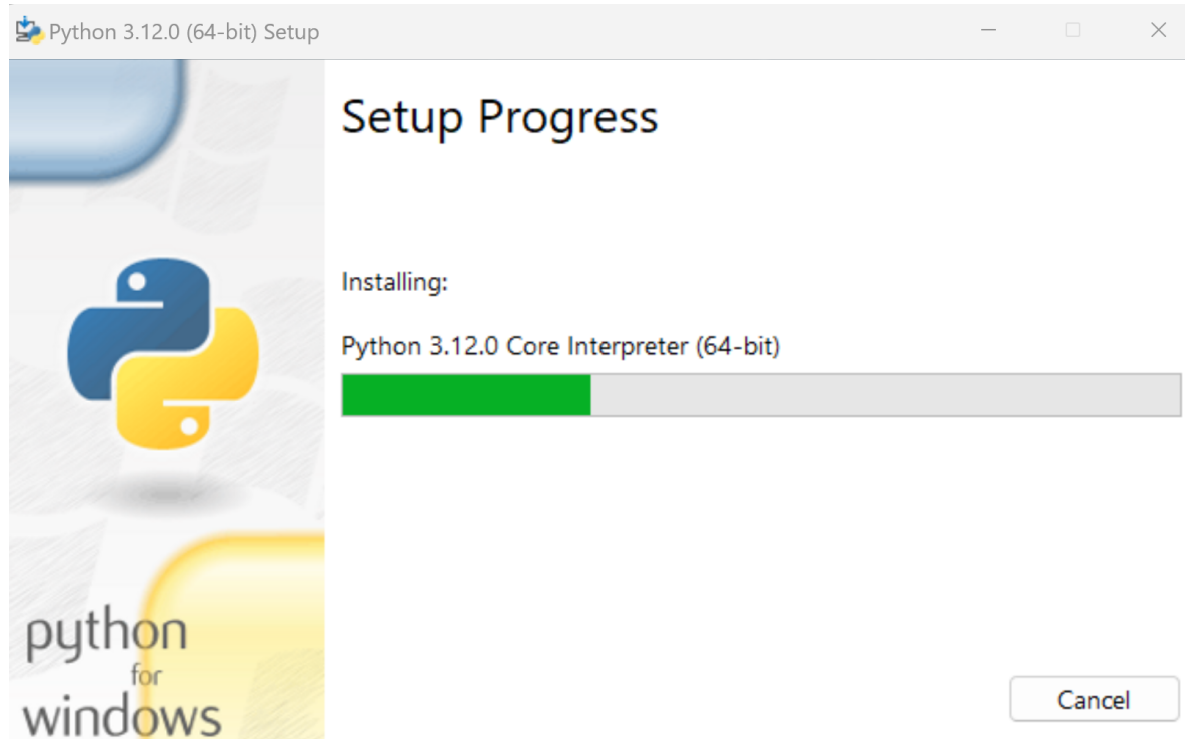


# 2023/11/22MTAチュートリアル



openaiライブラリでAPIキーの準備をする

<https://platform.openai.com/>

```
コマンドプロンプト
C:\Users\torikai>pip install openai
Collecting openai
  Obtaining dependency information for openai from https://files.pythonhosted.org/packages/69/95/22a9a81cebd54e18841da429f05f06ed867648768f7af938ad34f13197fd/openai-1.3.3-py3-none-any.whl.metadata
  Downloading openai-1.3.3-py3-none-any.whl.metadata (16 kB)
Collecting anyio<4,>=3.5.0 (from openai)
  Obtaining dependency information for anyio<4,>=3.5.0 from https://files.pythonhosted.org/packages/19/24/44299477fe7dc9cb58d0a57d5a7588d6af2ff403fdd2d47a246c91a3246/anyio-3.7.1-py3-none-any.whl.metadata
  Downloading anyio-3.7.1-py3-none-any.whl.metadata (4.7 kB)
Collecting distro<2,>=1.7.0 (from openai)
  Using cached distro-1.8.0-py3-none-any.whl (20 kB)
Collecting httpx<1,>=0.23.0 (from openai)
  Obtaining dependency information for httpx<1,>=0.23.0 from https://files.pythonhosted.org/packages/82/61/a5fca4a1e88e40969bbd0cf0d981f3aa76d5057db160b94f49603fc18740/httpx-0.25.1-py3-none-any.whl.metadata
  Downloading httpx-0.25.1-py3-none-any.whl.metadata (7.1 kB)
Collecting pydantic<3,>=1.9.0 (from openai)
  Obtaining dependency information for pydantic<3,>=1.9.0 from https://files.pythonhosted.org/packages/e2/2c/9906b7abc337b0250a5634de5396e2f3cb1b837af0616424c2225a65aa80/pydantic-2.5.1-py3-none-any.whl.metadata
  Downloading pydantic-2.5.1-py3-none-any.whl.metadata (64 kB)
  64.1/64.1 kB 1.7 MB/s eta 0:00:00
Collecting tqdm>4 (from openai)
  Obtaining dependency information for tqdm>4 from https://files.pythonhosted.org/packages/00/e5/f12a80907d0884e6dff9c16d0c0114d81b8cd07dc3ae54c5e962cc83037e/tqdm-4.66.1-py3-none-any.whl.metadata
  Downloading tqdm-4.66.1-py3-none-any.whl.metadata (57 kB)
  57.6/57.6 kB 3.2 MB/s eta 0:00:00
Collecting typing-extensions<5,>=4.5 (from openai)
  Obtaining dependency information for typing-extensions<5,>=4.5 from https://files.pythonhosted.org/packages/24/21/7d397a4b7934ff4028987914ac1044d3b7d52712f30e2ac7a2ae5bc86dd0/typing_extensions-4.8.0-py3-none-any.whl.metadata
