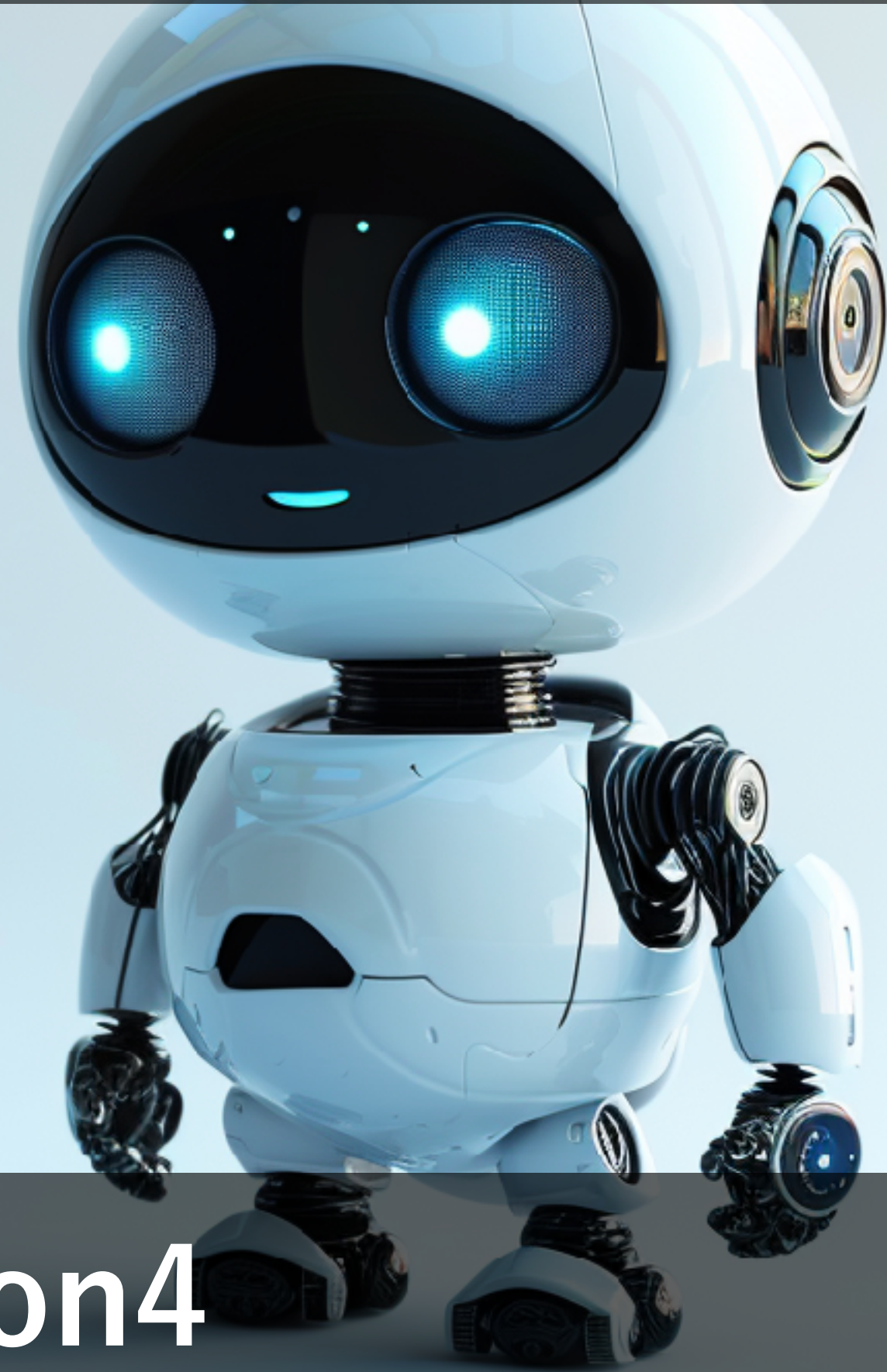
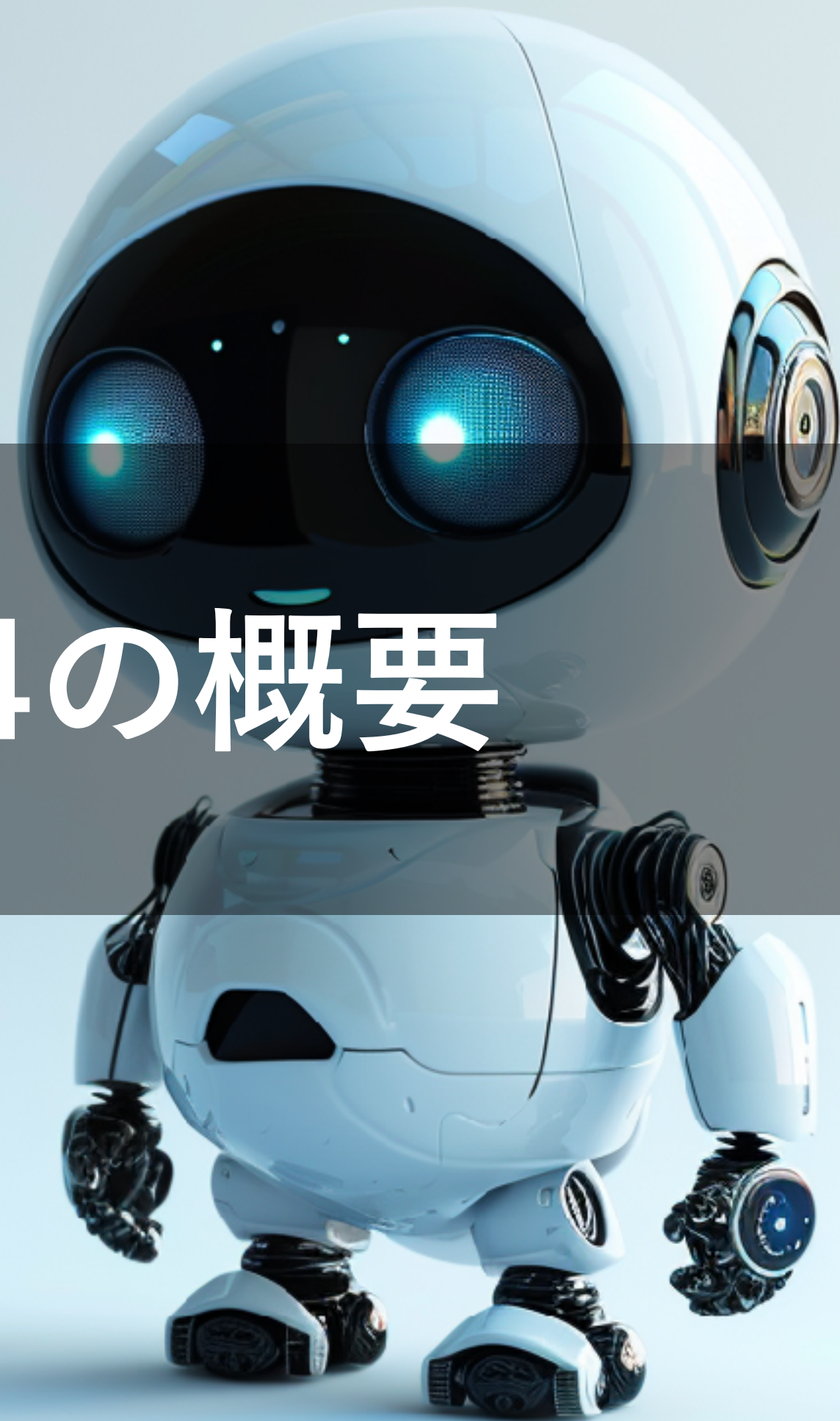


