are 'Cancel' and 'Continue' buttons.

OpenAI Billing Add Payment

5. Set up usage limits (recommended)

> **Important:** Make sure you have at least **\$15** in your account balance before running the workflow. Each workflow run costs approximately **\$10** and generates **3 videos**.

Module 2: Google Cloud Platform Setup

Goal: Create a GCP project, configure OAuth credentials, set up billing, and enable Google Drive API.

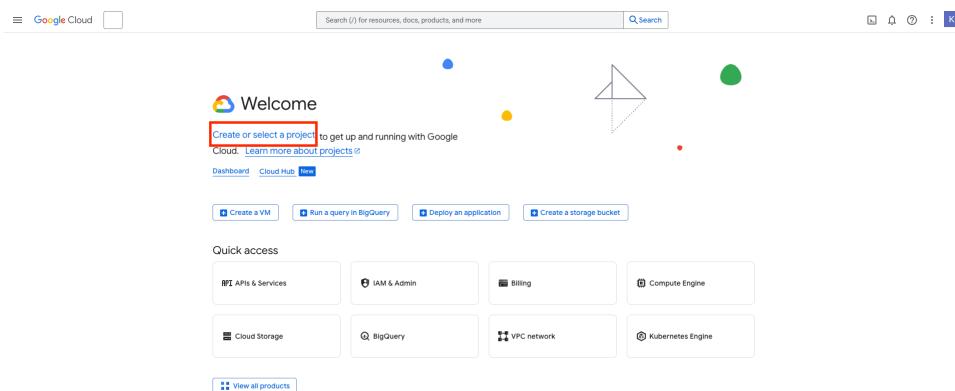
What you'll get:

- GCP Project
- OAuth Client ID
- OAuth Client Secret
- Billing account configured
- Google Drive API enabled

2.1 Creating a GCP Project

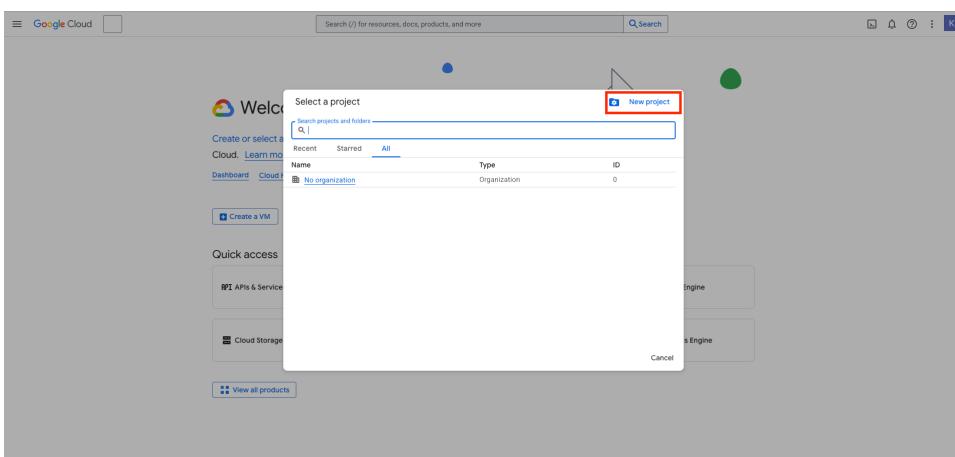
Before you can configure OAuth and APIs, you need a Google Cloud Platform project.

1. Go to Google Cloud Console
2. Click on the project selector at the top of the page (or click **Create Project** if you don't have any projects)



GCP Create Project Step 1

3. Click **New Project** button



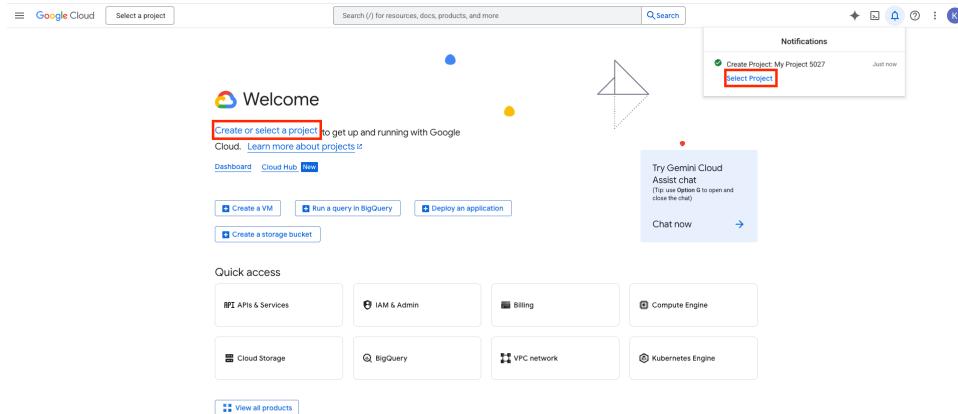
GCP Create Project Step 2

4. Fill in the project details:

- **Project name** - Choose a descriptive name (e.g., "UGC Content Creation")
- **Project ID** - Will be auto-generated (you can customize it)
- **Location** - Select an organization or leave as "No organization"

