DATA SATURDAYS

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#45 LUBLIN

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Dr. Mihail Mateev, MVP, RD, MCT

Boosting Power Platform with ChatGPT Capabilities [EN]

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AGENDA

Open AI Concept
Call Directly OpenAI API
Using Azure OpenAI API
Using Open AI in Power Automate Flows
Using ChatGPT
Using Image Generation
Using Power Automate Flows for MS Teams Automation
Power Virtual Agents and OpenAI
AI Builder and Open AI

OpenAI Concept

OpenAI Concept

- OpenAI is a private research laboratory that aims to develop and direct artificial intelligence (AI) in ways that benefit humanity as a whole.
- In March 2019, OpenAI shifted from nonprofit to for-profit status and became formally known as OpenAI LP, controlled by a parent company, OpenAI Inc
- OpenAI introduced Dall-E, a generative AI model that analyzes natural language text from human users and then generates images based on what is described in the text.
- Perhaps the company's best-known product is ChatGPT, released in November 2022 and heralded as the world's most advanced chatbot for its ability to provide answers to users on a seemingly unlimited range of topics

OpenAI Concept

- Notable projects and releases
- GPT-3
- DALL-E and DALL-E 2
- CLIP
- ChatGPT
- Codex
- Whisper

OpenAI and Microsoft

- In July 2019, OpenAI engaged in a multiyear partnership with Microsoft in which Microsoft's cloud platform, Azure, has been enhanced by AI-based computing products.

- Microsoft's latest investment in OpenAI extends to Bing, its search engine. The company is using the same technology developed for ChatGPT to produce an AI-infused version of Bing.

- AI-based features have also been added to Microsoft's Edge browser, and ChatGPT functionality is being added to Microsoft 365 products like Outlook and Teams.

Call Directly OpenAI API

Prerequisites

API keys

Your secret API keys are listed below. Please note that we do not display your secret API keys again after you generate them.

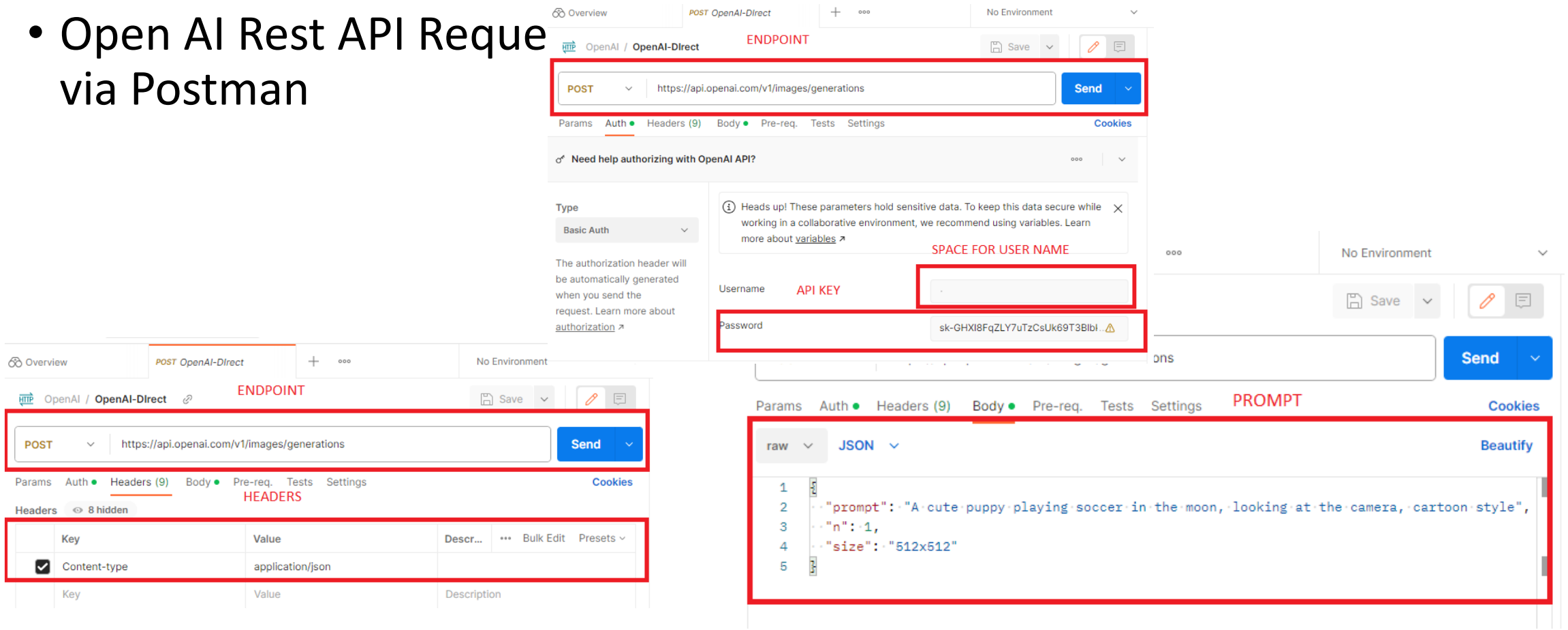
Do not share your API key with others, or expose it in the browser or other client-side code. In order to protect the security of your account, OpenAI may also automatically rotate any API key that we've found has leaked publicly.

SECRET KEY	CREATED	LAST USED
sk-...AVaH	Feb 16, 2023	Never
sk-...MPH0	Feb 16, 2023	Feb 17, 2023

+ Create new secret key

OpenAI Rest API

- Open AI Rest API Reque via Postman



Call Directly OpenAI API

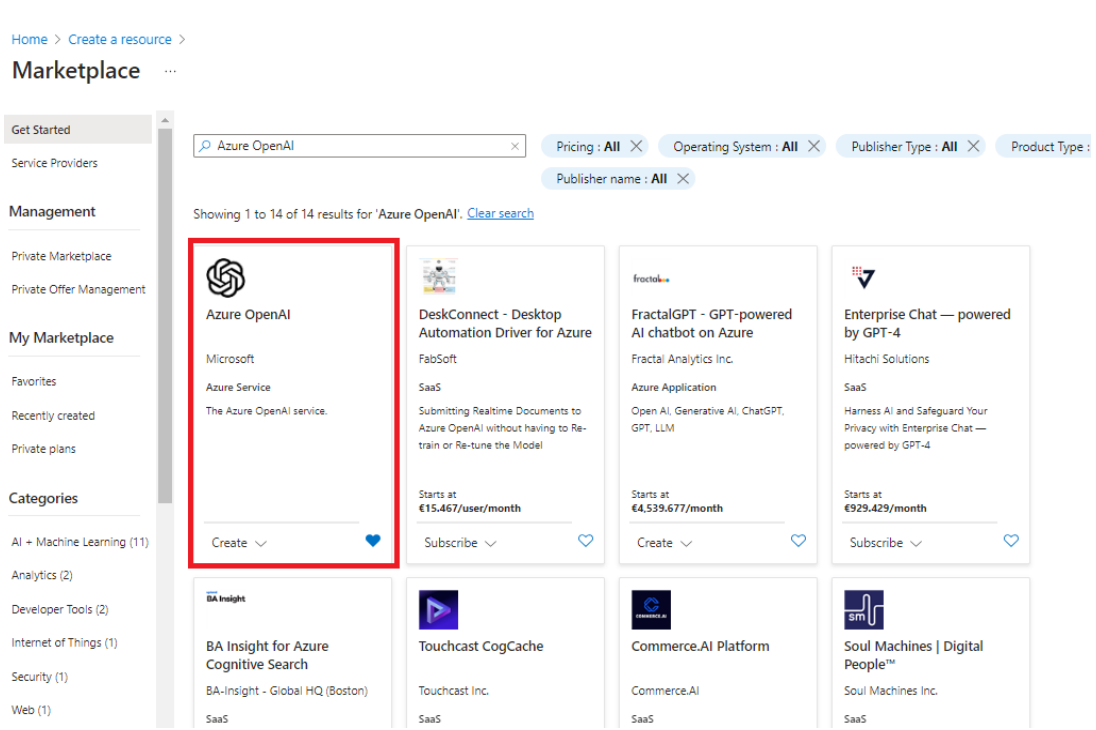
- C#/.NET SDK for accessing the OpenAI GPT-3 API, ChatGPT, and DALL-E 2
- There are unofficial wrapper libraries around the OpenAI API