LangChainを学ぼう！



Section4

Section4の概要



講座の内容

Section1. LangChainの概要

Section2. LangChainの基礎

Section3. LangChainの様々な機能

 **Section4. LangChainの応用**

今回の内容

1. Section4の概要
2. ngrokの設定
3. シンプルなチャットボット
4. 翻訳アプリ
5. Streamlit Community Cloudへの登録
6. アプリのデプロイ
7. 最後に

教材の紹介

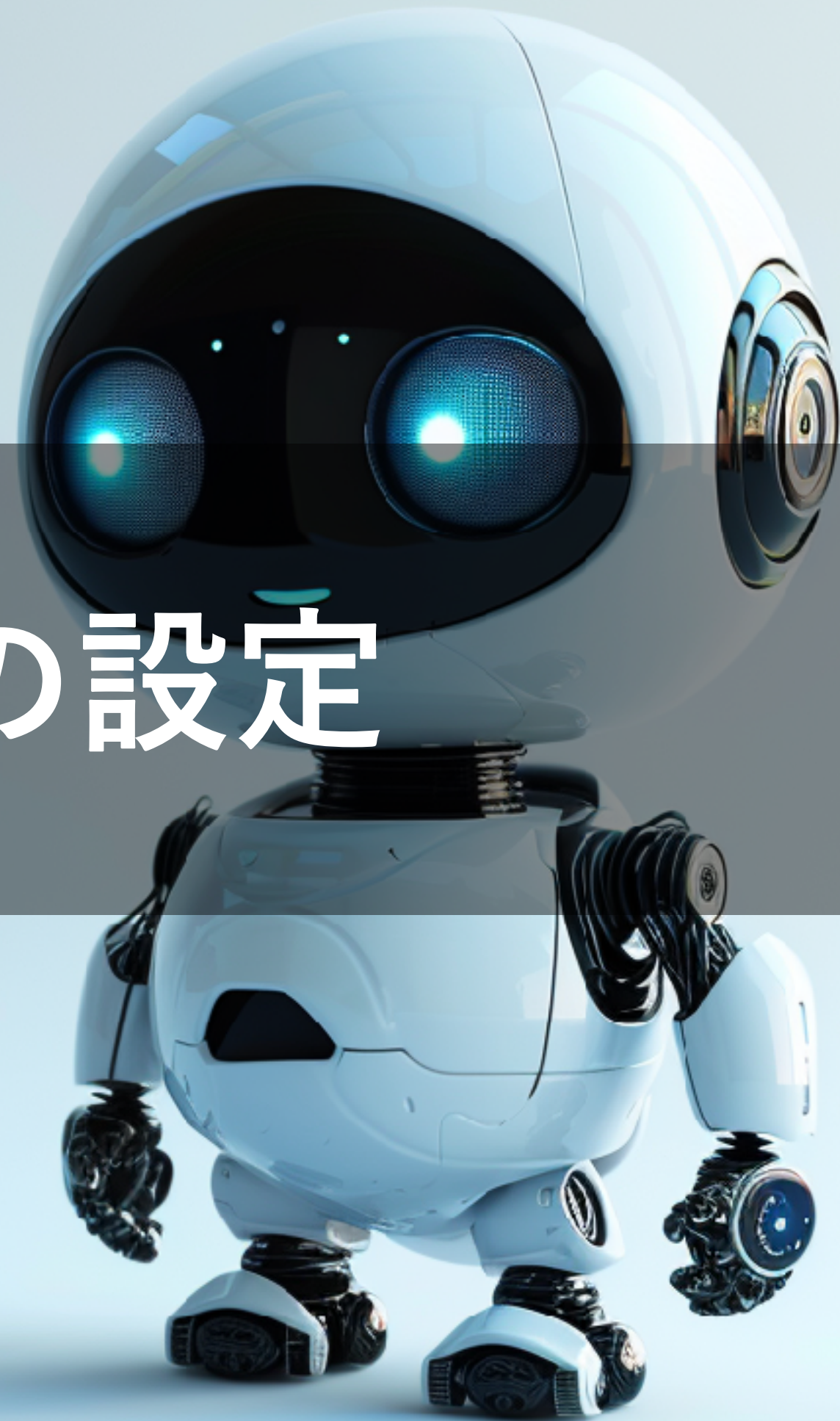
- Pythonの基礎:
python_basic
- Section4の教材
01_chatbot.ipynb
02_translation.ipynb
03_deploy.ipynb

