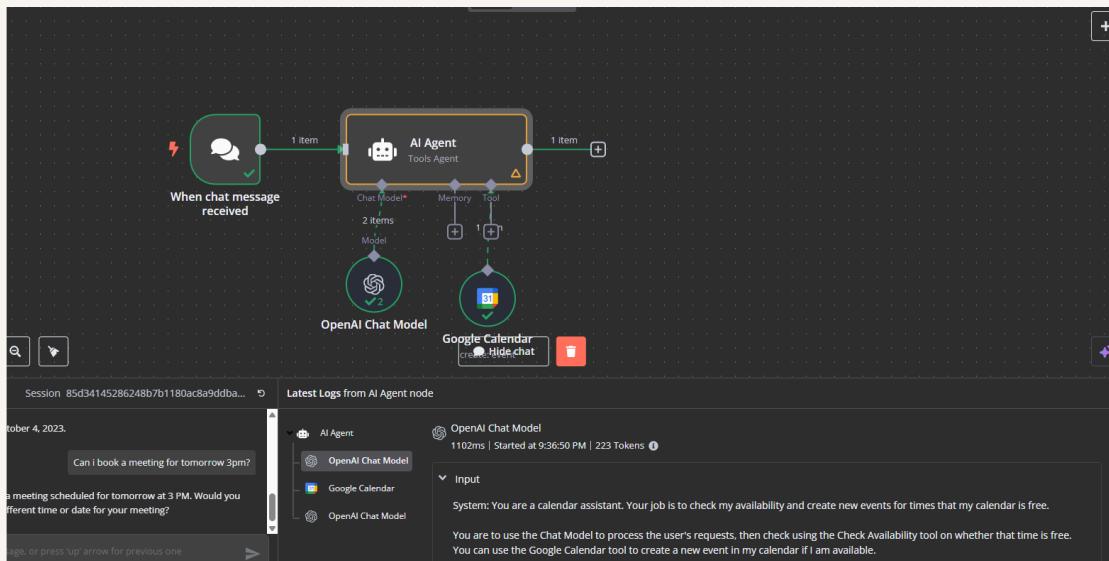


# Building an AI Workflow



Seth Sekyere





Seth Sekyere

# Introducing Today's Project!

In this project, I will demonstrate how to build an AI workflow that automates calendar event creation via text. I'm doing this project to learn AI automation and enhance my skills in Backend Development.

## Tools and Techniques

Services I used were OpenAI, Google Calendar, and n8n. Key concepts I learned include dynamic workflows, system messages, troubleshooting, and integrating third-party tools for task automation.

## Project reflection

This project took me 20 minutes complete. The most challenging part was troubleshooting the AI agent's communication with the Calendar tool. It was most rewarding to see the workflow correctly schedule events after resolving the issues.

I did this project to learn AI tool integration and workflow automation. It met my goals by helping me troubleshoot and refine the AI agent's ability to handle dynamic tasks like scheduling events with Google Calendar.



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# Exploring n8n

I'm using n8n in this project to automate tasks by connecting apps like ChatGPT and Google Calendar. Workflows are steps to complete tasks, and AI can be involved by using tools like ChatGPT for decision-making or text generation.

I signed up for a free trial for n8n, which includes full access to workflows, integrations, and automation features. I don't need to enter credit card details to start the trial, so I won't be charged.



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The screenshot shows the homepage of n8n.io. At the top, there's a navigation bar with links for Product, Use cases, Docs, Community, Enterprise, Pricing, Sign in, and Get started. Below the navigation, there's a GitHub badge indicating 67,291 stars. The main headline reads "Secure, AI-native workflow automation" with a subtitle "The world's most popular workflow automation platform for technical teams". There are two call-to-action buttons: "Get started for free" and "Talk to sales". Below the main content, there's a section showing various company logos that use n8n, including SPENDESK, Information, sendinblue, Liberty Mutual, Pearson, onfleet, Unbabel, splunk>, World Central Kitchen, and twilio. At the bottom, there are four categories: IT Ops (with a server icon), SecOps (with a shield icon), DevOps (with a cloud icon), and Sales (with a person icon). A horizontal progress bar is visible at the very bottom.