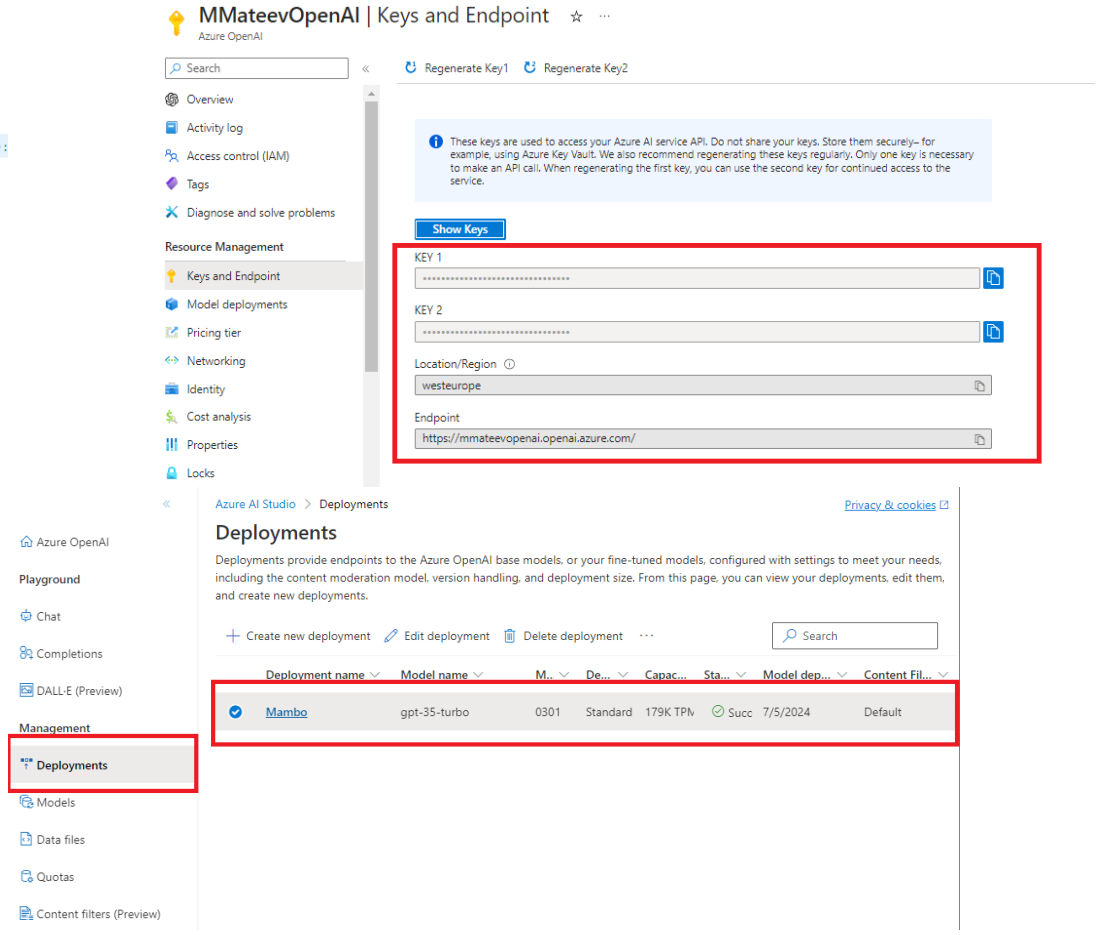
C# / .NET

- Betalgo.OpenAI by Betalgo
- OpenAI-API-dotnet by OkGoDoIt
- OpenAI-DotNet by RageAgainstThePixel

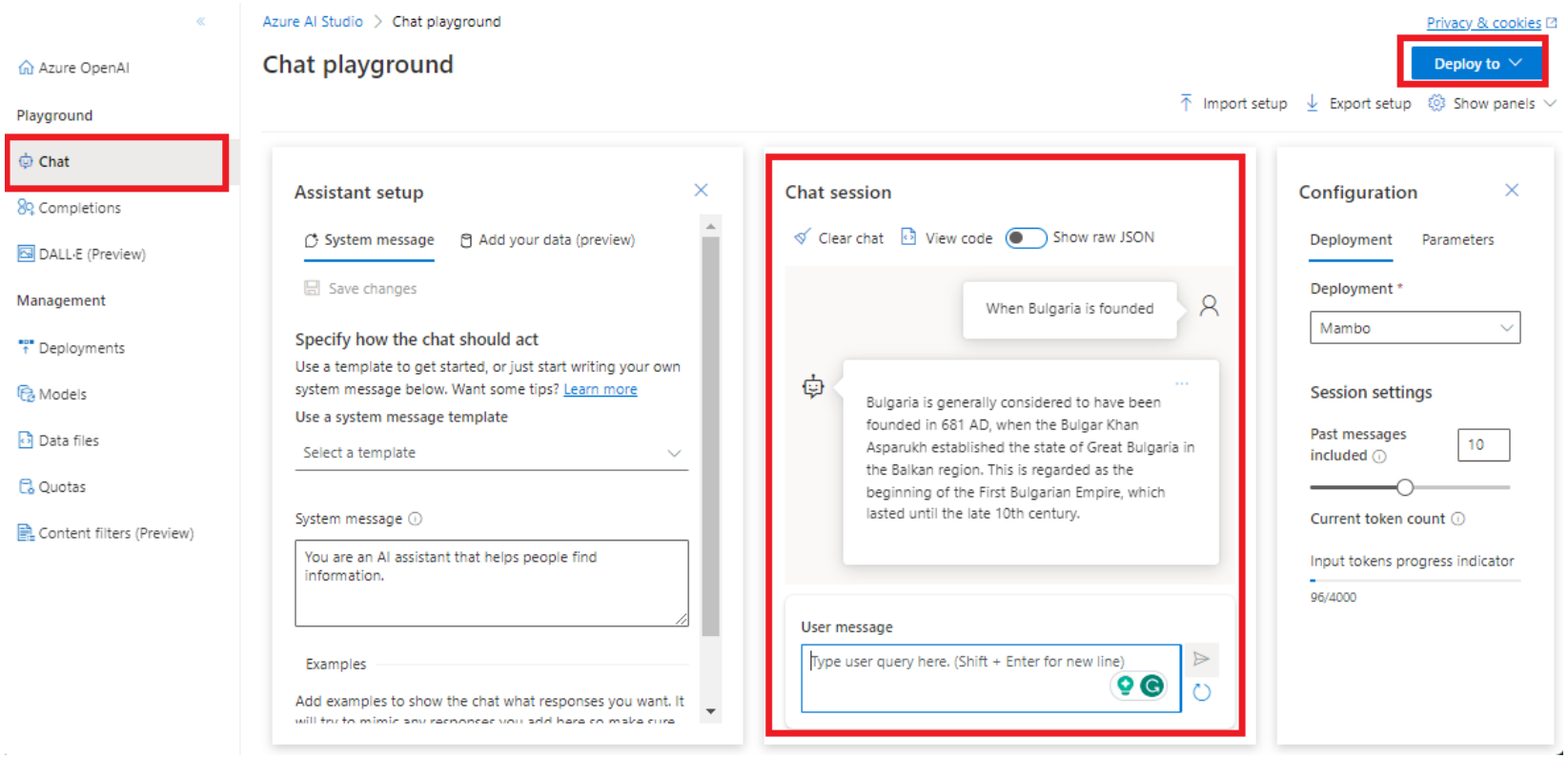
- var api = new OpenAI_API.OpenAIAPI("YOUR_API_KEY");
- var result = await api.Completions.GetCompletion("One Two Three One Two");
- Console.WriteLine(result);