5. Click **Create**

6. Wait for the project to be created. You'll see a confirmation when it's ready:



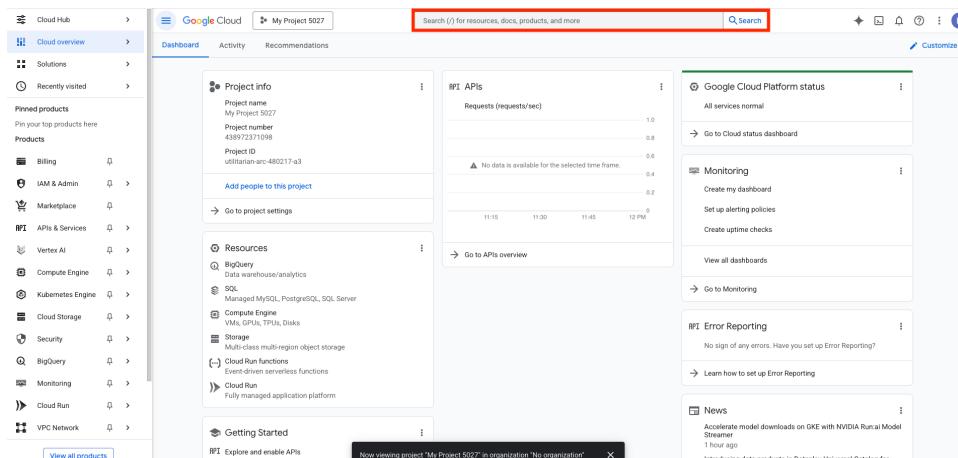
GCP Project Created Confirmation

7. Click on your project name to access the project

2.2 Creating OAuth Credentials

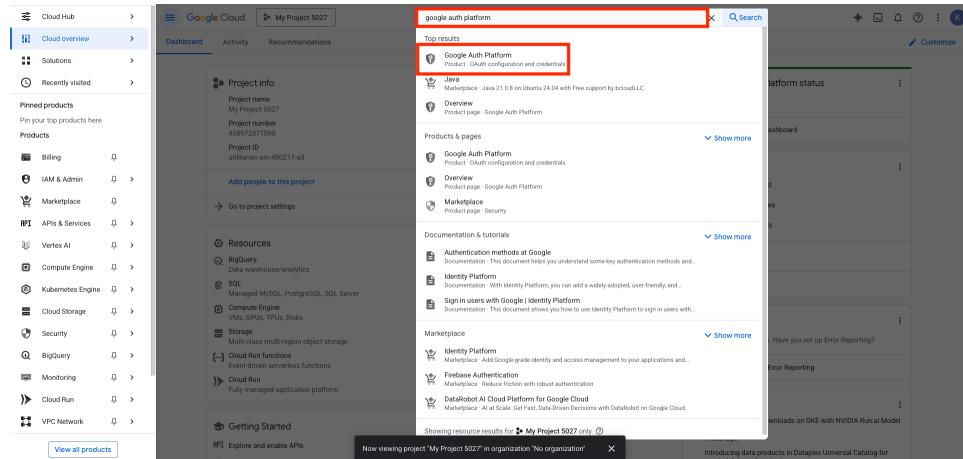
Now you'll create OAuth client credentials for Google Drive integration:

1. On the project page, use the **search bar at the top of the page** to search for "**google oauth**"



GCP Project Page

2. Click on **Google Auth Platform** from the search results



GCP Search Google OAuth

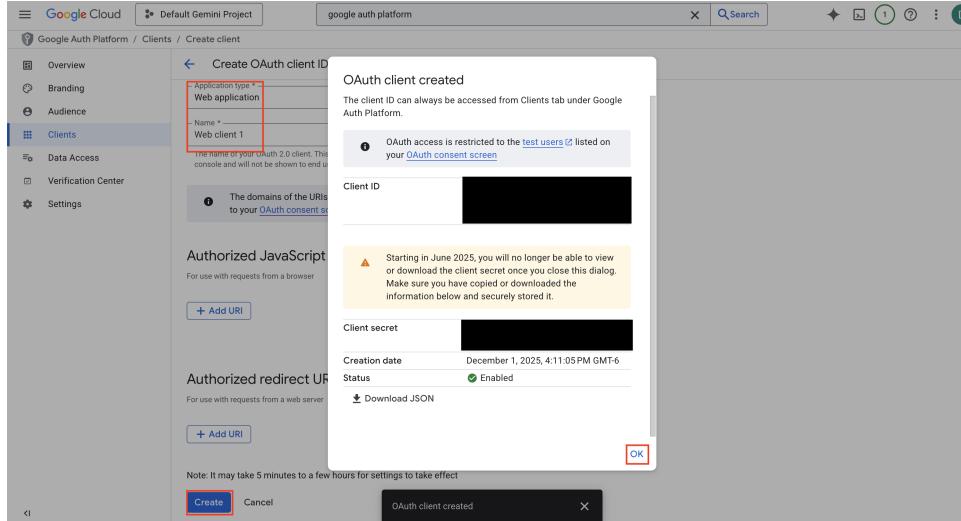
3. You'll be taken to the Google Auth Platform overview page. Navigate to **Clients** from the sidebar