  Downloading typing_extensions-4.8.0-py3-none-any.whl.metadata (3.0 kB)
Collecting idna>=2.8 (from anyio<4,>=3.5.0->openai)
```

# Welcome to the OpenAI developer platform

## Start with the basics

**Quickstart tutorial**  
Make your first Chat Completions API request

**Examples**  
Explore what OpenAI models can do



## Authentication required

Please log in to access this page

Log in Sign up

<https://platform.openai.com/api-keys>

新しいAPI keyを生成

sk-g.....Zy

製作してから期間が経ったものは有料化のようである

## Tools

**Kota Torikai**

torikai.kota@gmail.com

Personal

Terms & policies

Log out

K

Rate limits

Error codes

usage->increase limitを選択

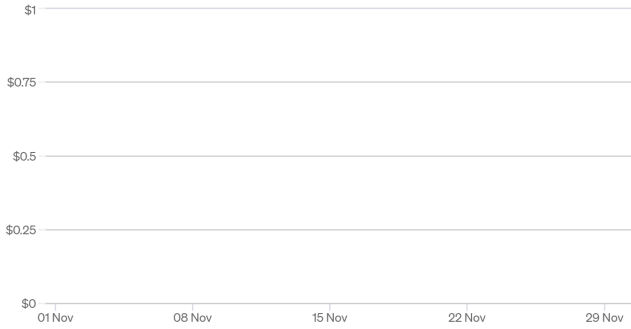


## Usage

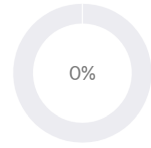
Cost Activity

< November > Export

### Daily Costs \$0.00



Monthly Bill 111 - 30



\$0.00

/ \$5.00 limit

Increase limit

Credit Grants USD

Used Expired



Invoices

No invoices found.



## Billing settings

Overview Payment methods Billing history Preferences

### Free trial

Credit remaining ⓘ

\$0.00

Add payment details

View usage

Note: This does not reflect the status of your ChatGPT account.



#### Payment methods

Add or change payment method



#### Billing history

View past and current invoices



#### Preferences

Manage billing information



#### Usage limits

Set monthly spend limits



#### Pricing

View pricing and FAQs



platform.openai.com/account/billin... VPN

## Billing settings

Overview Paym

Free trial

Credit remain

**\$0.00**

Add payment c

Note: Th

Paym Add c

Prefer Mana

Prici View

### Add payment details

Add your credit card details below. This card will be saved to your account and can be removed at any time.

**Card information**

カード番号 月 / 年 セキュリティコード

**Name on card**

Billing address

Country

Address line 1

Address line 2

City Postal code

State, county, province, or region

Cancel Continue



# Billing settings

Overview Payment methods Billing history Preferences

Free trial

Credit remaining  
**\$0.00**

Add payment method

Note: The credit balance will be used for all charges until it is depleted.