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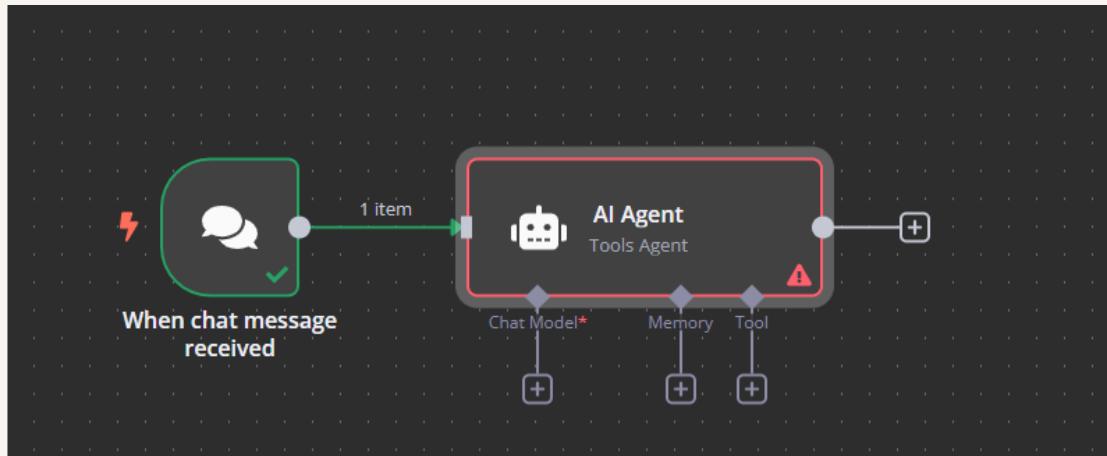
# Starting an AI Workflow

To set up a workflow, I first configured a trigger, which means it's the event that starts the workflow. My trigger is "On chat message," which runs the workflow whenever a chat message is sent. Other options include triggers for specific times, etc

I connected my trigger with an AI agent node. AI agents are autonomous systems that make decisions without triggers. But in this project, I am building an AI workflow, where tasks are triggered by actions like chat messages.



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# Integrating ChatGPT

An AI workflow can be broken into three key components: triggers (events that start the workflow), the AI agent (processes input and makes decisions), and tools (third-party apps or services that perform tasks, like Google Calendar).

My workflow's chat model uses OpenAI's Chat Model. Usually, connecting with OpenAI requires setting up an API key and paying for requests. I can connect for free by claiming the 100 free credits in n8n, covering 100 requests.



# Seth Sekvere

The screenshot shows the OpenAI Chat Model interface. At the top, there is a green banner stating: "Claimed 100 free OpenAI API credits! Please note these free credits are only for the following models: gpt-4o-mini, text-embedding-3-small, dall-e-3, tts-1, whisper-1, and text-moderation-latest". Below this, there is a section titled "Credential to connect with" which shows "n8n free OpenAI API credits". Under "Model", it says "From list" and "gpt-4o-mini". In the bottom right corner, there is a placeholder text "Output will appear here".