GCP Auth Platform Overview

4. Click **Create Credentials > OAuth client ID**

GCP Create OAuth Client Step 1

5. Select **Web application** as the application type

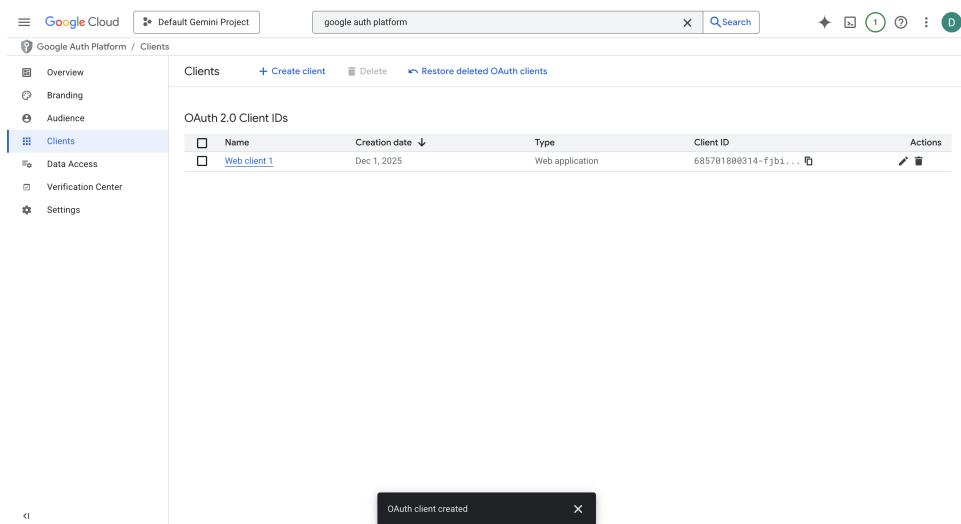


GCP Create OAuth Client Step 2

6. Fill in the required fields:

- **Name** - Choose a name for your OAuth client (e.g., "Web client 1")
- **Authorized redirect URLs** - 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`

7. Click **Create**



GCP Create OAuth Client Step 3

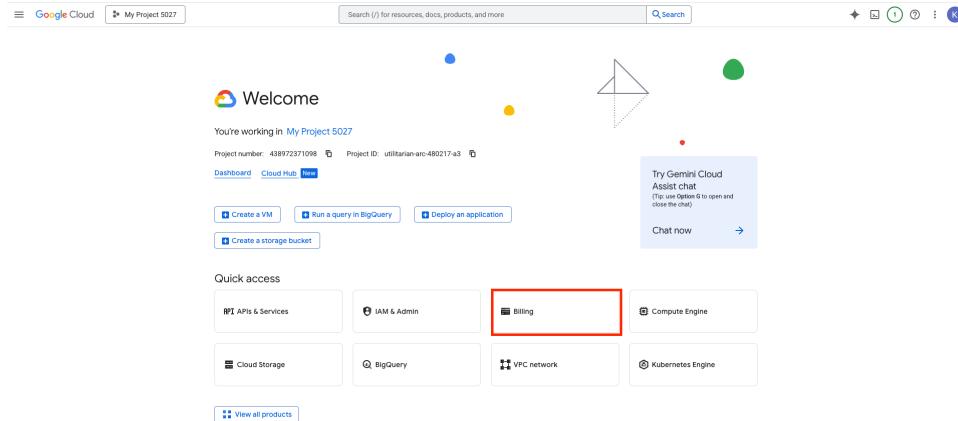
After creating your OAuth client, you'll see a confirmation modal with your Client ID and Client Secret. **Important:** Save your Client ID and Client Secret immediately! You'll need these in Module 4.

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

2.3 Setting Up Billing

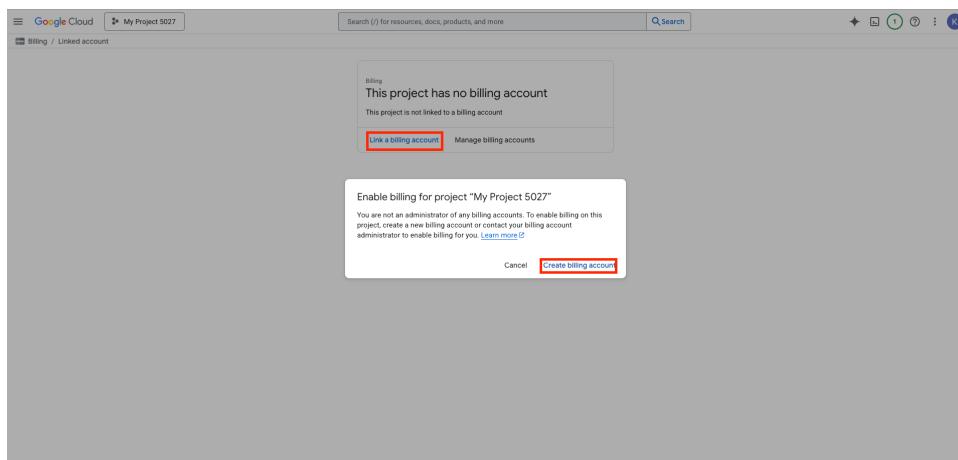
Before you can use Google AI Studio (Gemini API) and other paid services, you need to set up billing for your GCP project.