Azure OpenAI

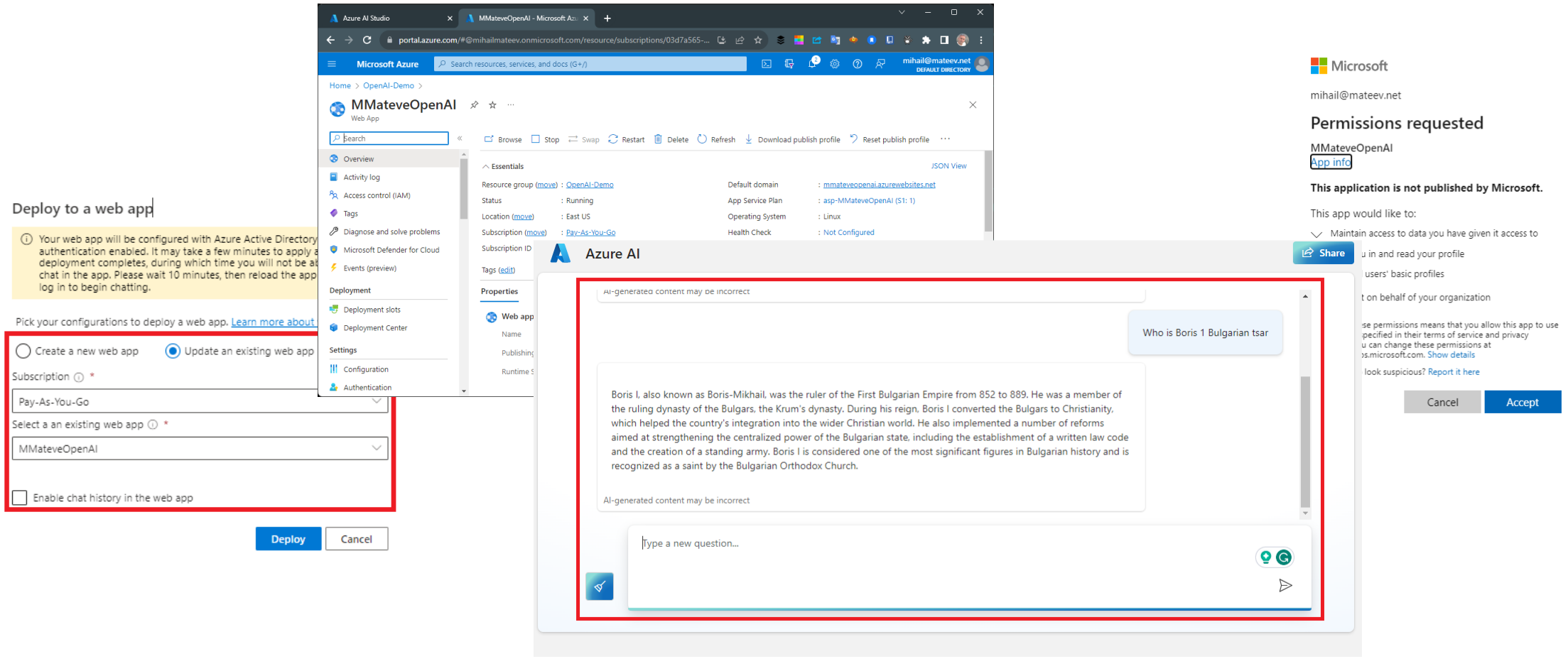




Azure OpenAI Chat



Azure OpenAI Chat



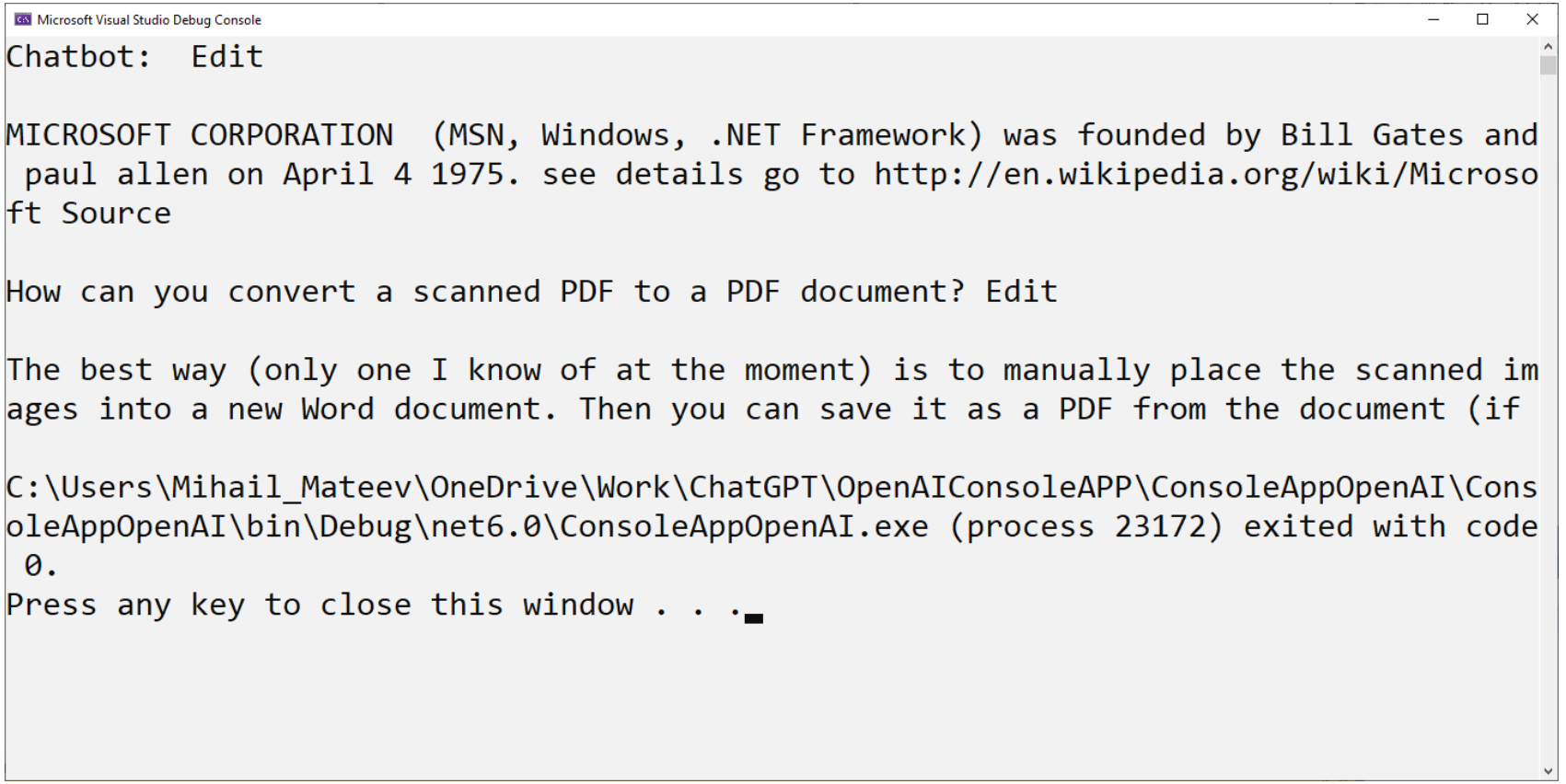
Call Azure OpenAI API

- Azure OpenAI client library for .NET
- It can connect to Azure OpenAI resources or to the non-Azure OpenAI inference endpoint, making it a great choice for even non-Azure OpenAI development.
- Install the package
- dotnet add package Azure.AI.OpenAI –prerelease
- Authenticate the client
- OpenAIClient client = useAzureOpenAI
- ? new OpenAIClient(
- new Uri("https://your-azure-openai-resource.com/"),
- new AzureKeyCredential("your-azure-openai-resource-api-key"))
- : new OpenAIClient("your-api-key-from-platform.openai.com");

Call Azure OpenAI API

- Create OpenAIClient with an Azure Active Directory Credential
- dotnet add package Azure.Identity
- string endpoint = "https://myaccount.openai.azure.com/";
- var client = new OpenAIClient(new Uri(endpoint), new DefaultAzureCredential());
- Chat completions sample
- Response<Completions> response = await client.GetCompletionsAsync(
- "text-davinci-003", "Hello, world!")
- foreach (Choice choice in response.Value.Choices){ Console.WriteLine(choice.Text); }