<https://github.com/yukinaga/langchain/>

解答例: Section3の演習

- AgentsとChainsを使い、Google Coraboratory
環境で何らかのアプリを構築してみよう。

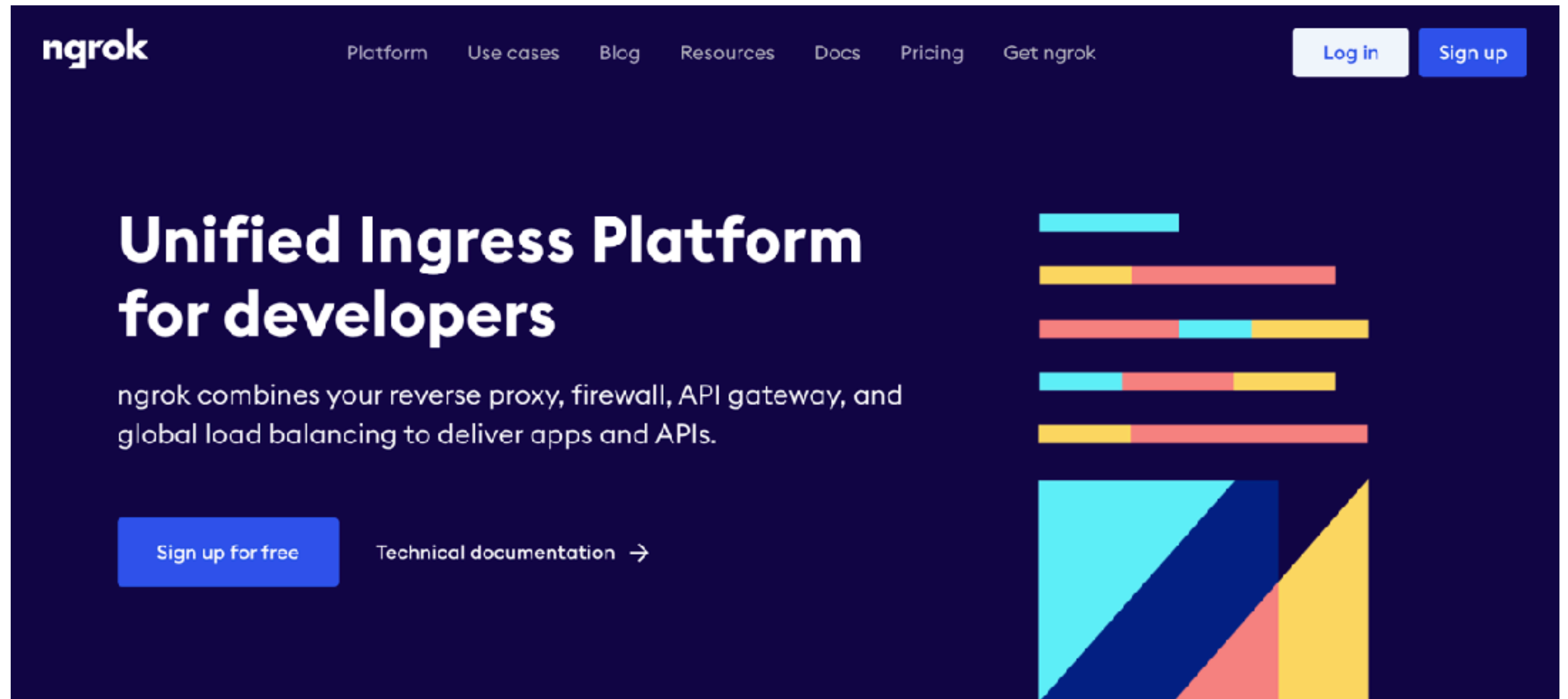
ngrokの設定



ngrokとは？

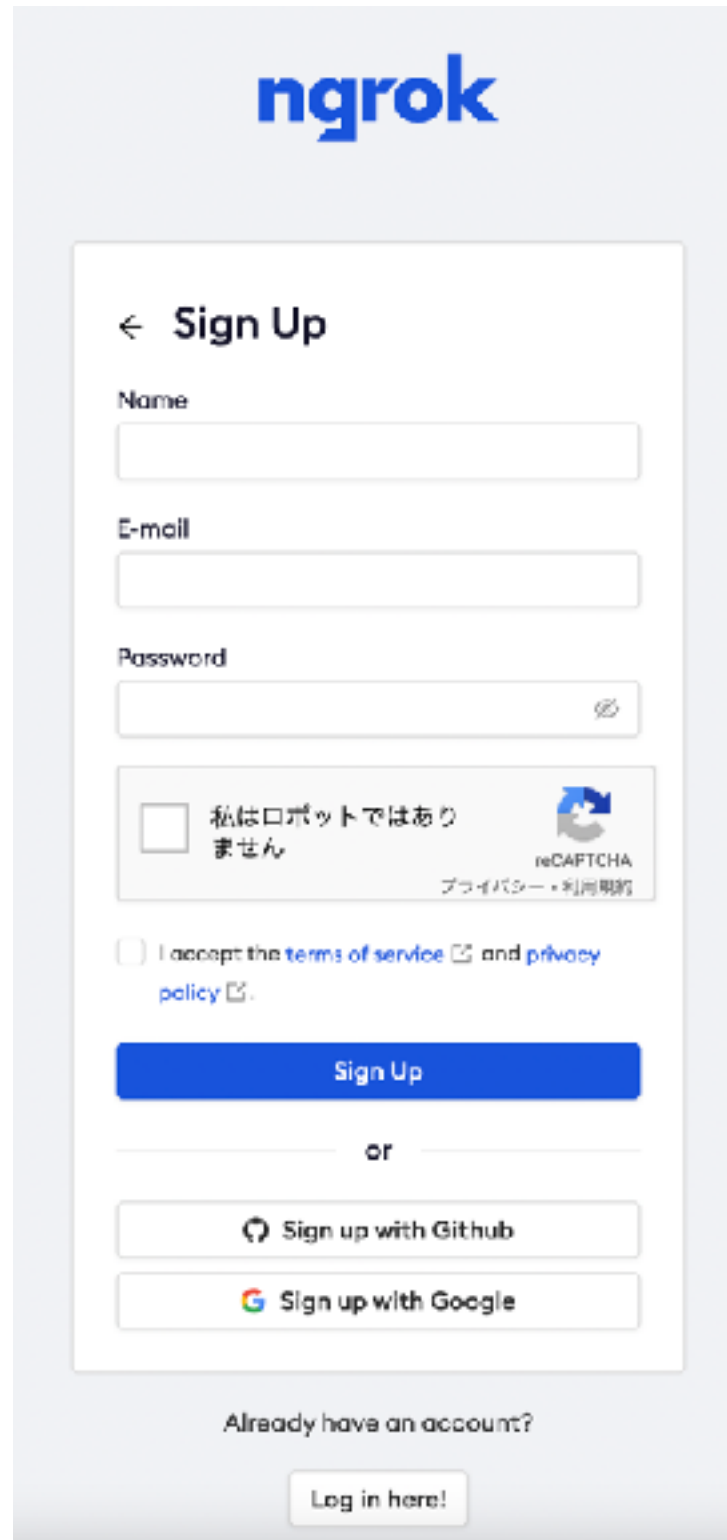
- **ngrok**（エングロックと読む）
 - ローカルサーバーを外部公開できるツール
 - 本コースでは、Google Colaboratory上で構築したチャットボットの動作確認に使用
- <https://ngrok.com/>

ngrokの設定



<https://ngrok.com/>

ngrokのサインアップ



The image shows the ngrok Sign Up form. At the top is the ngrok logo. Below it is a section titled "Sign Up" with a back arrow. The form contains three input fields: "Name", "E-mail", and "Password". Below the "Password" field is a checkbox labeled "私はロボットではありません" (I am not a robot) with a reCAPTCHA logo and links for "プライバシー" (Privacy) and "利用規約" (Terms of Service). Below this is a checkbox for "I accept the terms of service" and "privacy policy". A blue "Sign Up" button is positioned below the checkbox. Below the button is the word "or" and two buttons: "Sign up with Github" and "Sign up with Google". At the bottom, there is a link "Already have an account?" and a button "Log in here!".


ngrok

← Sign Up

Name

E-mail


Password

☐ 私はロボットではありません  reCAPTCHA
プライバシー・利用規約

☐ I accept the [terms of service](#) and [privacy policy](#).

Sign Up

or

 Sign up with Github

 Sign up with Google