1. Go back to the Google Cloud Console homepage



GCP Billing Homepage

2. Navigate to **Billing** (you can use the search bar or navigation menu)
3. You may see a message indicating your project has no billing account:



GCP Project No Billing Account

4. Click **Create Billing Account** or **Link a billing account** if you already have one
5. If creating a new billing account, follow these steps:

Step 1: Fill in your account details

Try Google Cloud for free

Step 1 of 2 Account Information

 [REDACTED]

Country: United States

By using this application, you agree to the [Google Cloud Platform Terms of Service](#), [Supplemental Free Trial Terms](#), and [any applicable services and APIs Terms of Service](#).

Agree & continue

Access to Google Cloud products
Get everything you need to build and run your apps, websites and services, including Firebase and the Google Maps API.

\$300 in free credit
Try Google Cloud with \$300 in credit to spend over the next 90 days.

No automatic charges
You only start paying if you decide to activate a full, pay-as-you-go account or choose to prepay. Any remaining free credit is yours to keep.

GCP Billing Create Step 1

Step 2: Add your payment information (credit card required)

Try Google Cloud for free

Step 2 of 2 Payment Information Verification

Don't worry, this trial is still free. Collecting your payment information helps us verify your identity to reduce fraud. You won't be charged unless you manually activate a full pay-as-you-go account or choose to prepay.

Contact information

Add name and address +

Payment method

Add payment method +

Add contact information before continuing

Your info is saved in a [\[payments profile\]](#) and shared across Google services

Access to Google Cloud products

Get everything you need to build and run your apps, websites and services, including Firebase and the Google Maps API.

\$300 in free credit

Try Google Cloud with \$300 in credit to spend over the next 90 days.

No automatic charges

You only start paying if you decide to activate a full, pay-as-you-go account or choose to prepay. Any remaining free credit is yours to keep.

GCP Billing Create Step 2

Step 3: Review and confirm your billing account setup

Try Google Cloud for free

Step 2 of 2 Payment Information Verification

Don't worry, this trial is still free. Collecting your payment information helps us verify your identity to reduce fraud. You won't be charged unless you manually activate a full pay-as-you-go account or choose to prepay.

Contact information

[REDACTED]

Payment method

[REDACTED]

Your info is saved in a [\[payments profile\]](#) and shared across Google services

Access to Google Cloud products

Get everything you need to build and run your apps, websites and services, including Firebase and the Google Maps API.

\$300 in free credit

Try Google Cloud with \$300 in credit to spend over the next 90 days.

No automatic charges

You only start paying if you decide to activate a full, pay-as-you-go account or choose to prepay. Any remaining free credit is yours to keep.

GCP Billing Create Step 3

Step 4: Complete the final setup steps

GCP Billing Create Step 4

6. After creating your billing account, you'll be taken to the billing overview page

The screenshot shows the Google Cloud Billing Overview page. On the left, there's a sidebar with navigation links for Cost management, Cost optimization, and Payments. The main area displays a summary of costs: Total cost is \$0.00, Savings is \$0.00, and Forecasted total cost is \$0.00. It also shows a section for creating a budget alert with a form to set a budget amount. Below this, there's a section for 'Free trial credit' showing a balance of \$300 and days remaining until March 5, 2026.

GCP Billing Overview

7. Link your billing account to your project if it's not already linked

> **Important:** Billing is required for Google AI Studio (Gemini API) access. You'll need a credit card and must move to Tier 1 billing to use the Gemini API. See Module 3.4 for more details.

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**"

The screenshot shows the Google Cloud search results for "Google Drive API". The search bar at the top has "google drive api" typed into it. Below the search bar, there are two sections: "Top results" and "Marketplace". In the "Top results" section, the first item is "Google Drive API" with a description: "Marketplace - Create and manage resources in Google Drive.". In the "Marketplace" section, there are several items listed, including "Elastic AI Agent", "VISION Analytics", and "Google Drive API". The "Google Drive API" item in the Marketplace section is highlighted with a red box.

