Last Minute Good Ideas
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# Machine Thinking;
# A.I.-Tools for Workflow Automation



**1. Introduction**

In this workshop, we're exploring how to apply agent-based thinking (sometimes called "AI thinking") to a broad range of automation challenges. At its core, agent-based thinking is about breaking down a process into smaller steps—each with a trigger, an action, and an output—and then assembling these steps into seamless workflows. For example, the trigger might be new data arriving in a system; the action could be sending that data to an AI service for processing; and the output is the AI's result, which can then be forwarded to another tool or used to drive further decisions.

To demonstrate these principles in a concrete way, we'll walk through a sample workflow using Make.com, Google Forms, and a mail provider of our choice. For the sake of simplicity we choose Outlook.

Although the tutorial below outlines one specific use case—sending an email whenever a new Google Form response arrives—we'll treat this example as a blueprint for understanding how data flows from one step to the next, and how AI can be integrated along the way to enhance your workflows.

Your real objective is to learn how to break down automation tasks into small, manageable parts, then chain them together while optimizing each step. By the end, you'll see how you can apply this trigger → action → output approach to many other workflows that suit your business, whether that's data entry, marketing, customer service, or something else entirely. Let's get going.

**2. Setting Up Make.com**

Make.com (formerly Integromat) is a powerful no-code automation platform that allows users to connect different apps and services to create automated workflows. It works by linking applications through a **trigger → action → output** structure, enabling seamless data transfers and process automation across multiple tools. Unlike traditional coding-based automation, Make.com offers a visual interface where users can drag and drop modules to design their workflows intuitively. It supports advanced conditional logic, error handling, and complex multi-step processes, making it a robust choice for users with both simple and complex automation needs.

Make.com
is part of a growing ecosystem of automation platforms,
each with its own strengths:

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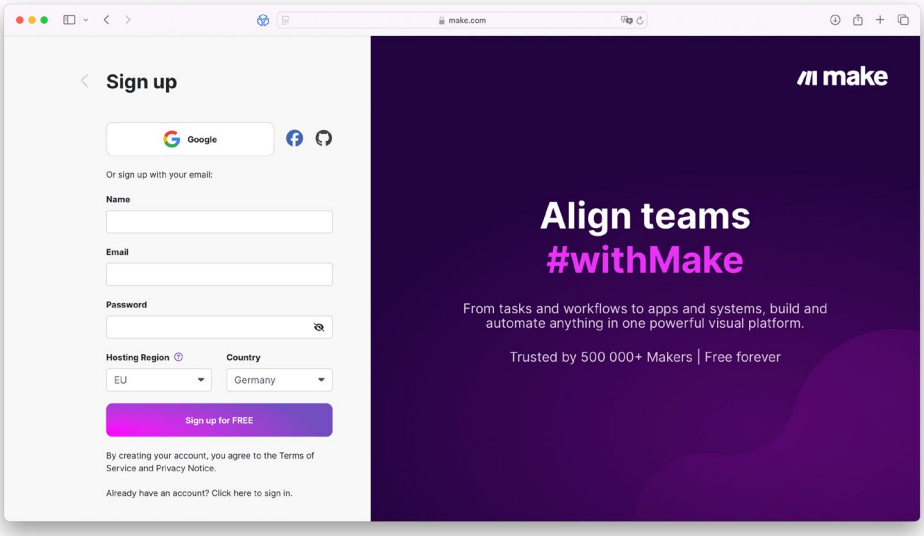
Zapier
One of the most well-known automation platforms, Zapier focuses on simple, linear workflows called "Zaps," connecting thousands of apps with easy-to-set-up triggers and actions. It is ideal for users who want to quickly automate tasks with minimal setup.

IFTTT (If This Then That)
Geared towards consumer-level automations, IFTTT is great for connecting smart home devices, social media accounts, and web apps using basic "if this, then that" logic.