Already have an account?

Log in here!

メールの認証が必要

ngrokのダッシュボード

The screenshot displays the ngrok dashboard interface. On the left is a sidebar with navigation links: 'Getting Started' (with 'Setup & Installation' highlighted), 'Cloud Edge', 'Tunnels', 'Observability', and 'API'. The main content area is divided into two sections. The top section, 'Welcome', explains that ngrok is a globally distributed reverse proxy. The right side of this section lists supported 'Agents' (MacOS, Windows, Linux, Docker, RaspberryPi, FreeBSD), 'SDKs' (Go, NodeJS, Rust, Python, Java, Ruby, .Net), and 'Infrastructure' (Kubernetes). The bottom section, 'Connect', is titled '1 Connect' and instructs the user to 'Establish ingress for your application'. It features a large button for 'macOS' with an Apple logo and an 'Agent' label, and a link to 'Choose another platform'.

Getting Started
Setup & Installation
Your Authtoken

Cloud Edge
Endpoints
Edges
Domains
TCP Addresses

Tunnels
Agents
Authtokens
SSH Public Keys
Ingress

Observability
Events
Traffic Inspector Preview

API

Security
IP Policies
IP Restrictions
TLS Certificates

Welcome

ngrok is your app's front door—a globally distributed reverse proxy that secures, protects and accelerates your applications and network services, no matter where you run them.