GCP Search 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.
-

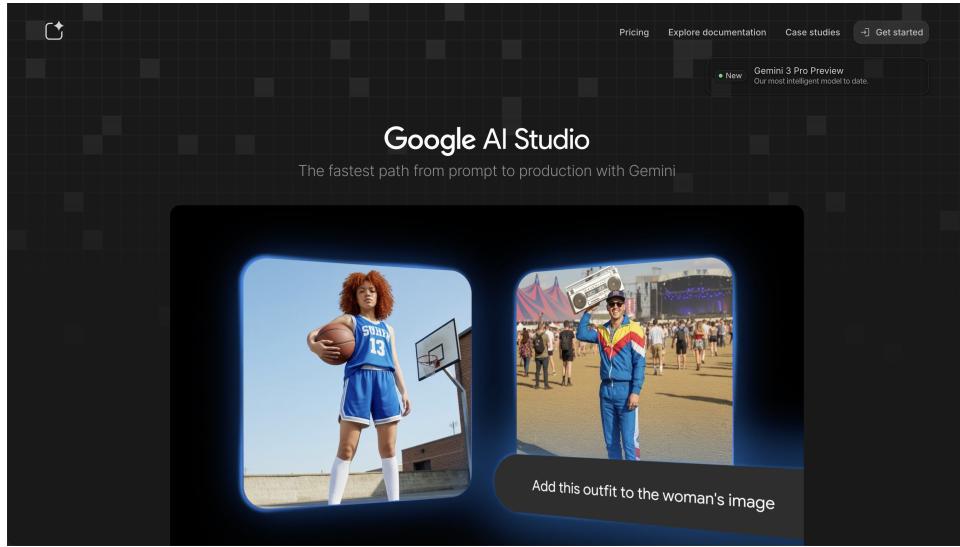
Module 3: Google AI Studio Setup

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

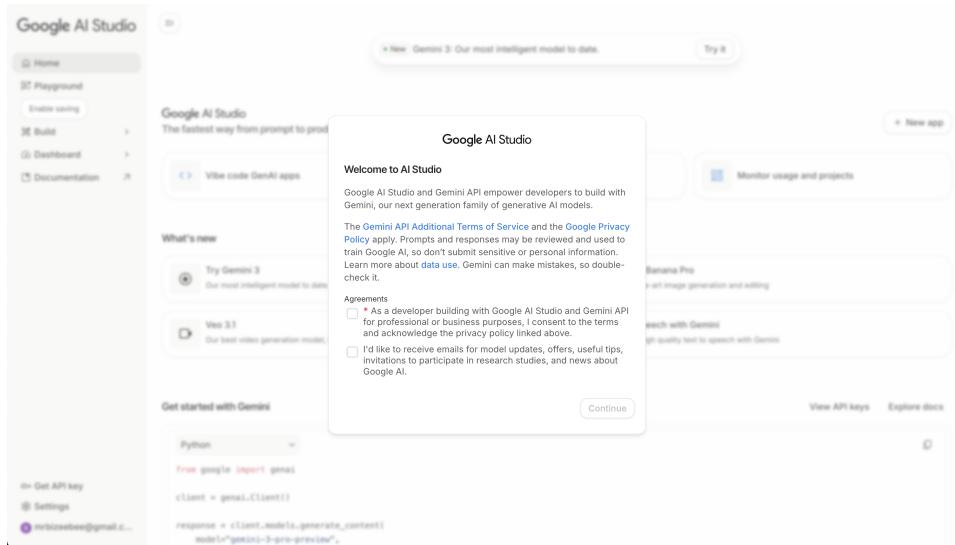
1. Navigate to Google AI Studio



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

Google AI Studio Home Dashboard

The dashboard provides access to:

- Model playground
- API key management
- Project settings

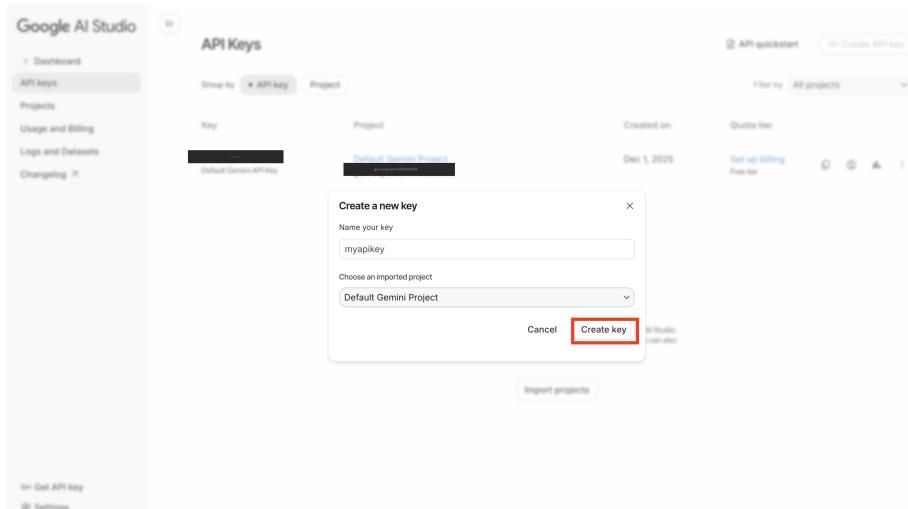
3.3 Creating an API Key

1. Navigate to API Keys

Key	Project	Created on	Quota tier
Default Gemini API Key	Default Gemini Project	Dec 1, 2025	Set up billing Free tier

Google AI Studio API Keys List

2. Click Create API Key



Google AI Studio Create New API Key

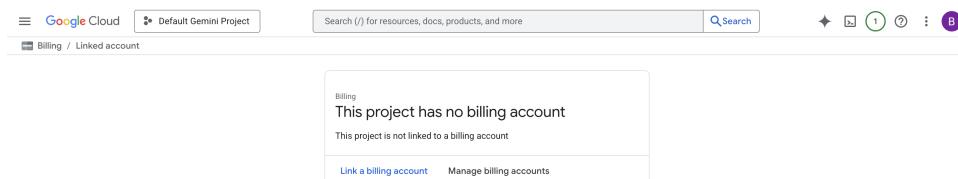
3. Select or create a project

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.