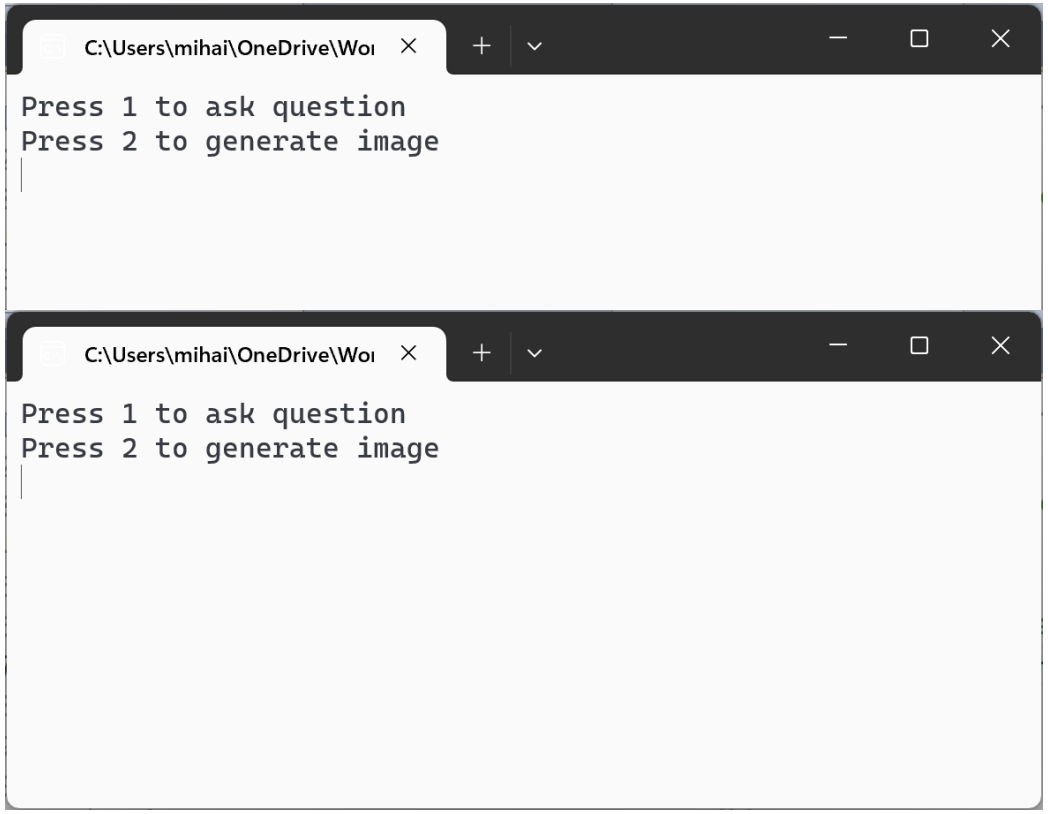
Call Azure OpenAI API

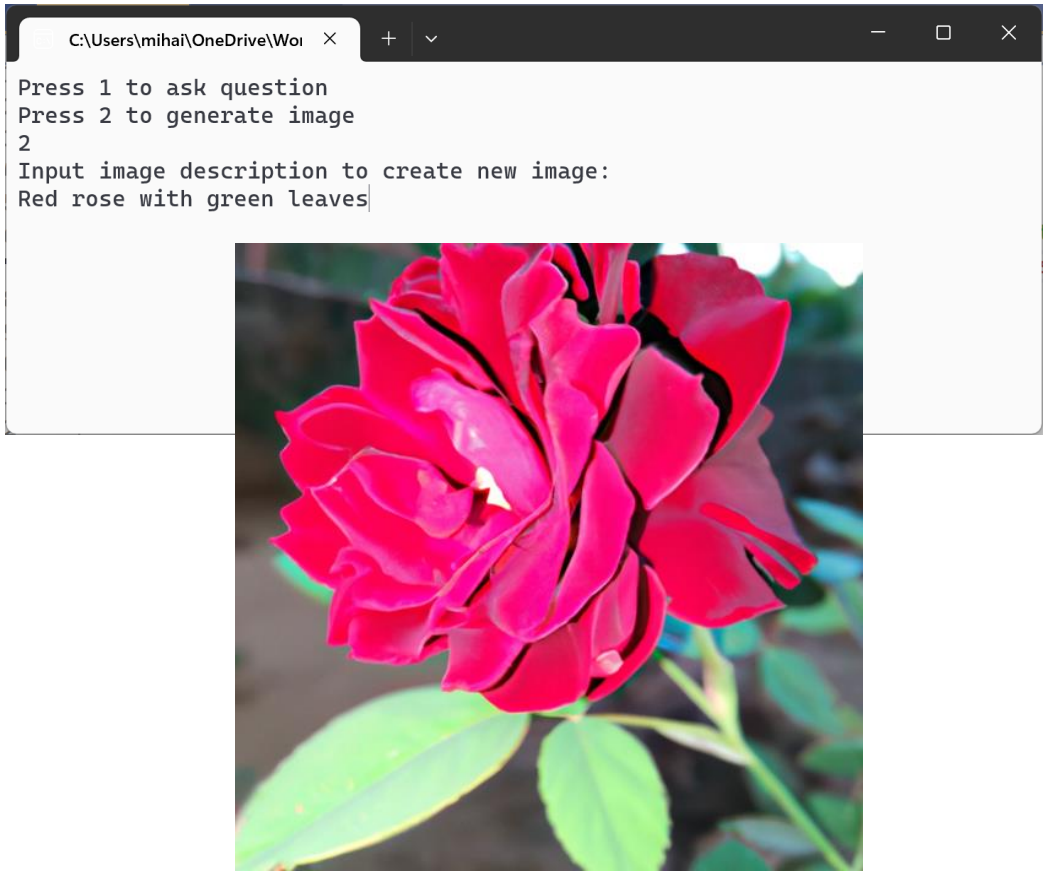


Call Directly OpenAI API

```
switch (userSelection)
{
    case "1":
    {
        Console.WriteLine("Ask a Question:");
        var question = Console.ReadLine();

        var answer = OpenAI.AskQuestion(250, question, "text-davinci-002", 0.7, 1, 0, 0, configuration);
        Console.WriteLine(answer);
        break;
    }
    case "2":
    {
        Console.WriteLine("Input image description to create new image:");
        var prompt = Console.ReadLine();
        var imagesNumber = 5; // hardcoded

        var urls = OpenAI.CreateImage(prompt, imagesNumber, "512x512", configuration);

        foreach (var url in urls)
        {
            Process.Start(new ProcessStartInfo
            {
                FileName = url,
                UseShellExecute = true
            });

            Console.WriteLine(url);
        }
        break;
    }
}
```