Apple Shortcuts
A built-in automation tool for Apple devices, allowing users to create workflows that integrate apps and system functions on iPhones, iPads, and Macs.

n8n
An open-source alternative to Make.com and Zapier, n8n allows for self-hosted automations with deep customization and greater control over workflows.
Power Automate (Microsoft) – Part of the Microsoft ecosystem, Power Automate is tailored for enterprise-level automation, offering deep integration with Microsoft

**2.1 Create a Make.com Account**
Go to make.com and sign up.
Provide your email address and a secure password.
Verify your account via the confirmation email sent by Make.




*Tip: If you already have a Make.com account, simply log in.*

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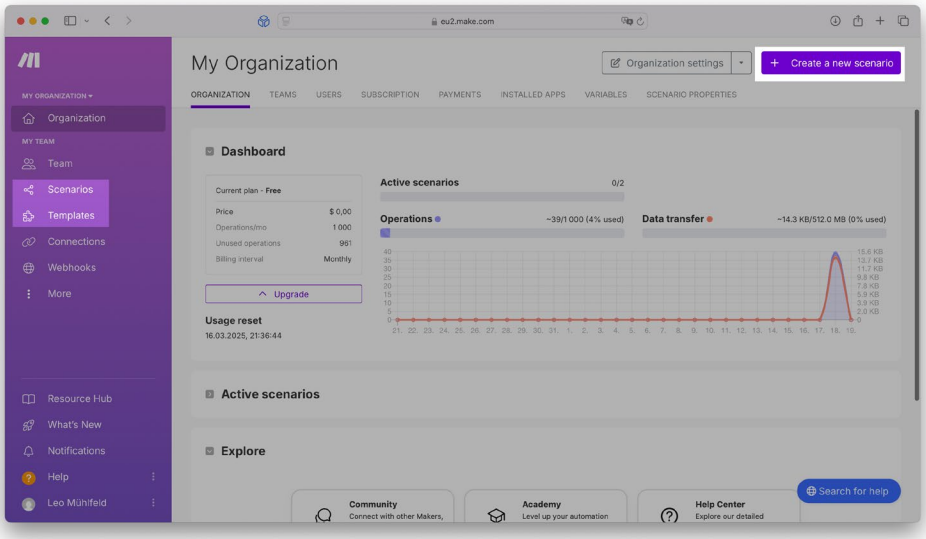
### 2.2 Dashboard & Structure Explanation

Once logged in, you'll see the Dashboard, which provides an overview of your scenarios, templates, and recent activity.
Make's structure revolves around Scenarios, each consisting of one or more Modules.




*Tip: think of modules as building blocks or steps in your automation.*

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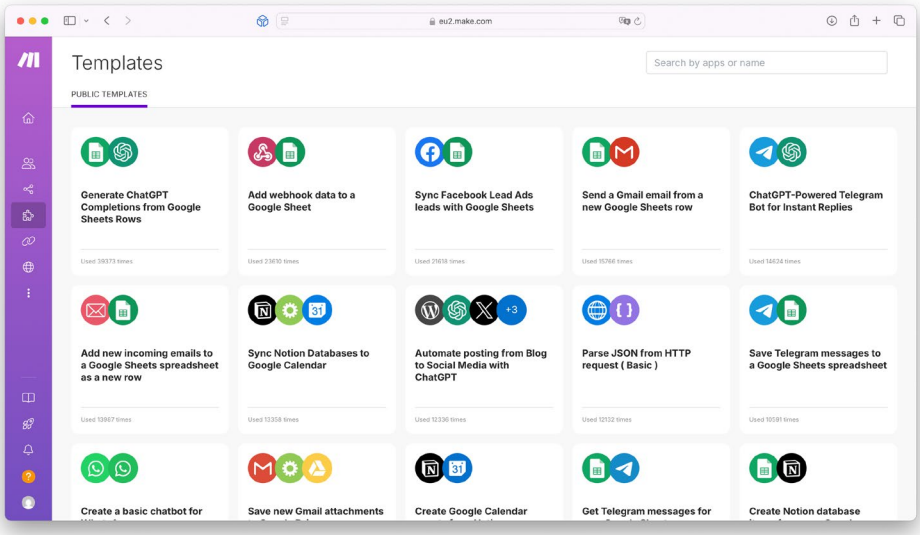
**2.3 Explore Automation Templates**
Make offers pre-built templates to help you get started quickly.
You can browse the Templates section in the left sidebar to explore a variety of options. These templates are customizable and can inspire additional workflows beyond the examples we'll cover here.