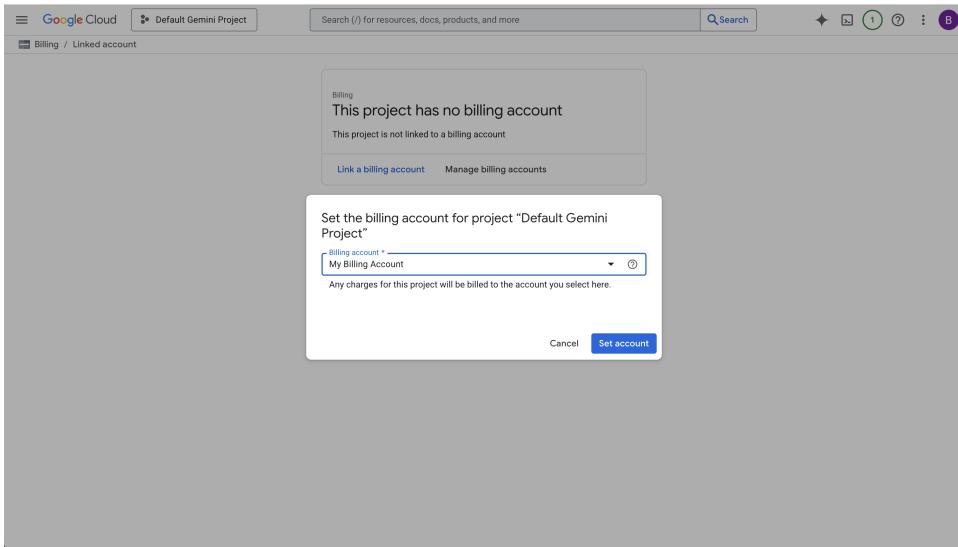
If your project requires billing:

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

Your billing accounts							
+ Create account							
Filter Status: Active Enter property name or value							
	Account name	Account type	Last 30 days' spend	Account ID	Status	Organization	Health checks
<input type="checkbox"/>	My Billing Account	Direct	\$0	011A94-3CBB62-12AFD3	Active	—	1

GCP Billing Account Management

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

Google Cloud

Billing / Create billing account

Create a new billing account

Name * My Billing Account 1
The name of this billing account is only used to help you remember what it is.

Country * United States

Currency USD

Continue Cancel

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

Free trial status: \$300.00 credit and 43 days remaining. Activate your full account to get unlimited access to all of Google Cloud—use any remaining credits.

Google Cloud

Billing / Overview

Billing account My Billing Account

Overview

Overview Free trial account Manage billing account

Billing account overview Payment overview

Our total cost December 1, 2025

Last 7 days Current month

Cost \$0.00 Savings \$0.00 =

Total cost \$0.00

View details Forecasted total cost Available once there is enough usage

Create a budget alert

Set a monthly budget for your billing account. You'll get email notifications as your costs approach and exceed the budget amount.

\$100 \$

Create View budgets and alerts

Free trial credit \$300 Free trial credit Out of \$300

Cost management

- Reports
- Cost table
- Cost breakdown
- Budgets & alerts
- Billing export
- Anomalies
- Cost optimization
- FinOps hub
- Committed use discount
- CUD analysis
- Pricing
- Cost estimation
- Credits
- Payments
- Release Notes

Recommended for you

- Cloud Billing overview
- Google Cloud Billing Tour
- Billing Reports Tutorial
- Analyze Cloud Billing data with BigQuery
- View your billing reports and cost trends
- Overview of Cloud Billing access control

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

The screenshot shows the n8n interface with the 'Overview' tab selected. On the left, there's a sidebar with links like Admin Panel, Templates, Variables, Insights, Help, and What's New. The main area has a header 'Overview' with a sub-header 'All the workflows, credentials and data tables you have access to'. It includes a 'Create Workflow' button and a 'Create Credential' button. Below this is a summary section with metrics: Prod. executions (0, -100%), Failed prod. executions (0, -100%), Failure rate (0%, ~100pp), Time saved (---), and Run time (0s, ~0s). Underneath is a table with three workflow entries: 'Automate UGC Content Creation with N8N and Sora 2', 'BeezBee - Audio Stream to Supabase (Minimal)', and 'RunwayML Video Poling + YouTube Upload'. Each entry shows last updated, created date, and some status details. At the bottom right, there are buttons for 'Total 3', 'Search', 'Sort by last updated', and '50 page'.