Call Directly OpenAI API

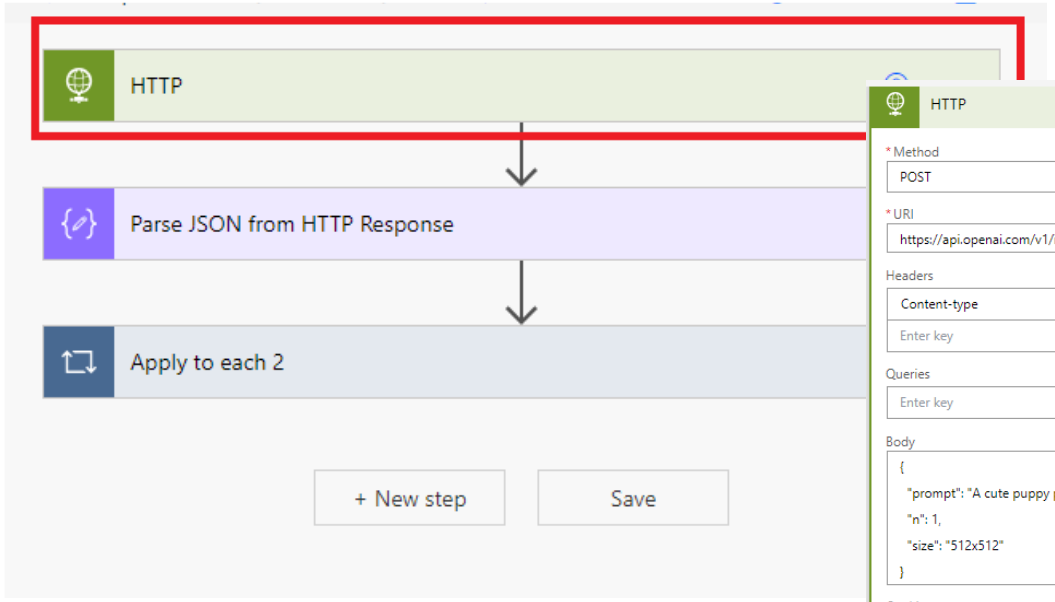


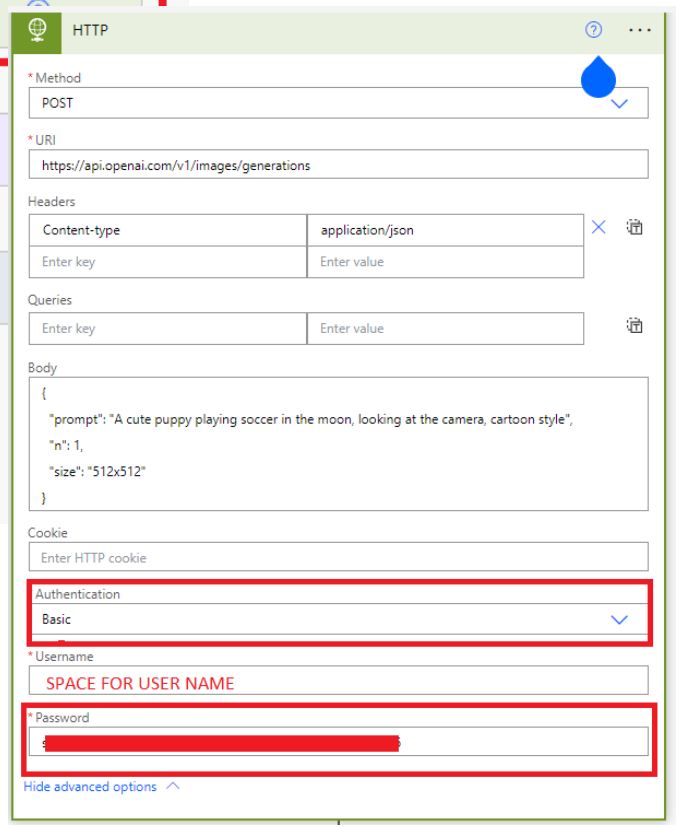


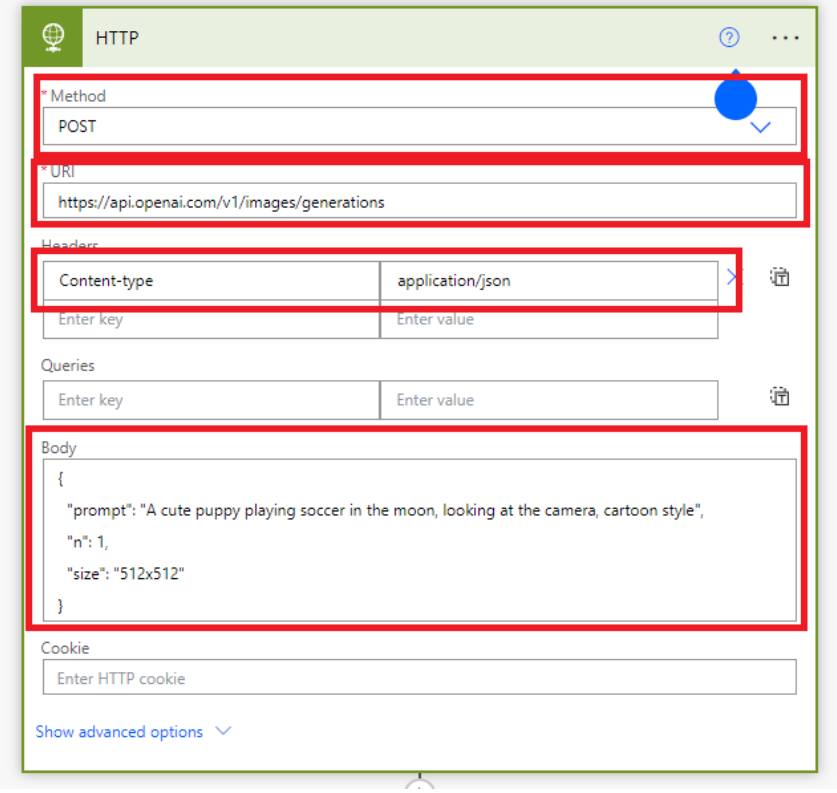
OpenAI
and
Power Platform

OpenAI
and
Power Automate Flows

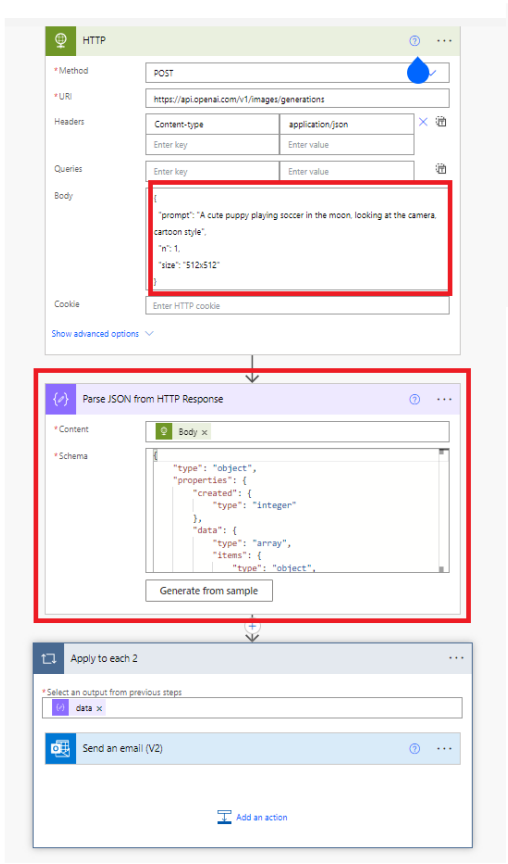
OpenAI API and Power Automate

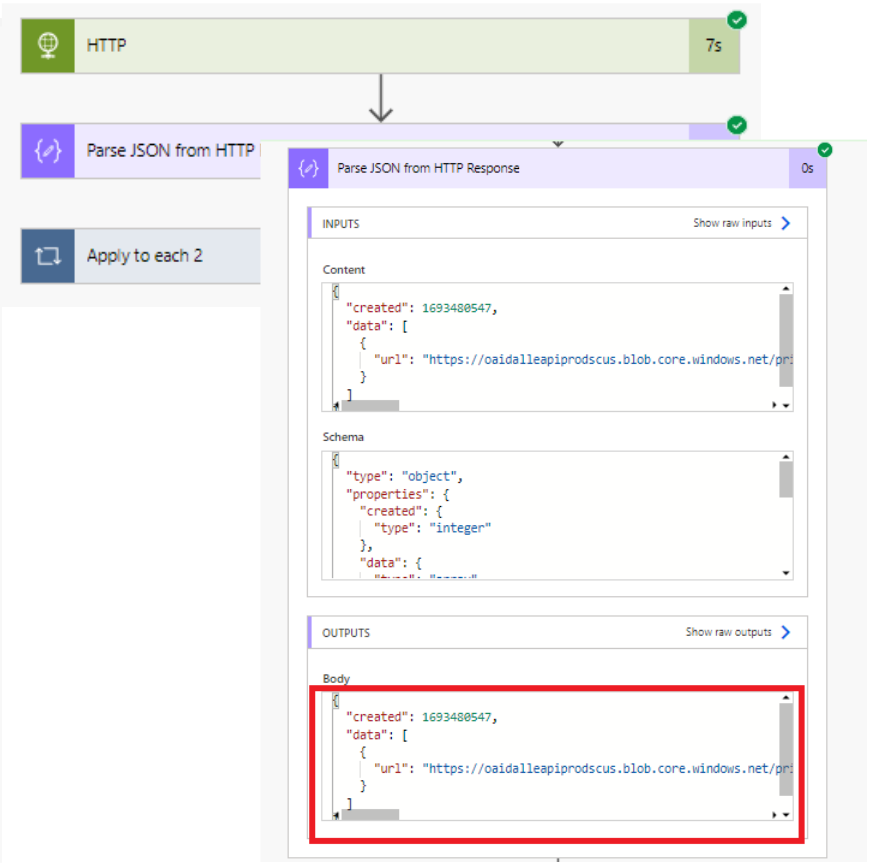


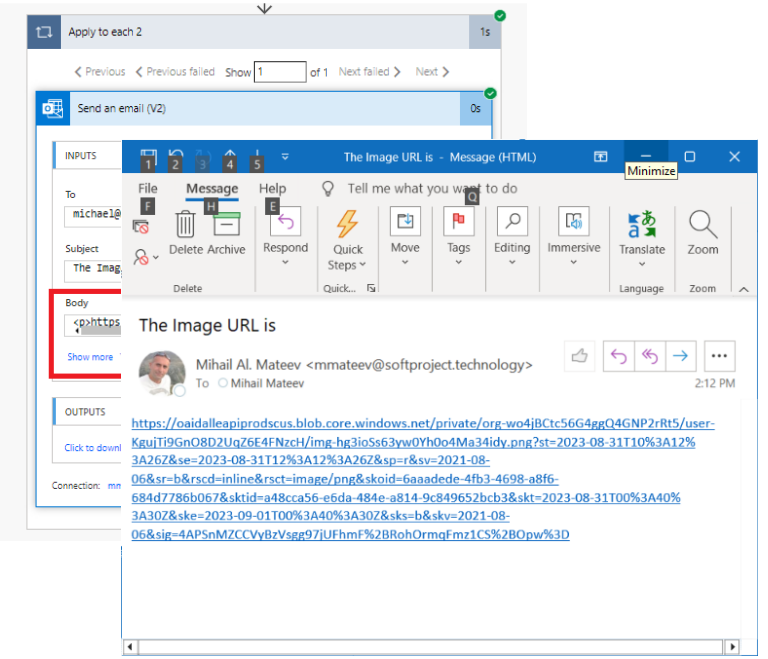




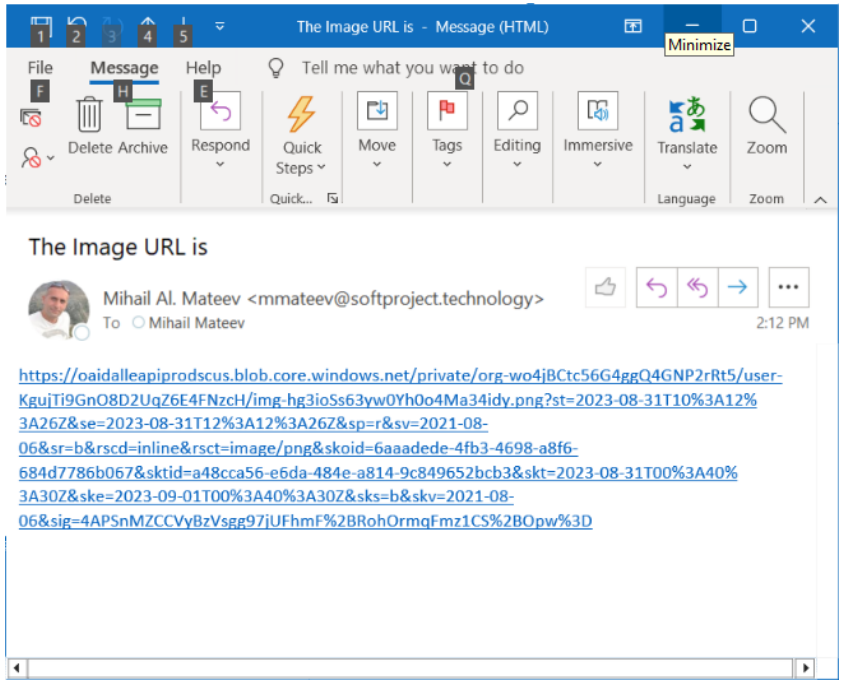
OpenAI API and Power Automate



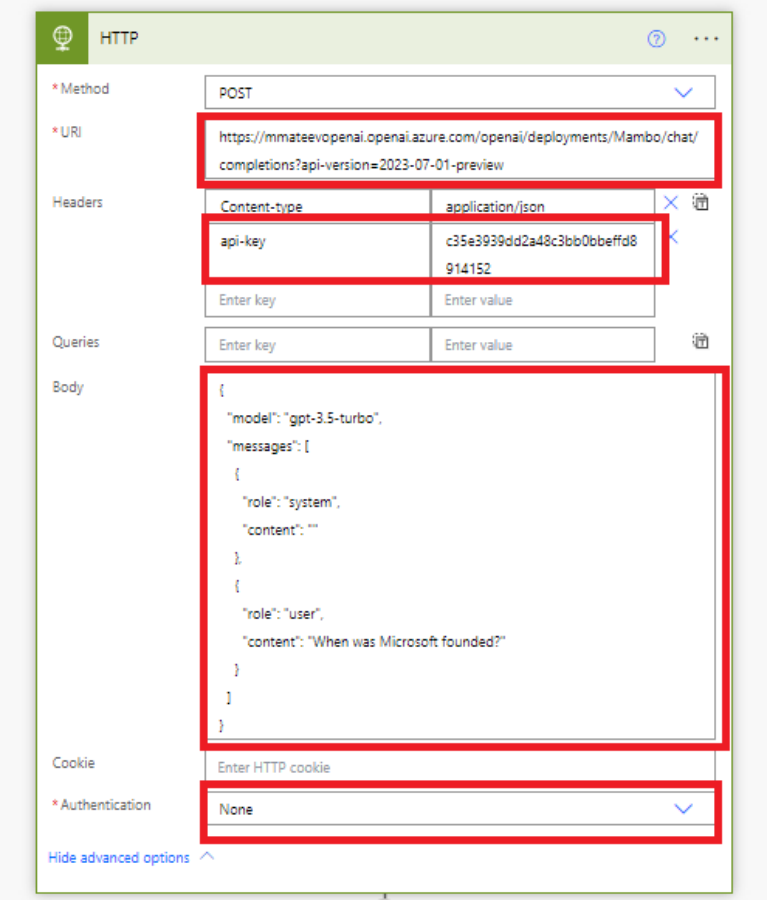