*Tip: if you are looking for specific functionality, try to look for an exisitng template and reverse-engineer it.*

**3. Creating a Google Form & Database**

In this workflow, Google Sheets serves as a lightweight, cloud-based database, capturing and storing responses from Google Forms. Although not a traditional database, it functions effectively as a structured data repository that can be accessed, modified, and integrated with automation tools like Make.com. By linking Google Sheets to automation platforms, new entries (rows) can trigger workflows, allowing real-time data processing, AI analysis and more ...

While Google Sheets is a widely accessible and free option, there are other alternative tools that offer enhanced features:

Airtable
Combines the simplicity of spreadsheets with database-like capabilities, including relationships between tables, attachments, and advanced filtering.

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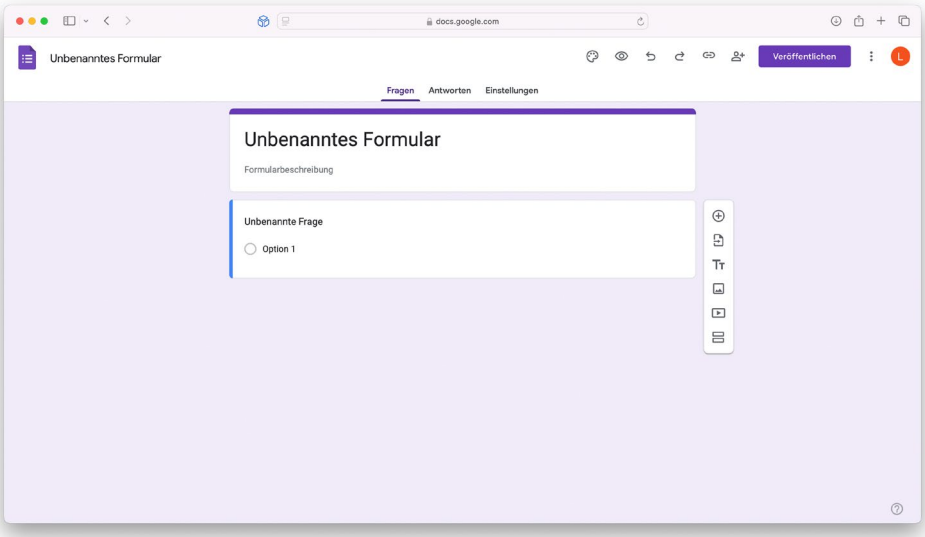
Notion Databases
Ideal for teams looking to store and organize structured data within a flexible all-in-one workspace.

Excel Online (with Power Automate)
A powerful tool within the Microsoft ecosystem, particularly useful for business-grade data processing and automation.

Each of these tools can be used in similar workflows depending on your needs—whether it's advanced filtering, collaboration, or scalability. In this workshop, we use Google Sheets because of its ease of access, real-time collaboration, and seamless integration with other Google services.

**3.1 Create a Google Account (If Needed)**
If you don't already have a Google Account, head to accounts.google.com to sign up. Follow the prompts to create your account.