n8n Overview Workflows List

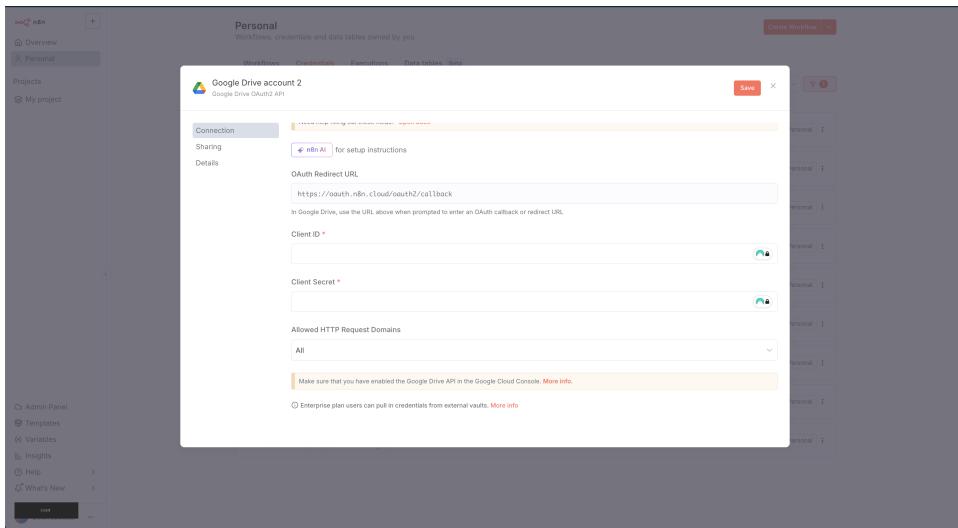
4.2 Setting Up Google Drive Credentials

1. Go to **Credentials** in n8n
2. Click **Add Credential**
3. Search for **Google Drive**

The screenshot shows the n8n interface with the 'Personal' tab selected in the sidebar. The main area displays a list of existing credentials: 'Google Drive account', 'Header Auth account 2', 'OpenAI account 4', 'YouTube account 2', 'Header Auth account', 'OpenAI account', and 'Supabase account'. A modal window titled 'Add new credential' is open in the center, with the sub-titile 'Select an app or service to connect to'. A search bar contains the text 'google drive'. To the right of the search bar, there are two buttons: 'A. Personal' and 'I' (Inactive).

n8n Add Credential Google Drive Search

4. Configure OAuth2 connection



n8n Google Drive OAuth2 Connection Form

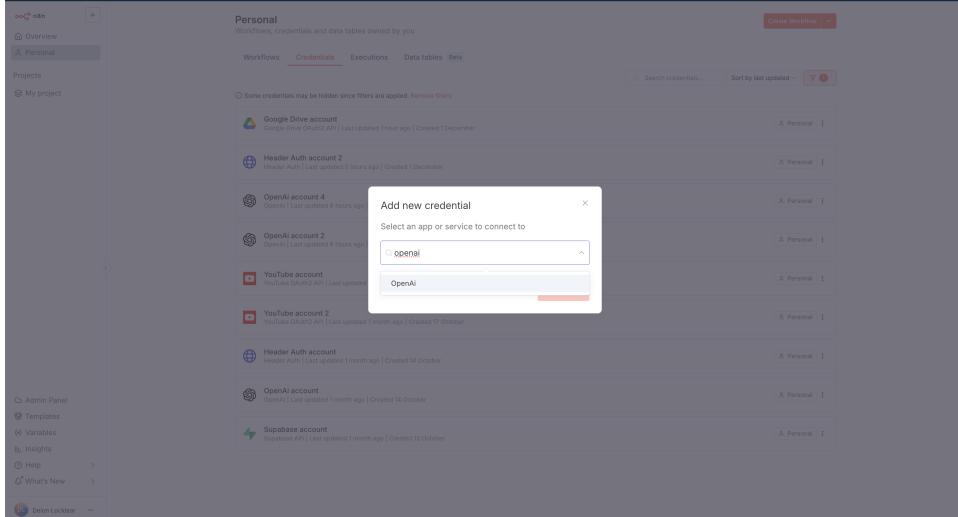
5. Enter your credentials:

- Client ID: YOUR_CLIENT_ID_HERE
- Client Secret: YOUR_CLIENT_SECRET_HERE

4.3 Setting Up OpenAI Credentials

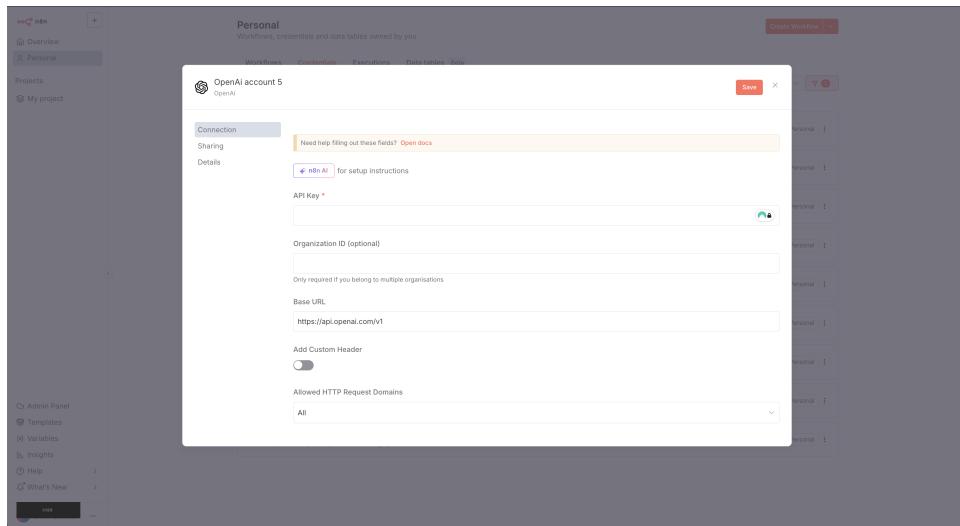
1. Add a new credential

2. Search for **OpenAI**



n8n Add Credential OpenAI Search

3. Configure the connection



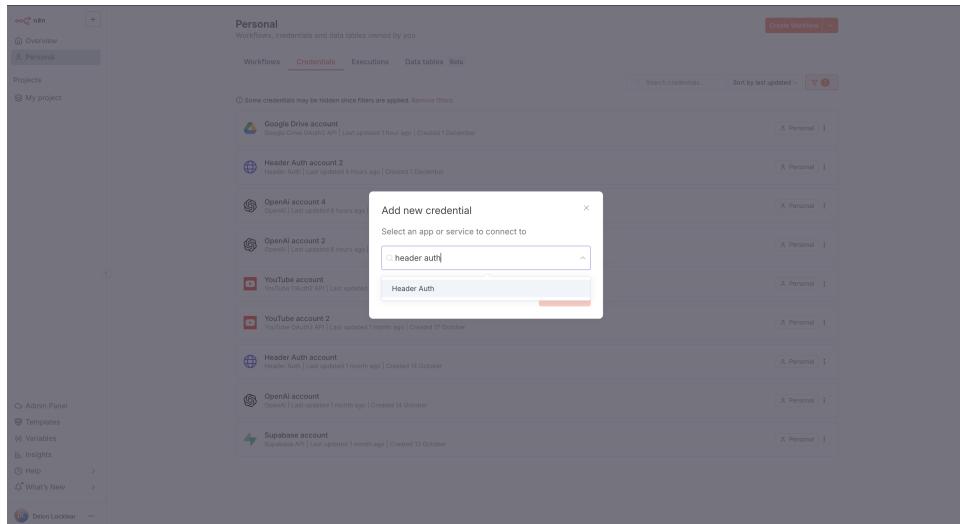
n8n OpenAI Credential Connection Form

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:

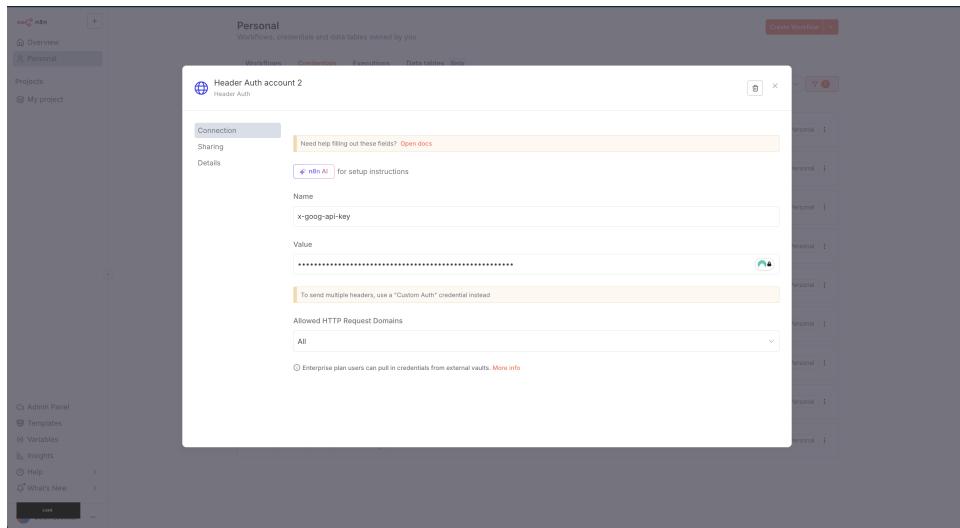
1. In n8n, go to **Credentials** and click **Add Credential**
2. Search for **Header Auth**



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

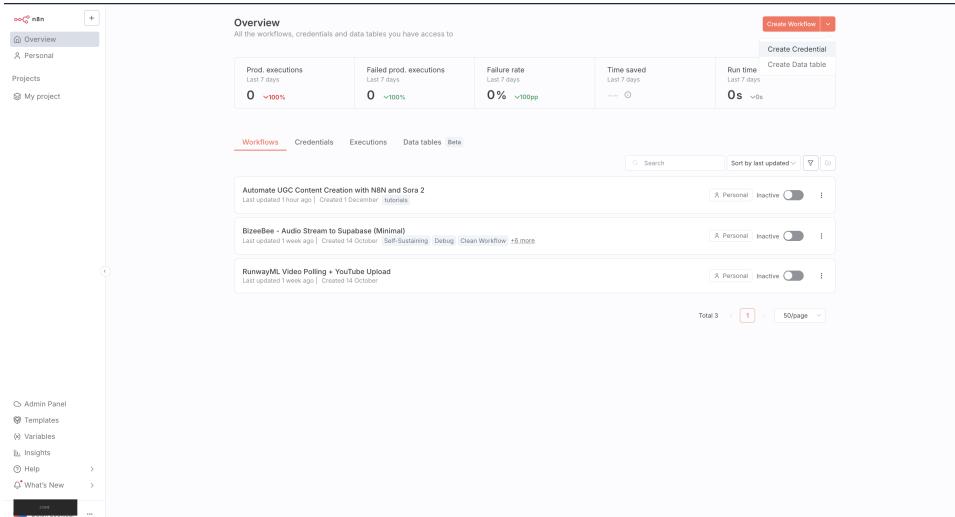
The UGC Content Creation workflow is available as a premium digital asset.

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)



n8n 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>
```