Payment methods  
Add or remove payment methods

Preferences  
Manage your account preferences

Pricing  
View pricing and usage

## Configure payment

Initial credit purchase

Enter an amount between \$5 and \$100 [Model pricing](#)

Would you like to set up automatic recharge?

Yes, automatically recharge my card when my credit balance falls below a threshold

When credit balance goes below

Enter an amount between \$5 and \$95

Bring credit balance back up to

Enter an amount between \$10 and \$100

[Back](#) [Continue](#)



# Billing settings

Overview Payment methods Billing history Preferences

## Free trial

Credit remaining

\$0.00

Add payment method

Note: This credit is for your first trial.



Payment method

Add new payment method



Preferences

Manage your account settings



Pricing

View pricing and FAQs


### Payment summary



Due today

Description	Amount
OpenAI API usage credit	\$10.00
Estimated tax	\$0.00
Estimated total	\$10.00

### Payment method

 \*\*\*\*4507  
Expires 01/2028

By continuing you agree to our [service credit terms](#). Paid credits are non-refundable and expire one year from purchase date.

Back





# Billing settings

Overview Payment methods Billing history Preferences



## Pay as you go

Credit balance ⓘ

\$10.00

ⓘ **Auto recharge is off**

When your credit balance reaches \$0, your API requests will stop working. Enable automatic recharge to automatically keep your credit balance topped up.

[Enable auto recharge](#)

Add to credit balance

Cancel plan



### Payment methods

Add or change payment method



### Billing history

View past and current invoices



### Preferences

Manage billing information



### Usage limits

Set monthly spend limits



### Pricing

View pricing and FAQs







## 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 disable any API key that we've found has leaked publicly.

**You currently do not have any API keys**  
Create one using the button below to get started

+ Create new secret key

### Default organization

If you belong to multiple organizations, this setting controls which organization is used by default when making requests with the API keys above.

Personal

Note: You can also specify which organization to use for each API request. See [Authentication](#) to learn more.

platform.openai.com/docs/api-reference/authentication

Documentation **API reference** Examples Forum

Search  CTRL K

**GETTING STARTED**

- Introduction
- Authentication**
- Making requests

**ENDPOINTS**

- Audio
- Chat
- Embeddings
- Fine-tuning

## Authentication

The OpenAI API uses API keys for authentication. Visit your [API Keys](#) page to retrieve the API key you'll use in your requests.

**Remember that your API key is a secret!** Do not share it with others or expose it in any client-side code (browsers, apps). Production requests must be routed through your own backend server where your API key can be securely loaded from an environment variable or key management service.

All API requests should include your API key in an `Authorization` HTTP header as follows:

```
Authorization: Bearer OPENAI_API_KEY
```

platform.openai.com/account/organization

## Organization

**Organization name**  
Human-friendly label for your organization, shown in user interfaces

**Organization ID**  
Identifier for this organization sometimes used in API requests

API key貼り付け

```
File Edit Selection View Go ... chatgpt_api_test.py - Visual Studio Code
chatgpt_api_test.py X
C: > pythoncode > 20231120chatGPT > chatgpt_api_test.py
1 import openai
2 openai.api_key = "org-T4H453RUtb6Ya9pPPL66NoCh"
3 response = openai.ChatCompletion.create(
4     model = "gpt-3.5-turbo",
5     messages=[
6         {"role": "system",
7          "content": "You are a helpful assistant."},
8         {"role": "user",
9          "content": "日本の首都を教えてください"},
10    ],
11 )
12 print(response["choices"][0]["message"]["content"])
13
```

pip install openai

```
Authorization: Bearer OPENAI_API_KEY
```

```
from openai import OpenAI

client = OpenAI(
    organization='YOUR_ORG_ID',
)
client.models.list()
```

```
import openai
openai.api_key = "YOUR_API_KEY"
response = openai.ChatCompletion.create(
    model = "gpt-3.5-turbo",
    messages=[
        {"role": "system",
         "content": "You are a helpful assistant."},
        {"role": "user",
         "content": "日本の首都を教えてください"},
    ],
)
print(response["choices"][0]["message"]["content"])
```

```
コマンド プロンプト
Microsoft Windows [Version 10.0.22621.2715]
(c) Microsoft Corporation. All rights reserved.

C:\Users\torikai>cd /

C:\>cd pythoncode

C:\pythoncode>cd 20231120chatGPT

C:\pythoncode\20231120chatGPT>python chatgpt_api_test.py
日本の首都は東京です。

C:\pythoncode\20231120chatGPT>
```