**3.2 Create the Google Form**
Go to Google Forms.
Click Blank or choose a template.



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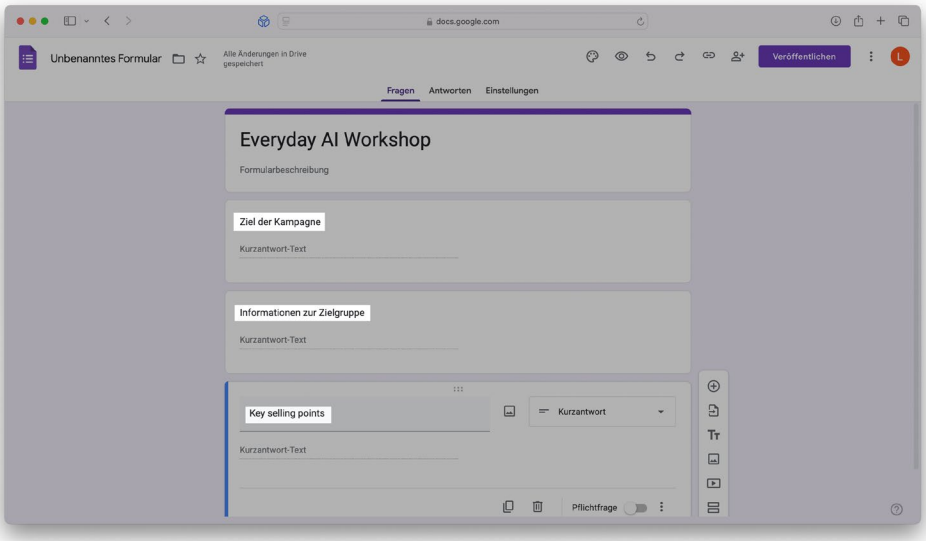
**3.3 Explore Google Form Settings**
In the top-right corner, click the Settings gear.
Review options such as collecting email addresses, limiting responses, or allowing editing.
Depending on your use case, you might make this form public or private, or enable advanced features like notifications.

**3.4 Add Three Questions**
Click + to add a new question.
Input your question text (e.g., “Goal of Campaign?”, “Target Group?”, “Key selling points”).




*Tip: Get specific by choosing the question type (Short answer, Multiple choice, etc.).*

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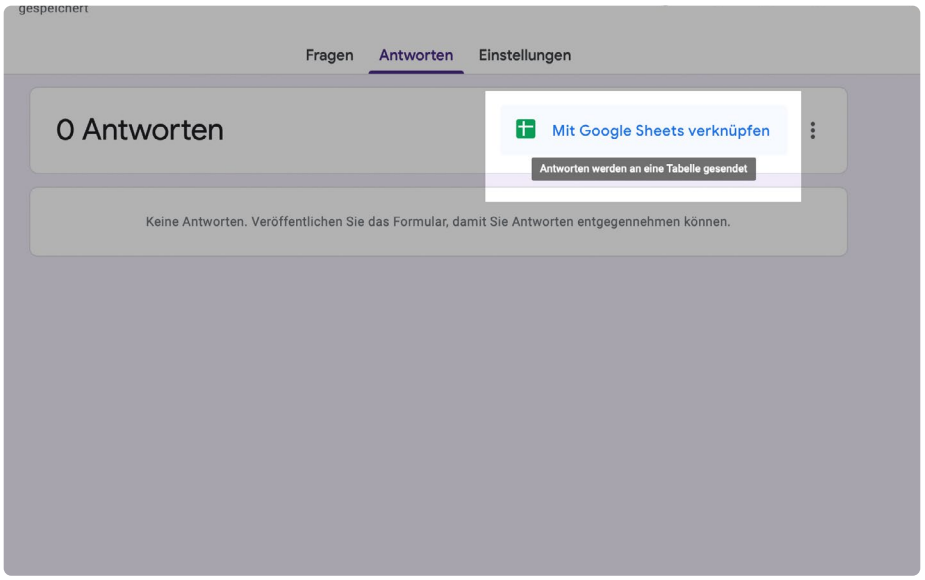
**3.5 Connect Responses to a Spreadsheet**
At the top of the form, select the Responses tab.
Click the Google Sheets icon to create or link a spreadsheet.




**3.6 Test the Form**
Click Preview (eye icon) to open the live form.
Fill it out with some test responses.
Submit the form.

**3.7 Verify Success in the Spreadsheet**
Open the linked Google Sheet to confirm that your test response appears as a new row.