Agents ⓘ
MacOS
Windows
Linux
Docker
RaspberryPi
FreeBSD


SDKs ⓘ
Go
NodeJS
Rust
Python
Java
Ruby
.Net

Infrastructure ⓘ
Kubernetes

Looking for something else?

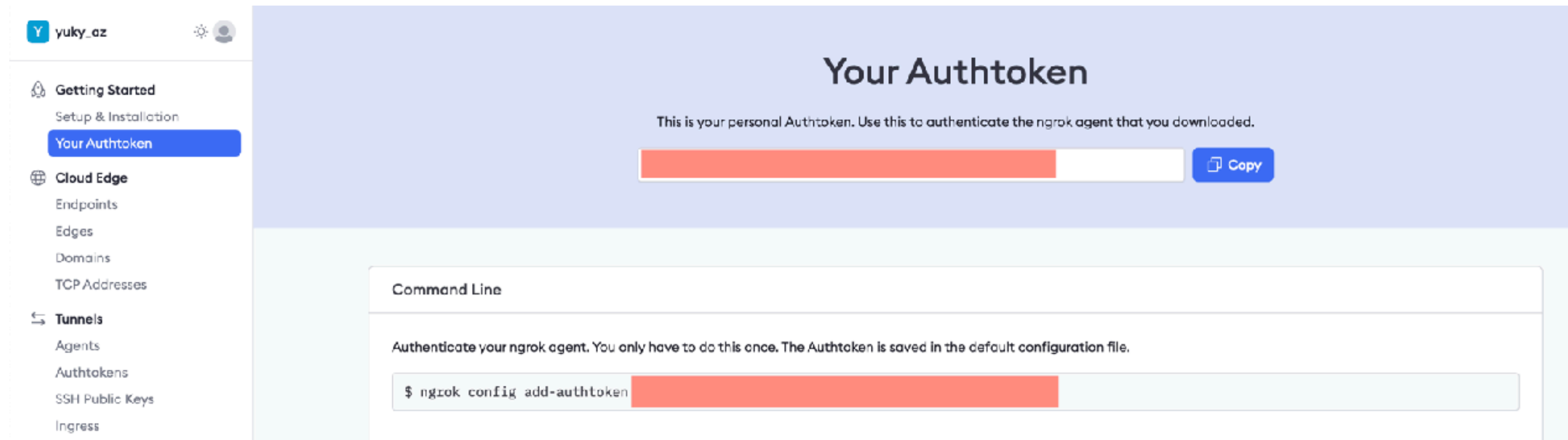
1 Connect



Establish ingress for your application




 Agent
macOS

[Choose another platform](#)

Authtokenの取得





yuky_az  

-  **Getting Started**
 - Setup & Installation
 - Your Authtoken**
-  **Cloud Edge**
 - Endpoints
 - Edges
 - Domains
 - TCP Addresses
-  **Tunnels**
 - Agents
 - Authtokens
 - SSH Public Keys
 - Ingress


Your Authtoken

This is your personal Authtoken. Use this to authenticate the ngrok agent that you downloaded.