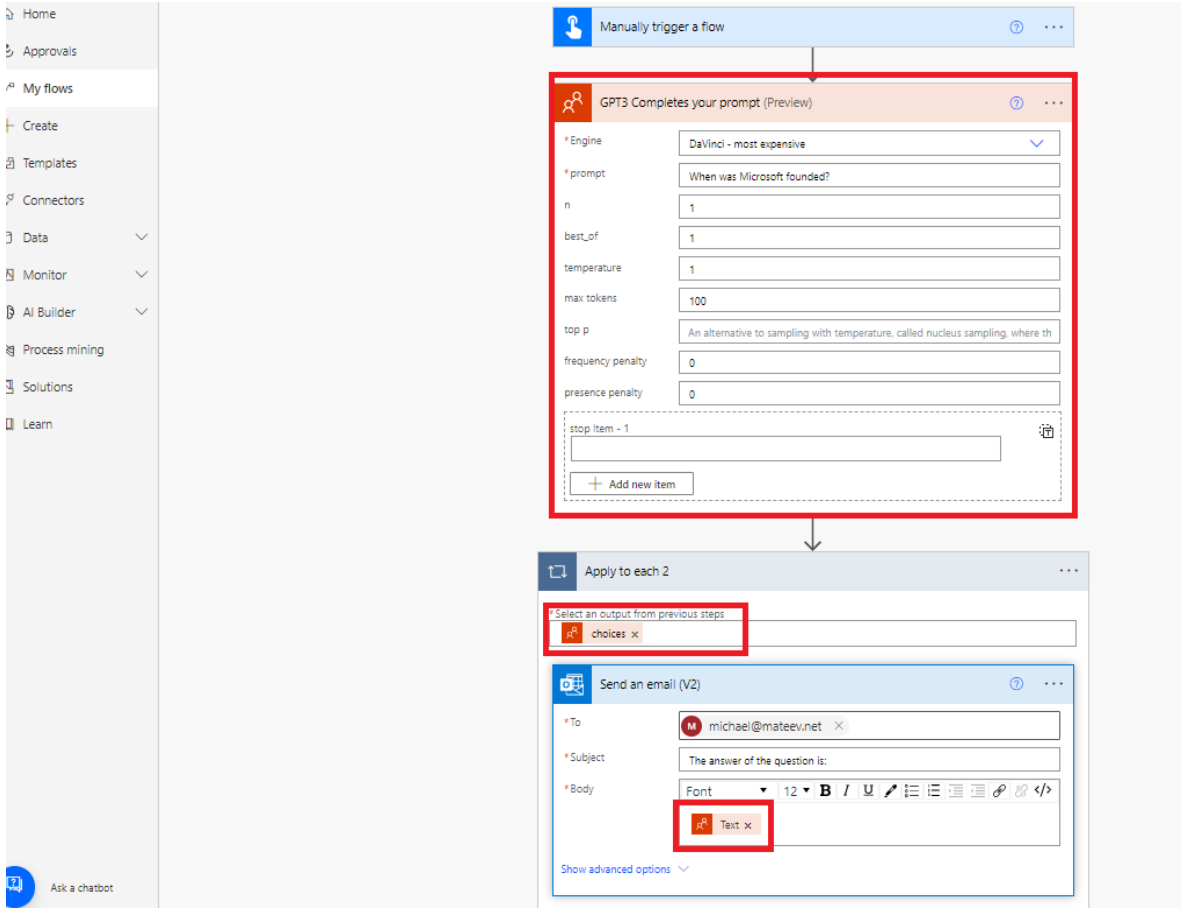
OpenAI API and Power Automate



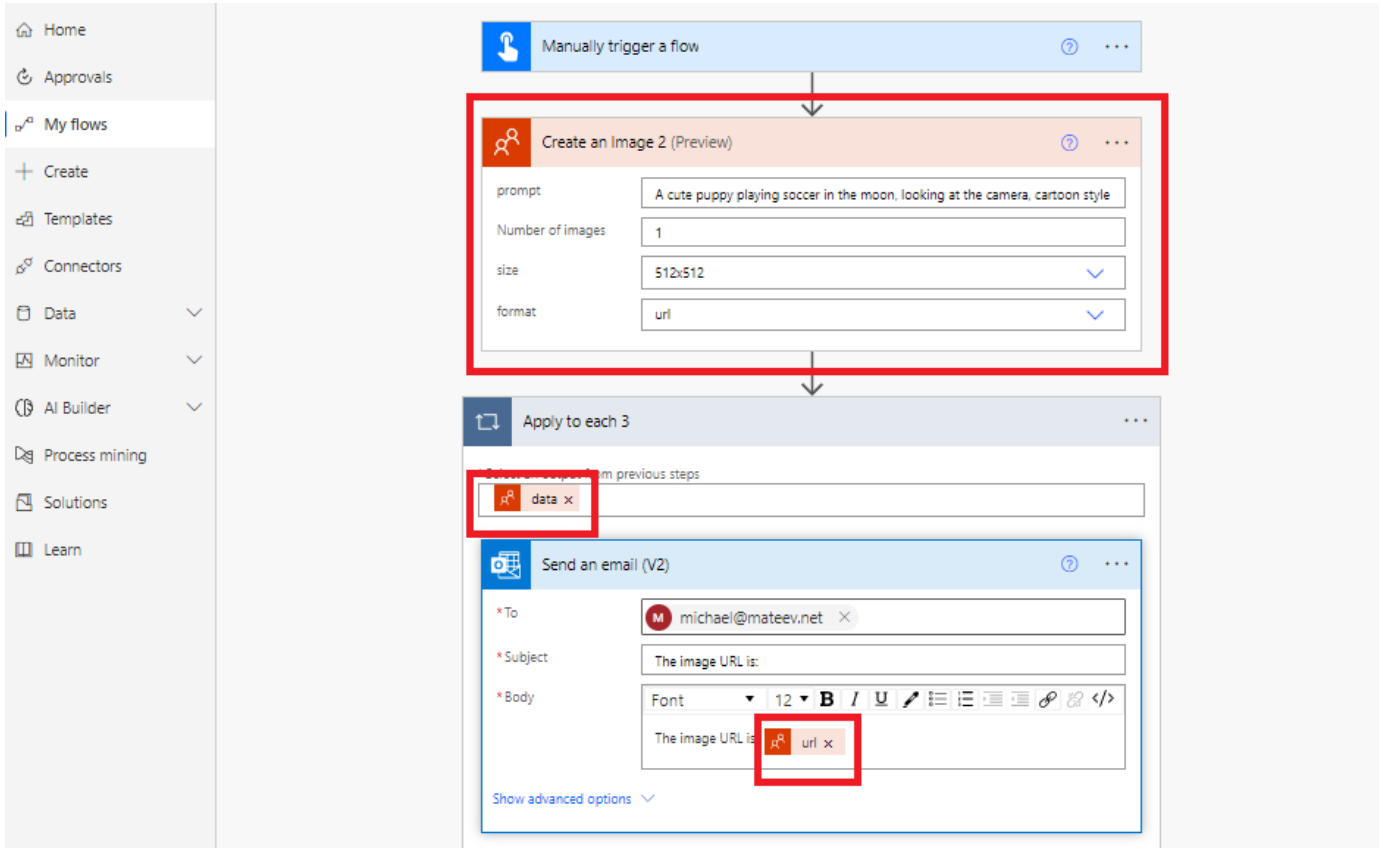
Azure OpenAI API and Power Automate



OpenAI GPT Completions Action

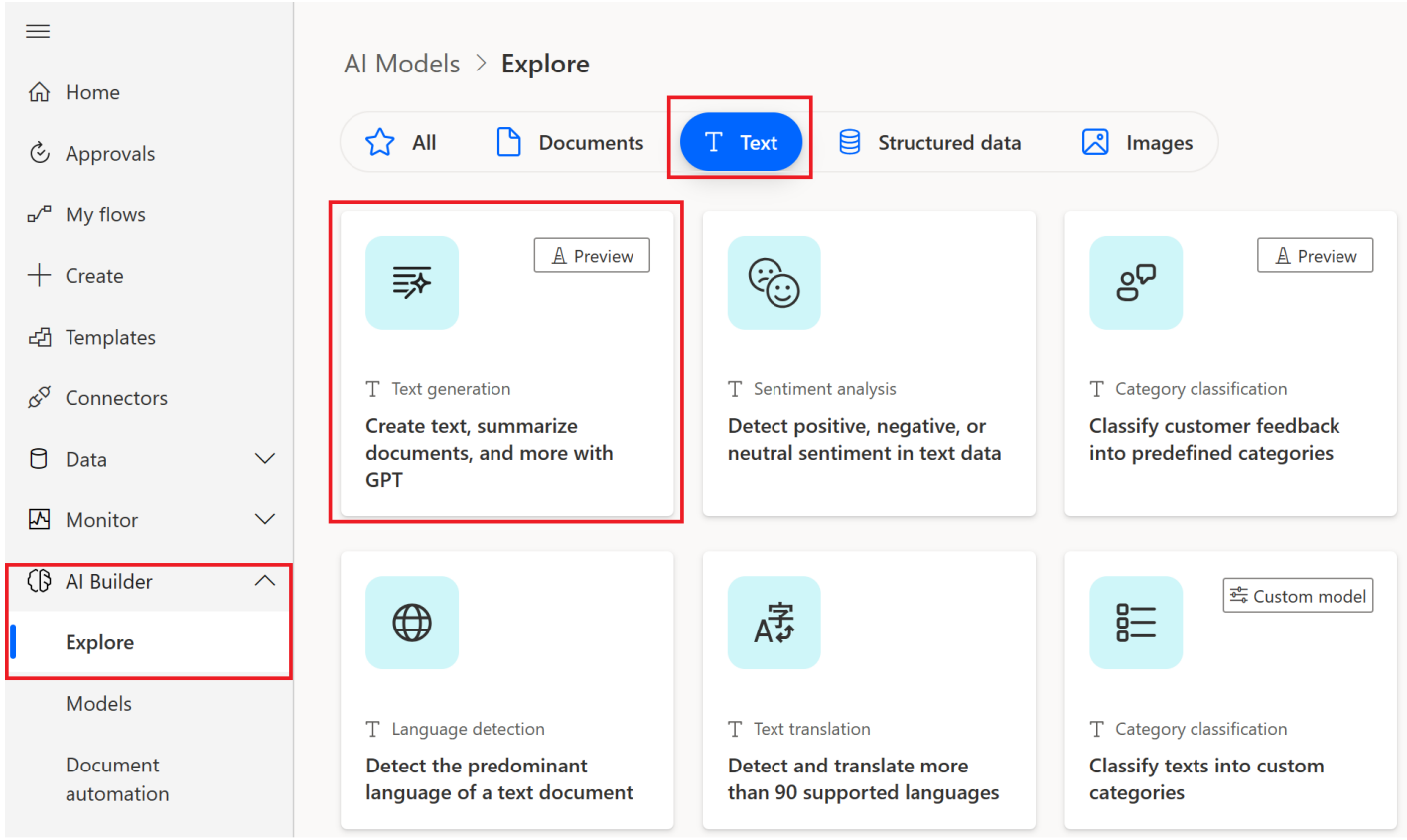


OpenAI Create Image Action



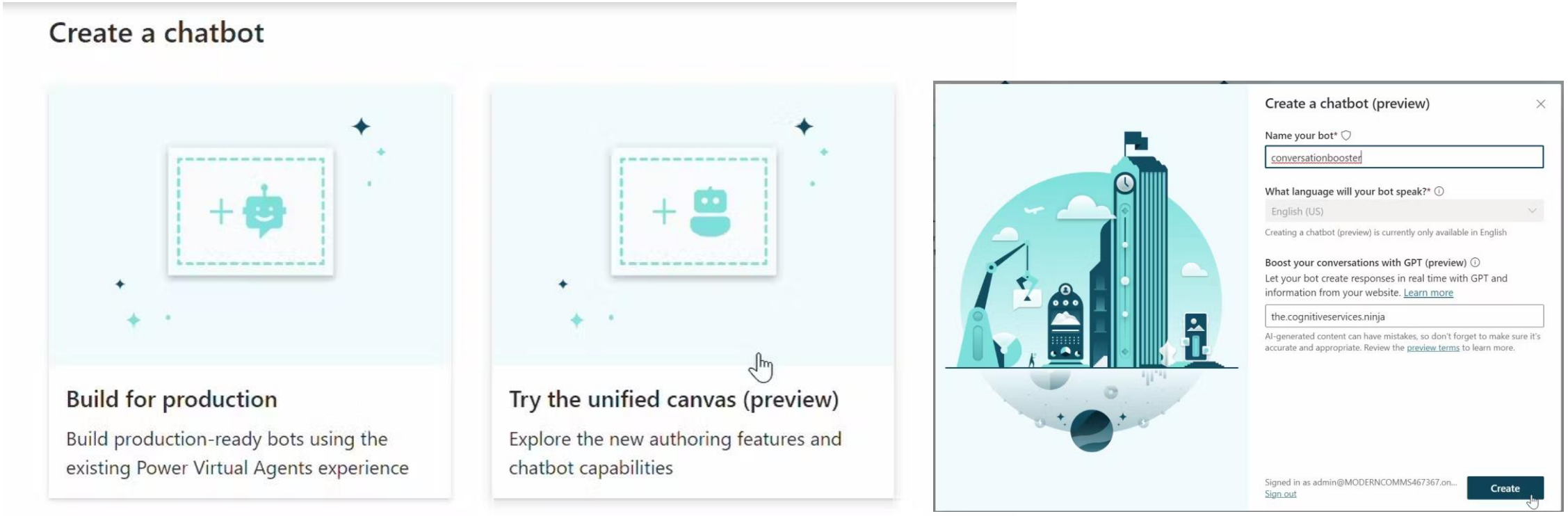
OpenAI and AI Builder

Text generation model overview



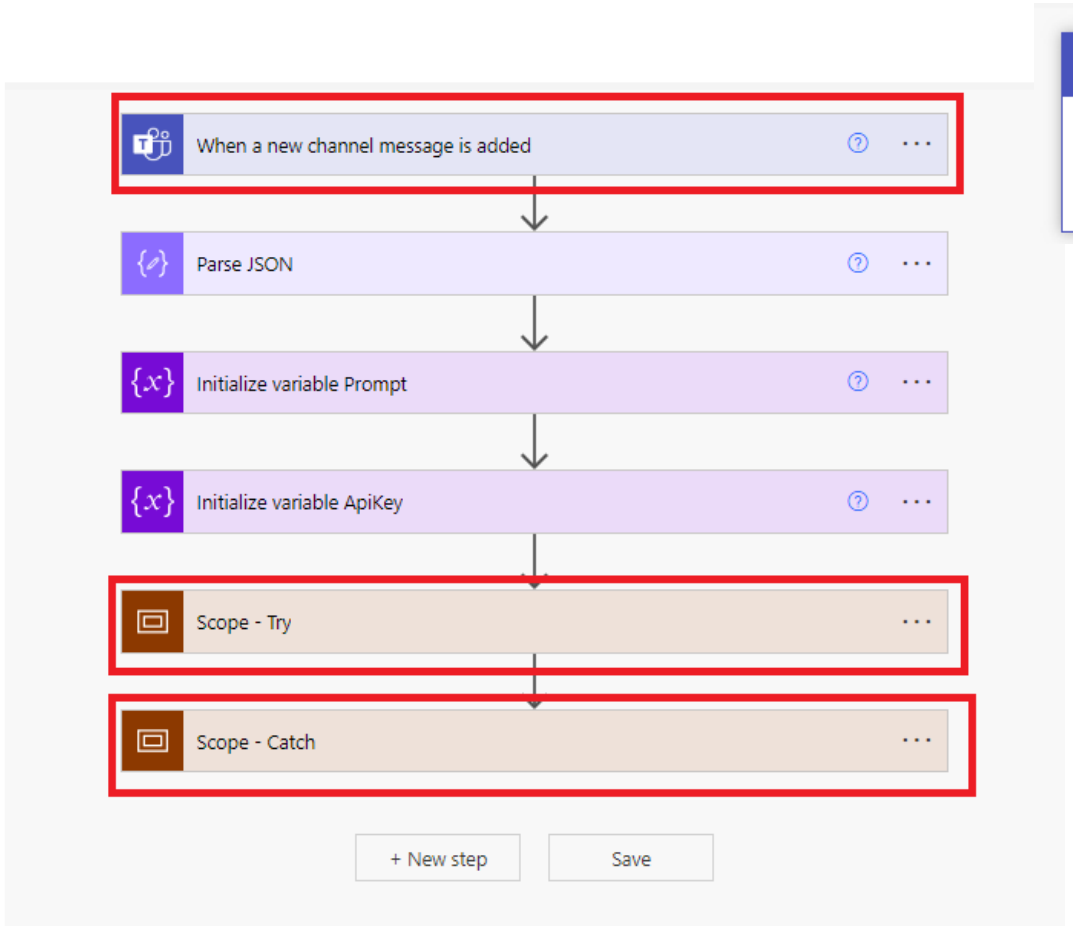
Power Virtual Agents and ChatGPT

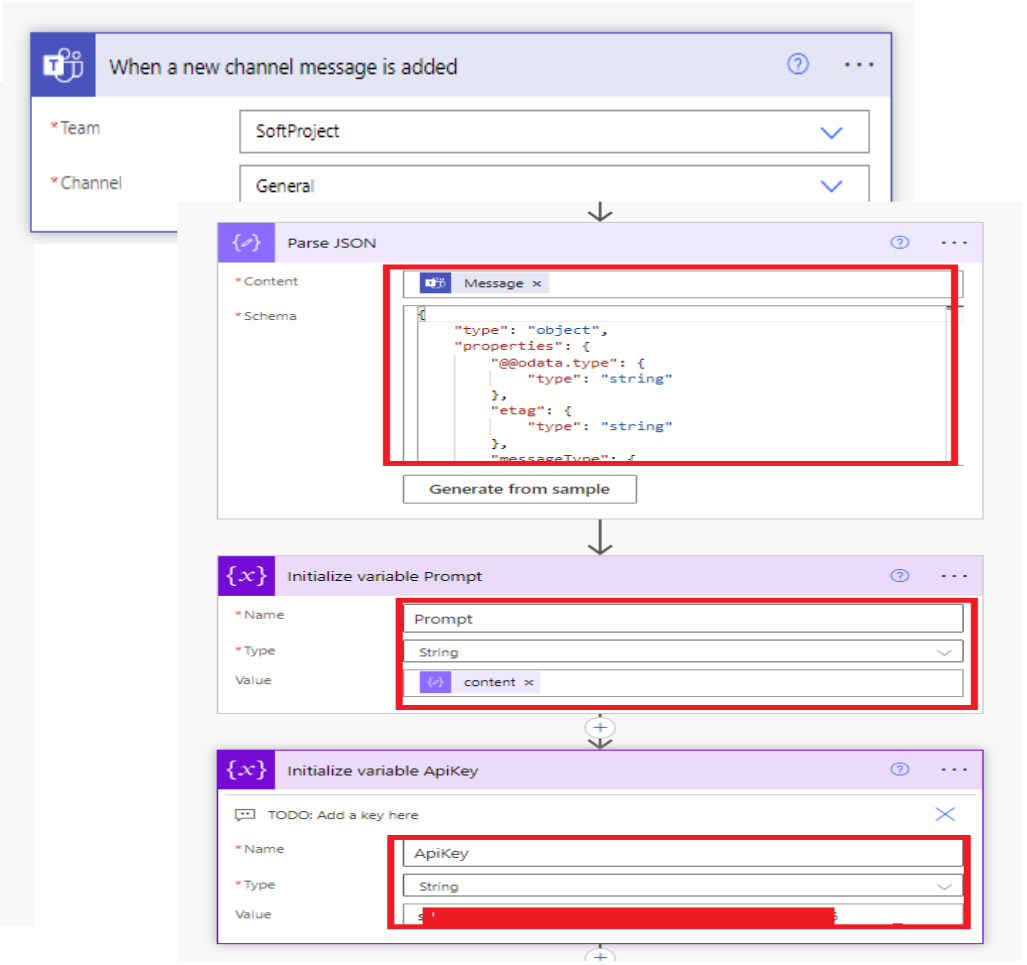