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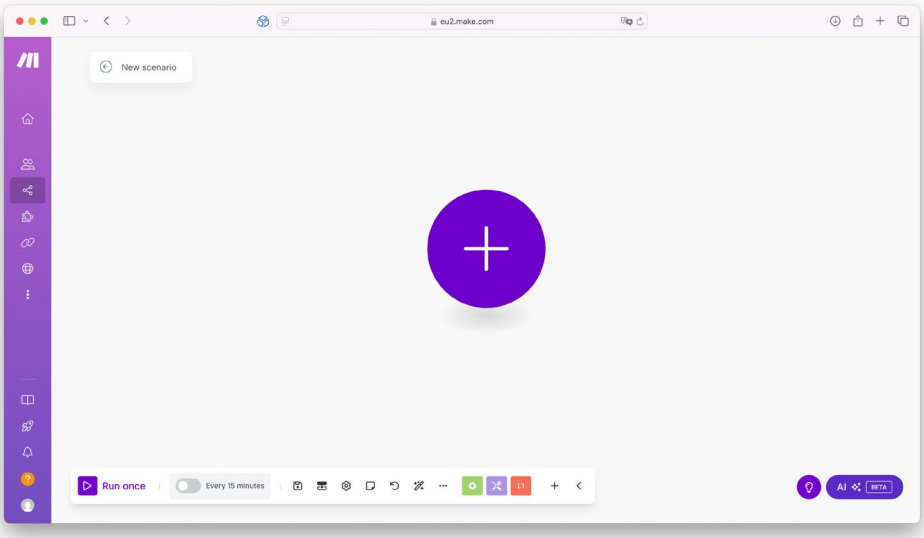
## 4. Building a Scenario in Make.com

### 4.1 Create a New Scenario

In Make.com, click Create a new scenario.
A blank canvas will appear, prompting you to add modules.




### 4.2 Showcase Available Modules/Options

When you click + in the scenario, you can search for various apps/services.
For this demonstration, we'll use the Google Sheets, Mail, and OpenAI modules.

### 4.3 Add a "Watch New Row" Module

Search for Google Sheets in the add-module search.
Select Watch Rows or Watch New Rows.
This module will scan for new rows in the spreadsheet whenever the scenario runs.
(i.e., a new form submission).

### 4.4 Connect Your Google Account

Click Add or Use existing connection (if already connected).
Follow Google's OAuth prompts and grant permission.

### 4.5 Select the Spreadsheet

From the dropdown, find the spreadsheet you linked to the Google Form.
Choose the specific sheet tab that stores responses (often titled "Form Responses 1").

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**4.6 Choose "All" Rows**
In the module's advanced settings, select "All" if you want to watch for every new row.

**5. Integrating OpenAI into Your Workflow**

In this step, we will integrate OpenAI into our Make.com workflow to process form responses using AI. OpenAI's models, such as GPT-4, can analyze, summarize, or enhance text data before passing it on as an output.

Make.com provides a dedicated OpenAI module, making integration seamless without requiring manual API requests. However, under the hood, this module still issues a standard API request to OpenAI's servers—meaning you could achieve the same functionality using an HTTP request if needed. Understanding this distinction is key to the broader goal of this workshop: learning how to break down and apply this **trigger → action → output** approach to larger and more complex use cases beyond this specific workflow. By exploring both methods, you'll gain a deeper understanding of how AI-powered automation works and how to adapt it for custom business solutions in various industries.

**5.1 Create an OpenAI Account**
Go to OpenAI's website and sign up or log in.
Navigate to the API section (https://platform.openai.com/).

**5.2 Create a Workspace**
OpenAI allows for team-based workspaces, but for this tutorial, an individual account will be sufficient.
If working in a team, consider setting up a shared API key for secure access management.

**5.3 Add Billing Information (Required for API Usage)**
OpenAI offers a free-tier with limited credits, but for full functionality, you may need to add a payment method.
Navigate to Manage Account > Billing and enter your details.

**5.4 Generate an API Key**
Go to the API Keys section under OpenAI's platform.
Click Create New Secret Key and **copy it immediately**—you won't be able to view it again later.
Store this key in a secure location (e.g., a password manager).