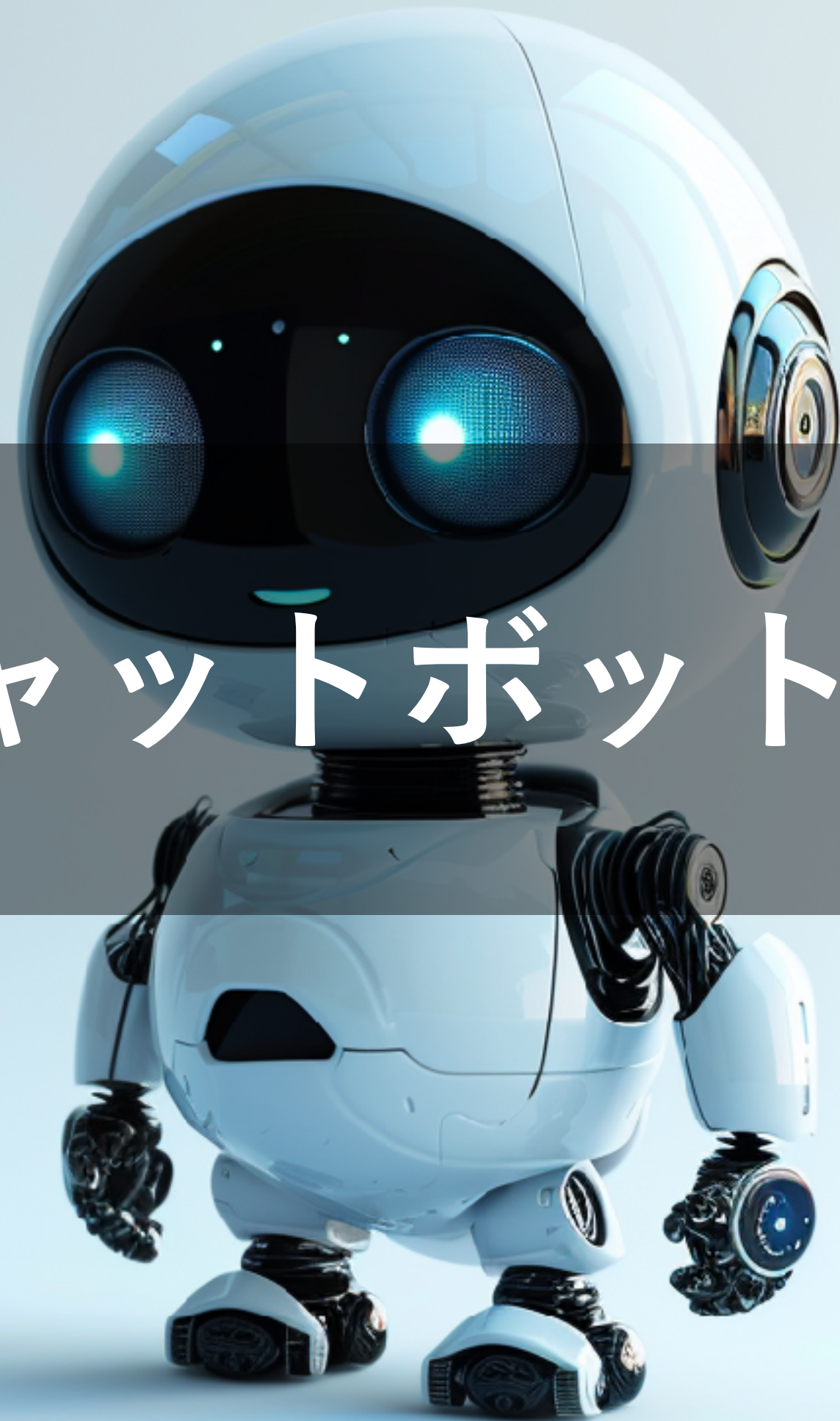
 

Command Line

Authenticate your ngrok agent. You only have to do this once. The Authtoken is saved in the default configuration file.

```
$ ngrok config add-authtoken 
```

シンプルなチャットボット



Streamlitとは？

- **Streamlit**

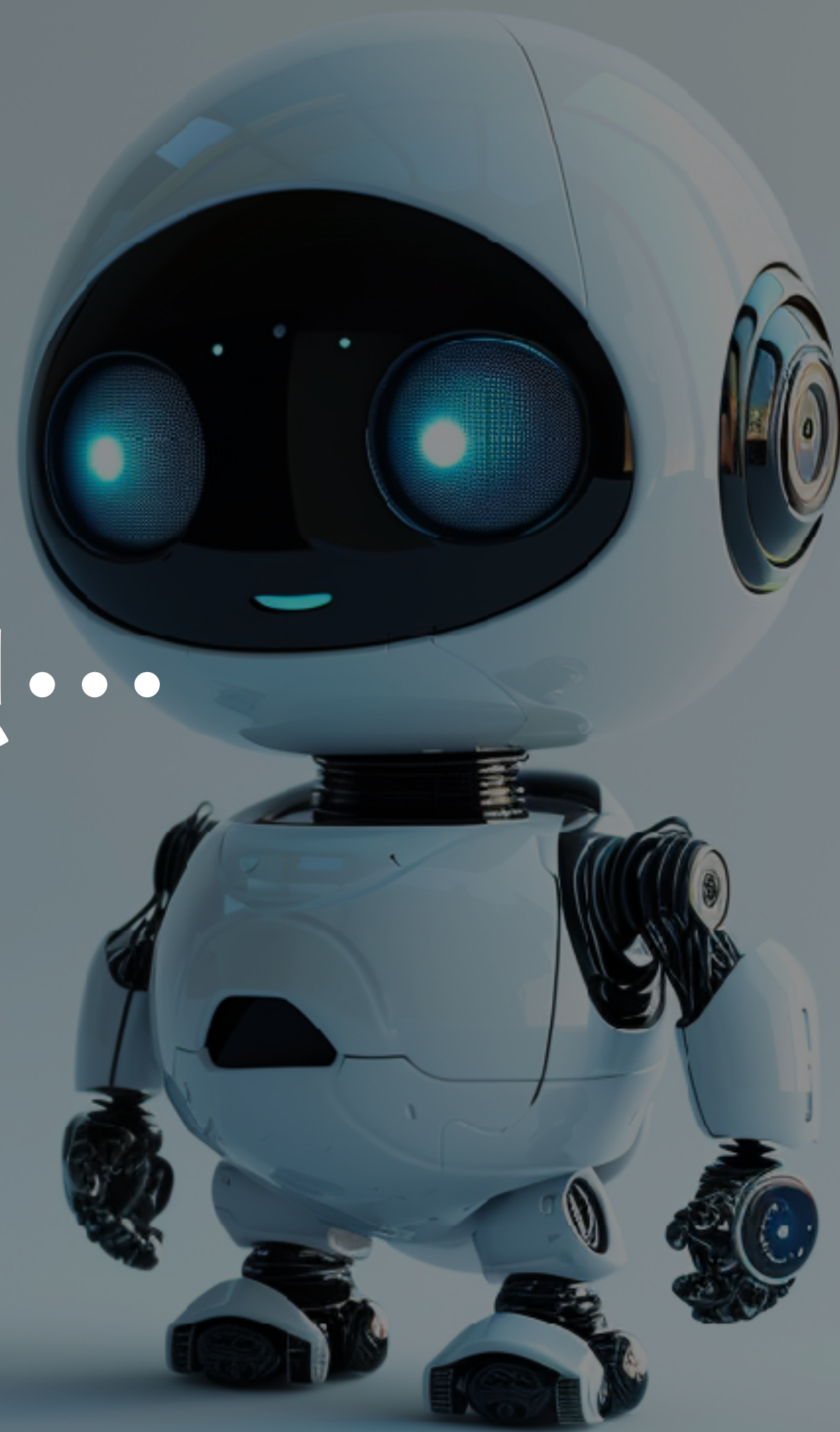
- Streamlit社が開発したWebアプリのフレームワーク
- Pythonのみで、簡単にWebアプリを構築できる
- HTMLやJavaScriptを書く必要はない
- Streamlit Community Cloudにより、アプリを公開可能