Power Virtual Agents - GPT based conversation booster



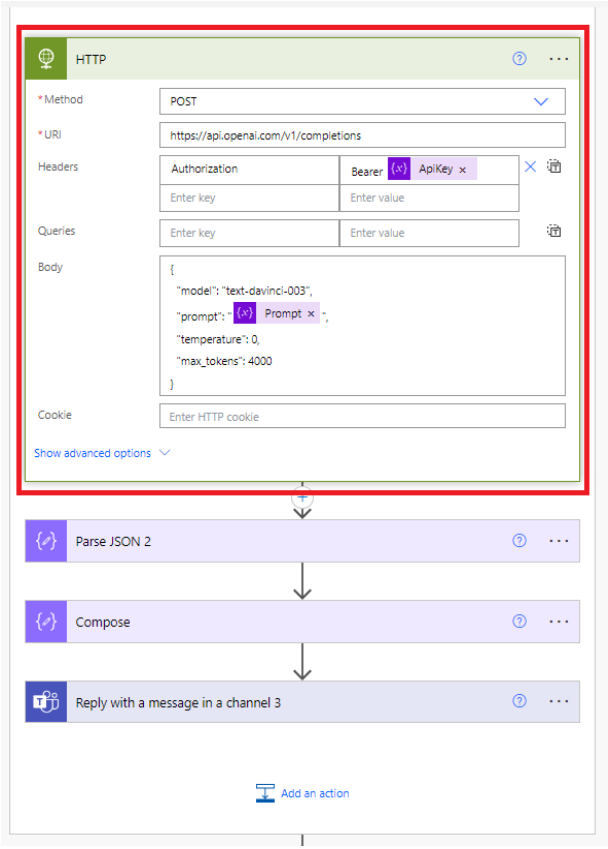
ChatGPT, MS Teams
and
Power Automate

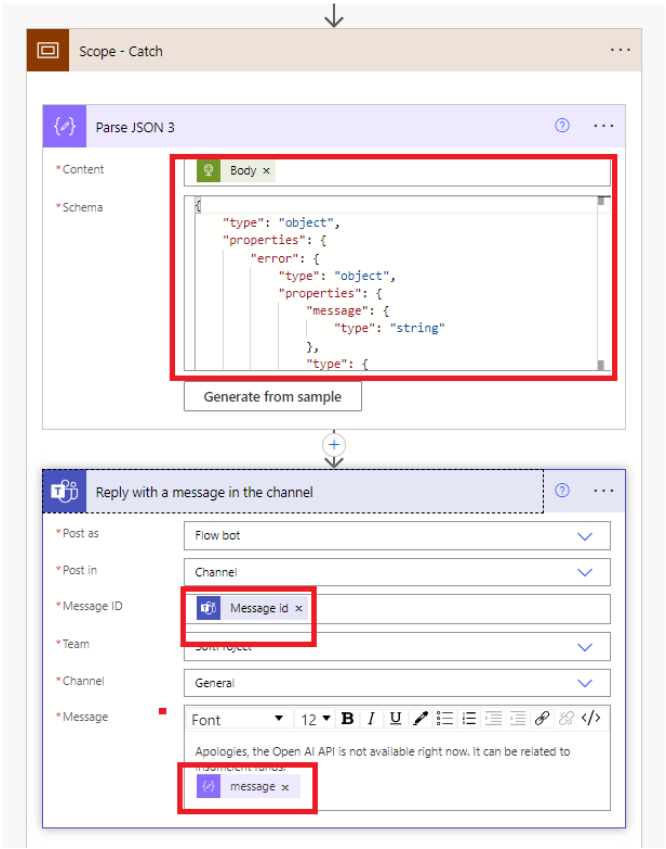
MS Teams and ChatGPT





MS Teams and ChatGPT





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DEMO

Demos

- 1. Setup an Azure API and Implement Models Deployment
- 2. Call OpenAI API from C# Application
- 2. Call Azure OpenAI API from C# Application
- 3. Call OpenAI and Azure OpenAI from Postman
- 4. Call Open AI API with HTTP call from Power Automate
- 5. Call Azure OpenAI API with HTTP call from Power Automate
- 6. Use Power Automate as a Business Logic Layer for OpenAI Powered Applications.
- 7. Using OpenAI Actions om Power Automate
- 8. Using AI Powered Flows from Power Apps.
- 9 Using AI Powered Chatbots in MS Teams
- 10. Creating OpenAI powered Chatbots using Azure OpenAI and Deploy it

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