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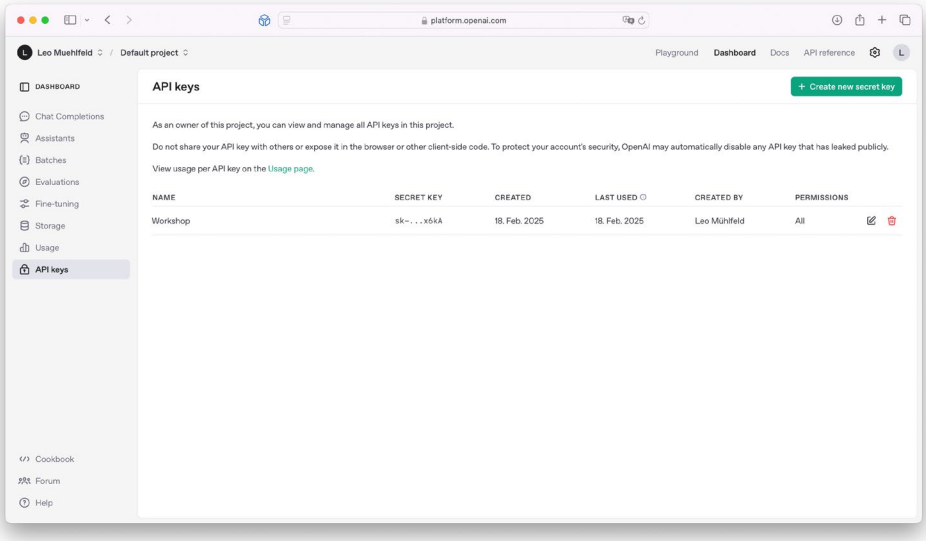


### 5.5 Method 1: Using the Make.com OpenAI Module (Recommended)

In Make.com, add a new "OpenAI" module. Click + to add a new module.
Under Connection, click Add, then paste your OpenAI API key to authenticate.
Select the "Create a Chat Completion" method. As a model, choose "gpt-4o-latest". A complete list of available models and their pro and cons can be found here.
Now for the most important part: the "Messages" array, where we can add messages to be sent to OpenAI. Each message always contains two values: "role" and "content".

To fully understand what we are doing here, let's take a brief detour:

When using the "Create a Chat Completion" method in the Make.com OpenAI module, the request is structured similarly to a conversation format. This follows OpenAI's role-based messaging system, which helps the AI understand context and generate relevant responses accordingly.

Here's a breakdown of the key roles used in the request:

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**System Role (“system”)**
Defines the AI’s behavior and overarching tone for the conversation.

```
{
  “role”: “system”,
  “content”: “You are a marketing assistant...”
}
```

This instruction guides the AI’s responses, ensuring they remain consistent with the intended purpose.

**User Role (“user”)**
Represents the actual input provided by the user (e.g., the Google Form response).

```
{
  “role”: “user”,
  “content”: “This is the data: {DATA}, {DATA},...”
}
```

This is the core data that AI processes—dynamically pulled from the form.

**Assistant Role (“assistant”) (Optional)**
Stores previous AI responses, which helps maintain context in multi-turn conversations.
Not necessary for single-step automations but useful in interactive workflows.

```
{
  “role”: “assistant”,
  “content”: “Based on the user input, here is the summarized...”
}
```

We can therefore add one message with the role “Developer / System” and as a message, add what we expect the AI to return. For example we could type:

“You are an expert marketing assistant. Your task is to take campaign details and generate a compelling marketing message. Your response should be clear, engaging, and structured to effectively communicate the campaign’s goal, target audience, and key selling points.”