### Usage

Cost Activity

< November > Export

#### Daily Costs \$0.00

Date	Cost
01 Nov	\$0.00
08 Nov	\$0.00
15 Nov	\$0.00
21 Nov	\$0.00
29 Nov	\$0.00

#### Monthly Bill 111-30

0% / \$25.00 limit

Increase limit

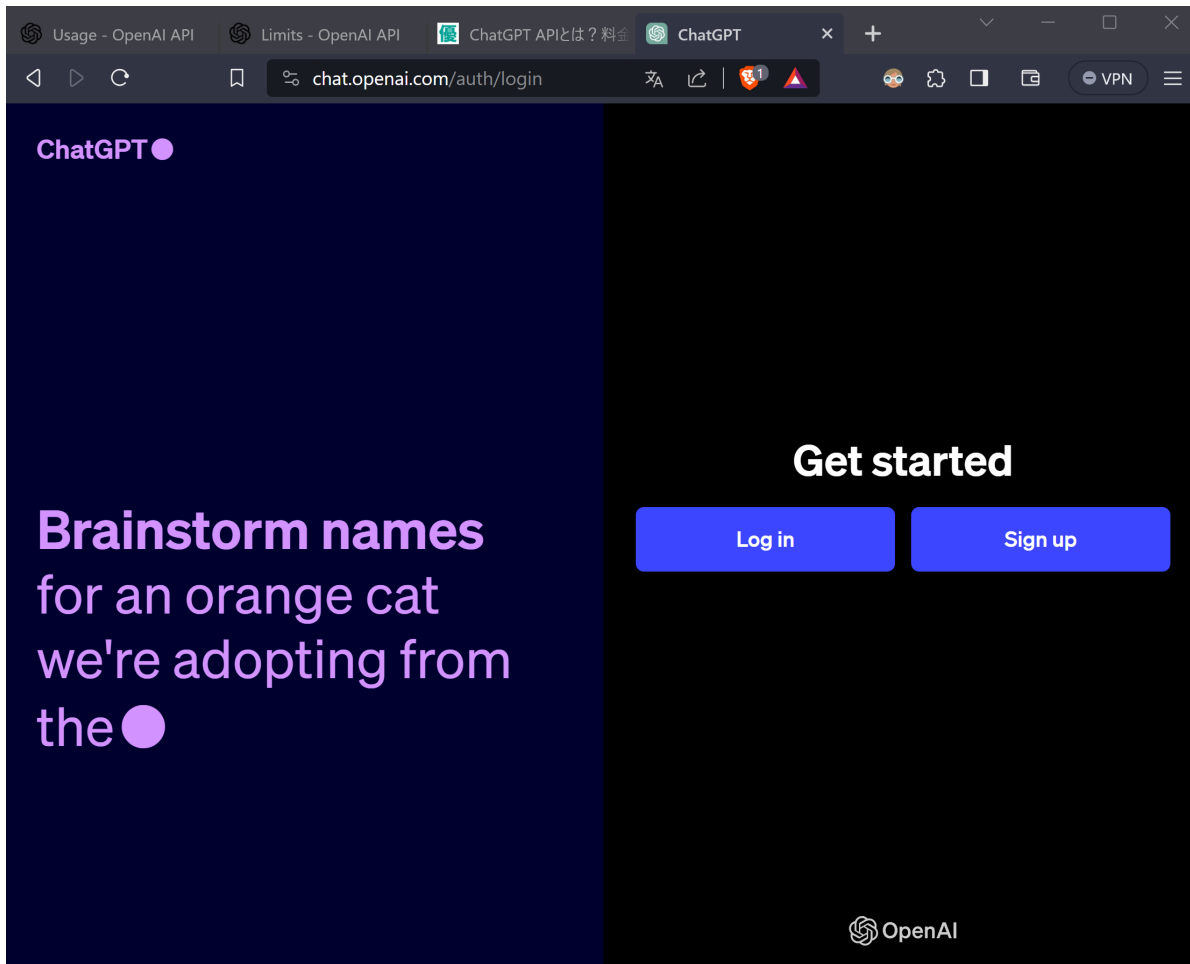
#### Credit Grants USD

Used Expired

\$0.01 / \$15.00

#### Invoices

Month	Status	Amount
Nov 2023	Paid	\$10.00



chat形式で聞いてテスト

New chat

ChatGPT 3.5

Today

HL7 FHIR JSON Generation

July

IRISプログラミング

電磁気学の問題

April

共感と多様性

電子カルテについて

IPアドレスの問い合わせ

Excel Auto-Save Freeze Fix

セキュリティの3要素

NEC MegaOakHR Unknown.