<https://streamlit.io/>

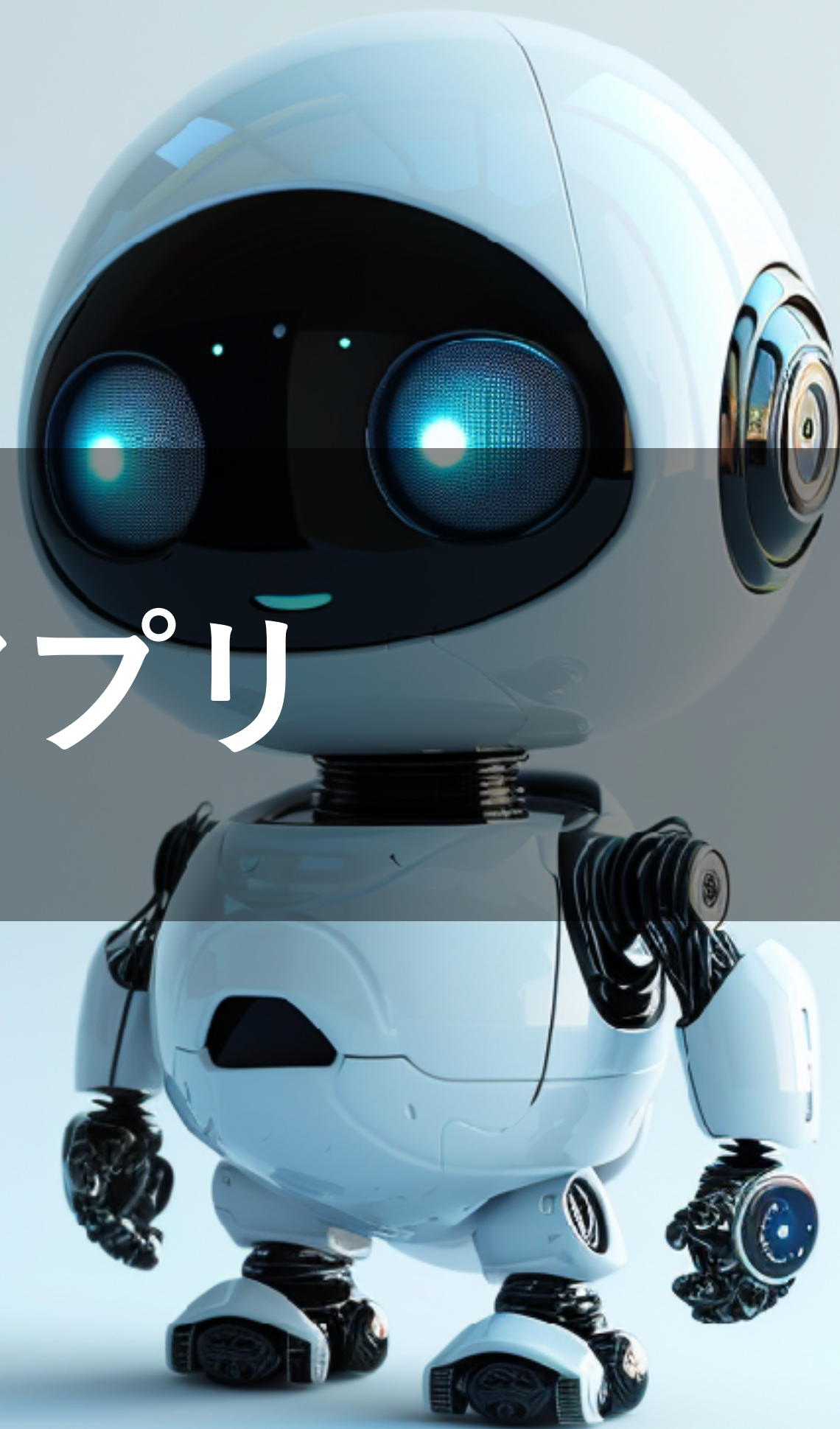
シンプルなチャットボット

- 01_chatbot.ipynb

休憩...



翻訳アプリ



翻訳アプリ

- 02_translation.ipynb

Streamlit Community Cloudへの登録



StreamlitのWebサイト

👉 Latest news: Editable dataframes, new caching commands, nested columns 📌

[Cloud](#)[Gallery](#)[Components](#)[Community](#)[Docs](#)[Blog](#)[Sign in](#)[Sign up](#)

Click

A faster way to build and share data apps

Streamlit turns data scripts into shareable web apps in minutes.

All in pure Python. No front-end experience required.