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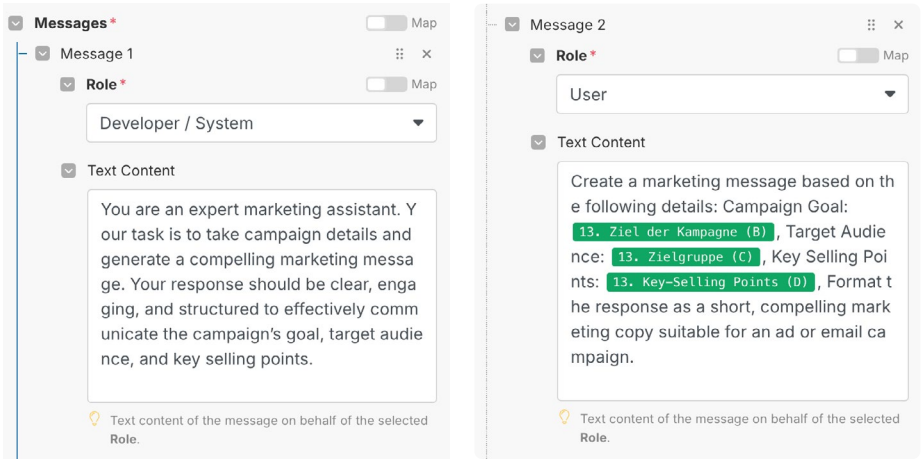
Now, let's add a second message with the role "user". This message will dynamically construct a prompt using the data collected from the Google Sheet.

"Create a marketing message based on the following details: Campaign Goal: {{1. campaign_goal}}, Target Audience: {{1.target_audience}}, Key Selling Points: {{1.key_selling_points}}, Format the response as a short, compelling marketing copy suitable for an ad or email campaign."




Max tokens: Set an appropriate length for the response (You might have to test a bit).

This module will now take the data received from the Google Sheet and use AI to create a desired response. The response can then be passed to another module.

**5.6 Method 2: Issuing a Direct API Request (Advanced)**

If you prefer more control or need a custom implementation, you can manually issue an API request using Make.com's HTTP module.

*Tip: An HTTP request can be made in almost any platform, making it the most fundamental and versatile way to integrate AI into any workflow.*

In Make.com, click + to add a new module.
Select "HTTP" → "Make a request".
Configure the request:

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**Method:**

```
POST
```

**URL:**

```
https://api.openai.com/v1/chat/completions
```

**Headers:**

```
Authorization: Bearer YOUR_OPENAI_API_KEY
Content-Type: application/json
```

**Request Body (JSON format):**
We will leverage what we previously learned to put together a http request.

```
{
  “model”: “gpt-4o”,
  “messages”: [
    {
      “role”: “system”,
      “content”: “You are an expert marketing assistant. Your task is …”
    },
    {
      “role”: “user”,
      “content”: “{{1.form_response}}”
    }
  ],
  “temperature”: 0.7,
  “max_tokens”: 150
}
```

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## 6. Adding an Email Step

### 6.1 Create or Use an Existing Outlook Account

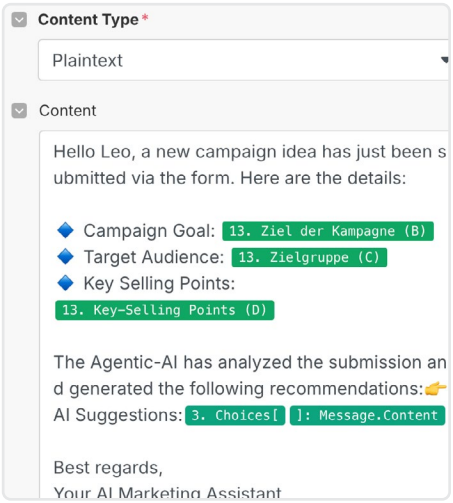
Any email provider can be used for this workflow. However, I found that Outlook is one of the easiest to authenticate within Make.com, making it a convenient choice for this tutorial. For simplicity and a smoother setup, we will use Outlook as our email service. If you don't already have an Outlook account, you can create one at outlook.live.com.