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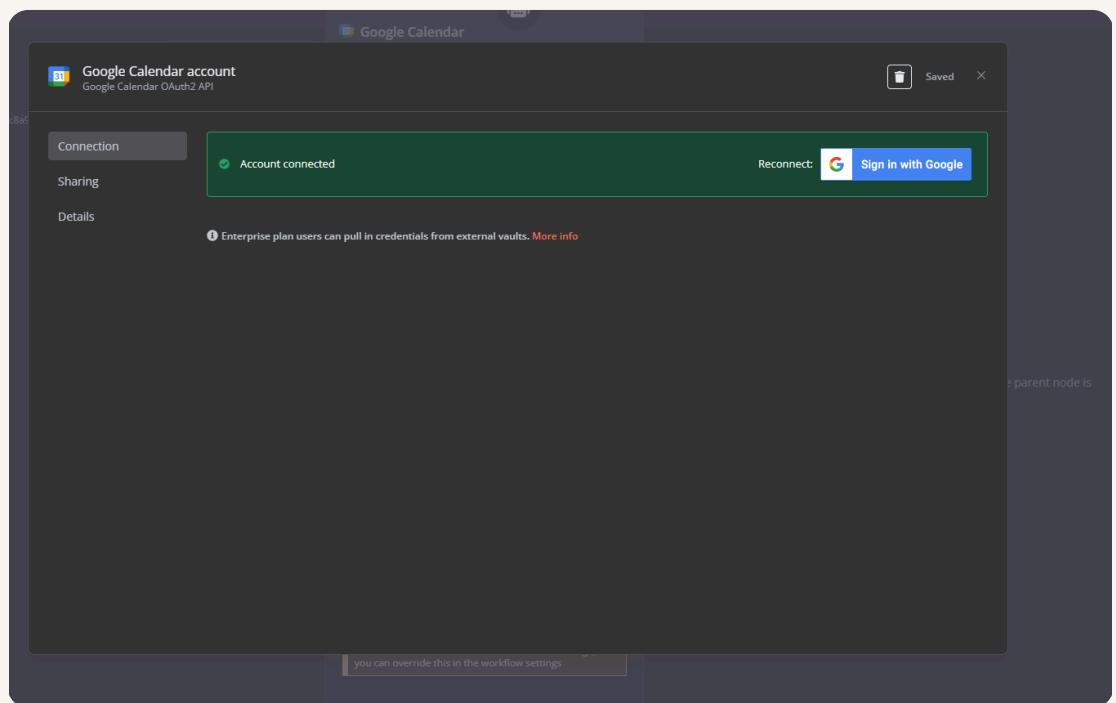
# Integrating Google Calendar

In this workflow, the tool is Google Calendar because it allows the AI agent to create events and manage your schedule directly, automating the process of adding new appointments based on the chat instructions.

To connect with Google Calendar, you have to allow n8n access to your Google account and calendar. For security best practice, it's important to only grant the necessary permissions and ensure you're using a trusted connection.



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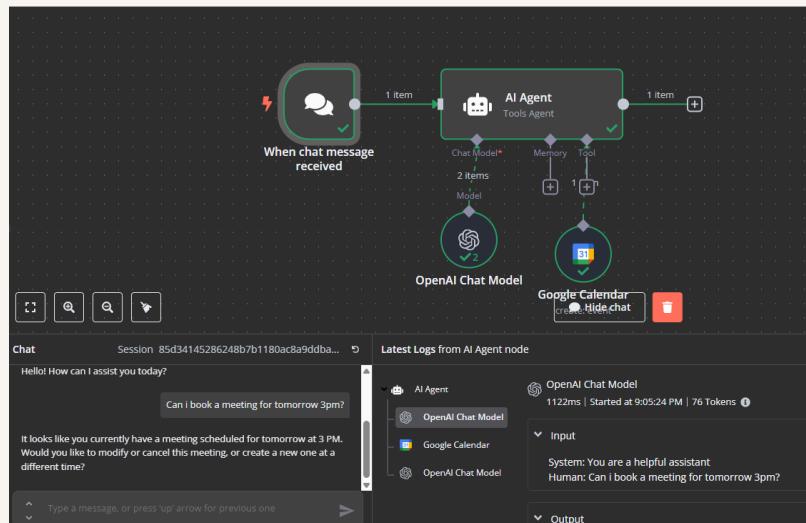


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# Testing My Workflow

I tested my AI workflow by sending a chat message to trigger the process. The response was an error message indicating that the event couldn't be created, which is an error because the Google Calendar connection wasn't properly authenticated.

To troubleshoot errors, you can check the AI agent's logs. I observed that the Google Calendar tool didn't receive input from the chat model, causing it to default to the current time and misinterpret the availability.