BPDの友好的な関係の築き方

ChatGPT

以下は、HL7 FHIRのPatientリソースで、性を「群馬」、名を「太郎」、性別を「男性」にしたサンプルのJSONコードです。

```
json
{
  "resourceType": "Patient",
  "name": [
    {
      "family": "群馬",
      "given": ["太郎"]
    }
  ],
  "gender": "male"
}
```

このJSONコードでは、`resourceType`フィールドでリソースのタイプを指定し、`name`フィールドで患者の名前を設定しています。`gender`フィールドは患者の性別を指定します。この例では、「群馬」が姓、「太郎」が名、性別は「男性」です。

```
chatgpt_api_test_sample2.py
C: > pythoncode > 20231120chatGPT > chatgpt_api_test_sample2.py
1 import openai
2
3 openai.api_key="YOUR API KEY" # this is also the default, it can be omitted
4
5 response = openai.ChatCompletion.create(
6     model = "gpt-3.5-turbo",
7     messages=[
8         {"role": "system",
9          "content": "You are a helpful assistant."},
10        {"role": "user",
11         "content": "HL7 FHIRのPatientリソースで、性を群馬、名を太郎にし、性別を男性に"}
12    ],
13 )
14 print(response["choices"][0]["message"]["content"])
15
```

Ln 2, Col 1 Spaces: 2 UTF-8 CRLF Python

```
コマンド プロンプト
C:\pythoncode\20231120chatGPT>python chatgpt_api_test.py
日本の首都は東京です。

C:\pythoncode\20231120chatGPT>python chatgpt_api_test_sample2_key.py
以下は、性を「群馬」、名を「太郎」、性別を「男性」としたPatientリソースのサンプルコードです。JSON形式で生成しています。

```json
{
  "resourceType": "Patient",
  "name": [
    {
      "family": "群馬",
      "given": [
        "太郎"
      ]
    }
  ],
  "gender": "male"
}
```

どういたしまして！ほかにも何かお手伝いできることはありますか？

C:\pythoncode\20231120chatGPT>
```

**You**

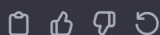
HL7 FHIRのPatientリソースで、性を群馬、名を太郎にし、性別を男性にしたサンプルコードをJSON形式で生成してください。コメントなどは不要で、JSONのみを出力してください。

**ChatGPT**

json

Copy code

```
{
  "resourceType": "Patient",
  "name": [
    {
      "family": "群馬",
      "given": ["太郎"]
    }
  ],
  "gender": "male"
}
```



```
chatgpt_api_test_sample3b.py × chatgpt_api_test_sample3b_key.py
C: > pythoncode > 20231120chatGPT > chatgpt_api_test_sample3b.py
1 import openai
2
3 openai.api_key="YOUR API KEY" # this is also the default, it can be omitted
4
5 response = openai.ChatCompletion.create(
6     model = "gpt-3.5-turbo",
7     messages=[
8         {"role": "user",
9          "content": "HL7 FHIRのPatientリソースで、性を群馬、名を太郎にし、性別を男性に
10        ],
11     )
12 print(response["choices"][0]["message"]["content"])
13
```

```
コマンド プロンプト
{
  "family": "群馬",
  "given": [
    "太郎"
  ]
},
"gender": "male"
}
...

このコードでは、性は「群馬」、名は「太郎」となっており、性別は「男性」となっています。

C:\pythoncode\20231120chatGPT>python chatgpt_api_test_sample3b_key.py
以下は、性を「群馬」、名を「太郎」とし、性別を「男性」に設定したHL7 FHIRのPatientリソースのサンプルコードです。

```json
{
  "resourceType": "Patient",
  "name": [
    {
      "family": "群馬",
      "given": ["太郎"]
    }
  ],
  "gender": "male"
}
```

C:\pythoncode\20231120chatGPT>
```