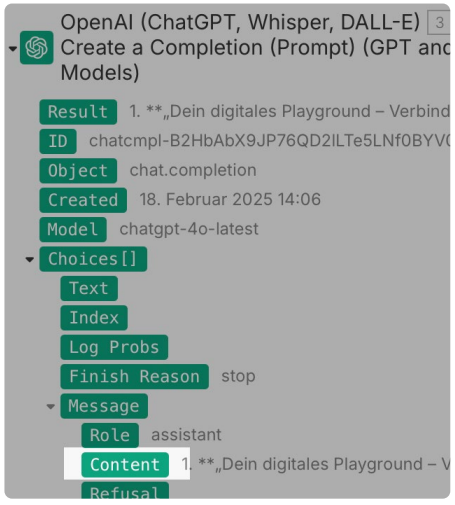
### 6.2 Add a Mail Module in Make.com

From the scenario canvas, click + again.
Search for Email. Select it and choose "Send an Email".

### 6.3 Establish the Connection (Microsoft OAuth)

A dialog will open to authenticate. To grant Make.com the required permissions, choose "Microsoft SMPT/IMAP OAuth".




### 6.4 Set Up the Email

Fill in the To field with your own email address (or any intended recipient).
Use output data from the previous modules (OpenAI summary, form responses) as part of the email subject/body.

### 6.5 Design the Email Body

Incorporate text, variables from the Google Form (like answers to each question), and any AI-generated content. The actual response from the OpenAI module is a bit tricky

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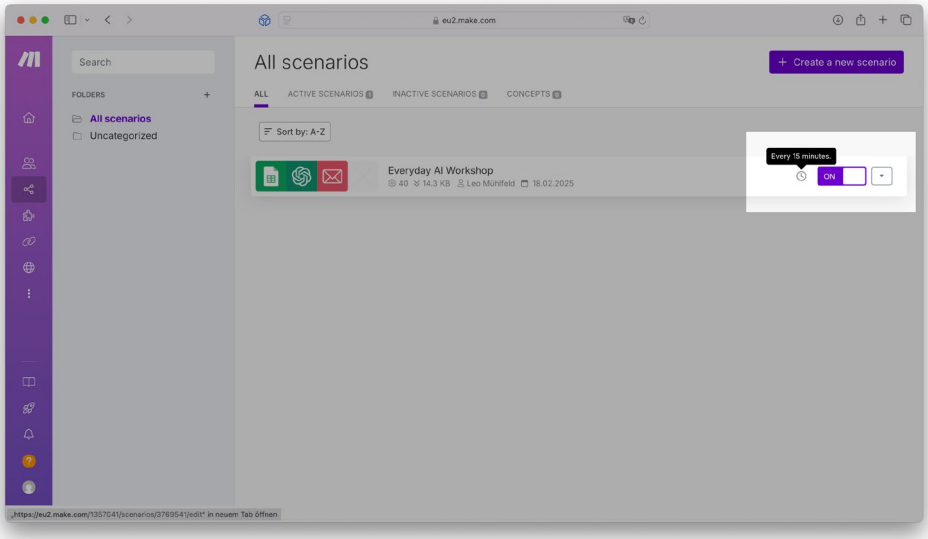
to find. It can be found in Make.com (or in the response if you went the HTTP way) under the OpenAI module's output data. Specifically, the AI response is stored in the "message → content" field within the "choices" array of the response.




**7. Testing & Scheduling the Automation**

**7.1 Test the Entire Scenario**
Save the scenario.
Click Run once to test it.
Submit another response in the Google Form.
Confirm that the scenario runs and sends you (or the intended recipient) an email.

**7.2 Schedule the Automation (Every 15 Minutes on the Free Plan)**
In the Scenario settings, set the schedule to run every 15 minutes.
This ensures that any new form submissions are automatically processed and emailed within that interval.

**8. Scaling Up & "Machine Thinking"**

With your basic workflow up and running, it's time for "machine thinking"
How can you:

Integrate more data sources (e.g., Slack, CRM, e-commerce platforms)?

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Expand the use of AI to categorize or prioritize leads?
Build decision trees that branch out depending on user responses?
Include additional email workflows for different business functions (e.g., HR, finance, or product development)?

**9. Conclusion**

Congratulations! You've walked through a basic, exemplary scenario—connecting Google Forms, AI processing, and Outlook emails using Make.com. More importantly, you've seen how each step can be broken down and orchestrated with an agentic-AI approach.