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# JSON Expressions

I decided to troubleshoot by reviewing the logs, where I noticed an error in the Start and End time settings. The Calendar tool was defaulting to "now" for both start and end times, instead of using the correct time passed from the chat model.

I updated the start and end times to `{{ \$fromAI('start\_time') }}` and `{{ \$fromAI('end\_time') }}`. This allows the AI model to provide dynamic values for when the event should start and end based on the user's input in the chat.

The screenshot shows a n8n workflow node configuration for Google Calendar. The left panel displays the node's parameters:

- Credential to connect with: Google Calendar account
- Tool Description: Set Automatically
- Resource: Event
- Operation: Create
- Calendar: From list - sekyere122@gmail.com
- Start: {{ \$fromAI('start\_time') }}
- End: {{ \$fromAI('end\_time') }}
- Use Default Reminders: On
- Additional Fields: No properties

The right panel shows the resulting JSON response:

```
response
0
{
  id: "k48ueuv5ud73815soo24hk5m98",
  start: {
    dateTime: "2025-03-15T21:05:25-04:00",
    timeZone: "America/New_York"
  },
  end: {
    dateTime: "2025-03-15T22:05:25-04:00",
    timeZone: "America/New_York"
  },
  creator: {
    email: "seykyere122@gmail.com",
    self: true
  },
  organizer: {
    email: "seykyere122@gmail.com",
    self: true
  },
  created: "2025-03-16T01:05:25.000Z",
  updated: "2025-03-16T01:05:25.870Z",
  eTag: "3484174251741118",
  eventType: "default",
  htmlLink: "https://www.google.com/calendar/e/ent?et=ea&QdWV10yV1ZDw0OUEtL29MjRoa2V0Tgic2WeWYzIyMkRt",
  iCalUID: "k48ueuv5ud73815soo24hk5m98@google.com",
  kind: "calendar#event",
  reminders: {
    useDefault: true
  },
  sequence: 0
}
```



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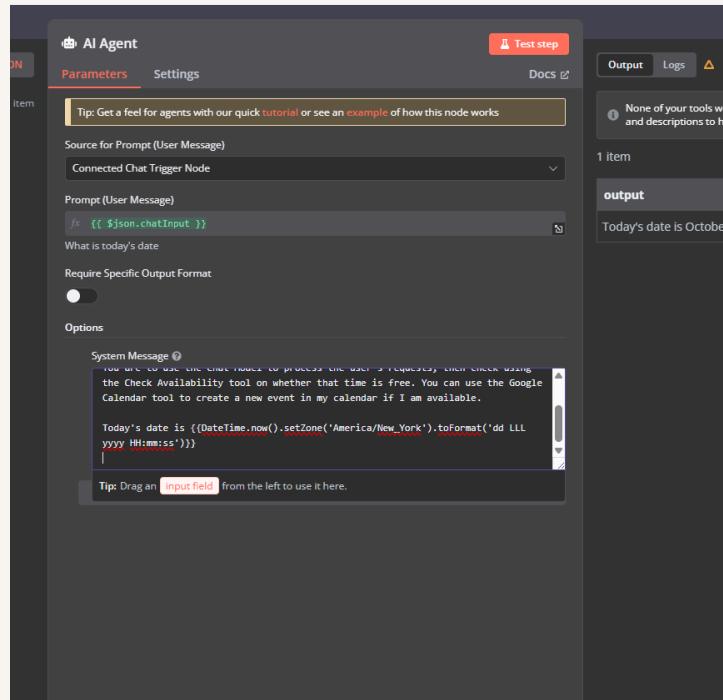
# System Messages

On my second test, my workflow successfully retrieved the start and end times, but it made an error in the date. This was because the AI model didn't know today's date, causing it to incorrectly assign the wrong year.

I wrote a system message to provide context and instructions to the AI agent, helping it understand the task and set parameters like today's date and time zone before processing the user's request.



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# Success!

On my final test, a new event was scheduled at the right time because I updated the system message to use an Expression setting instead of Fixed. This allowed the AI agent to dynamically calculate today's date and create the event correctly.