[Try Streamlit now](#)[Sign up for **Streamlit Community Cloud**](#)

<https://streamlit.io/>

Streamlit Community Cloudへの登録

Get started with Streamlit Cloud

Continue with Google

Continue with GitHub

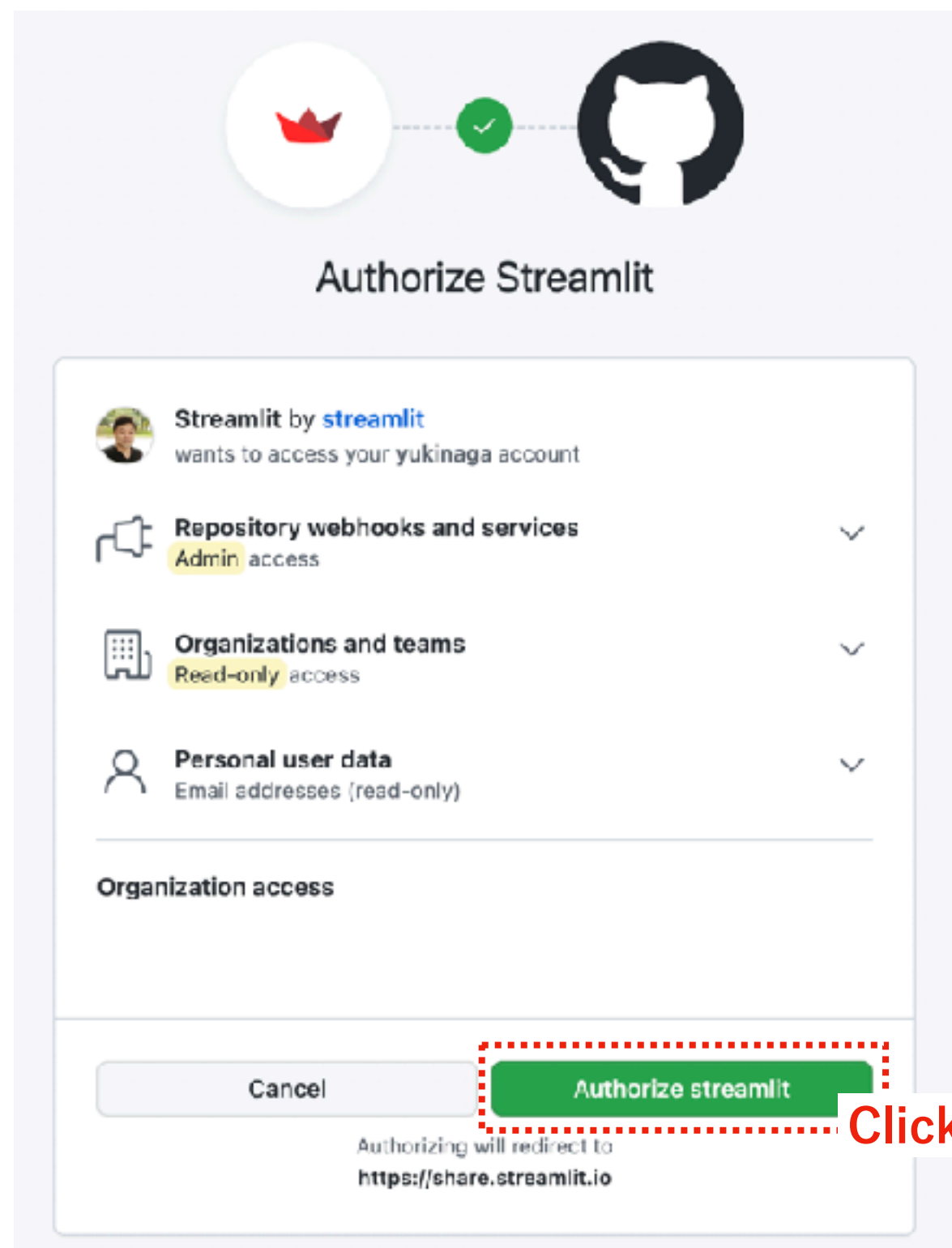
Click

OR

Your email...

Continue with email

GitHubとの接続



GitHubパスワードの入力



Confirm access

Password

[Forgot password?](#)

Confirm password

Tip: You are entering [sudo mode](#). We won't ask for your password again for a few hours.

Streamlitアカウント情報の入力

Set up your account

First name

required

Last name

Work Email

required

Company name

required

Country

Please Select

required

What's your functional area?

Please Select

How long have you been building apps with Streamlit?

Please Select

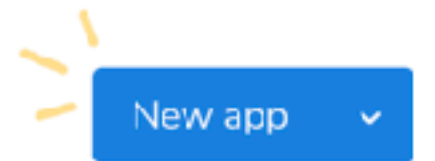
Do you use Snowflake in any capacity?

Please Select

Continue

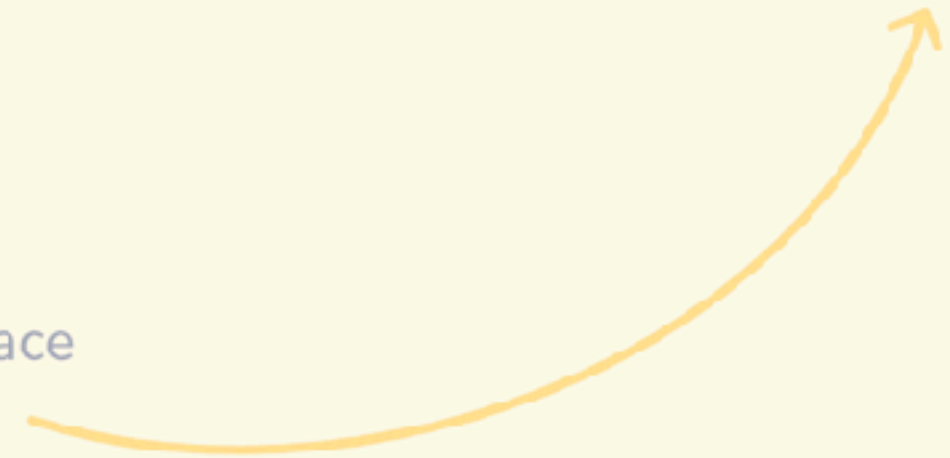
新しいアプリの作成

Your apps



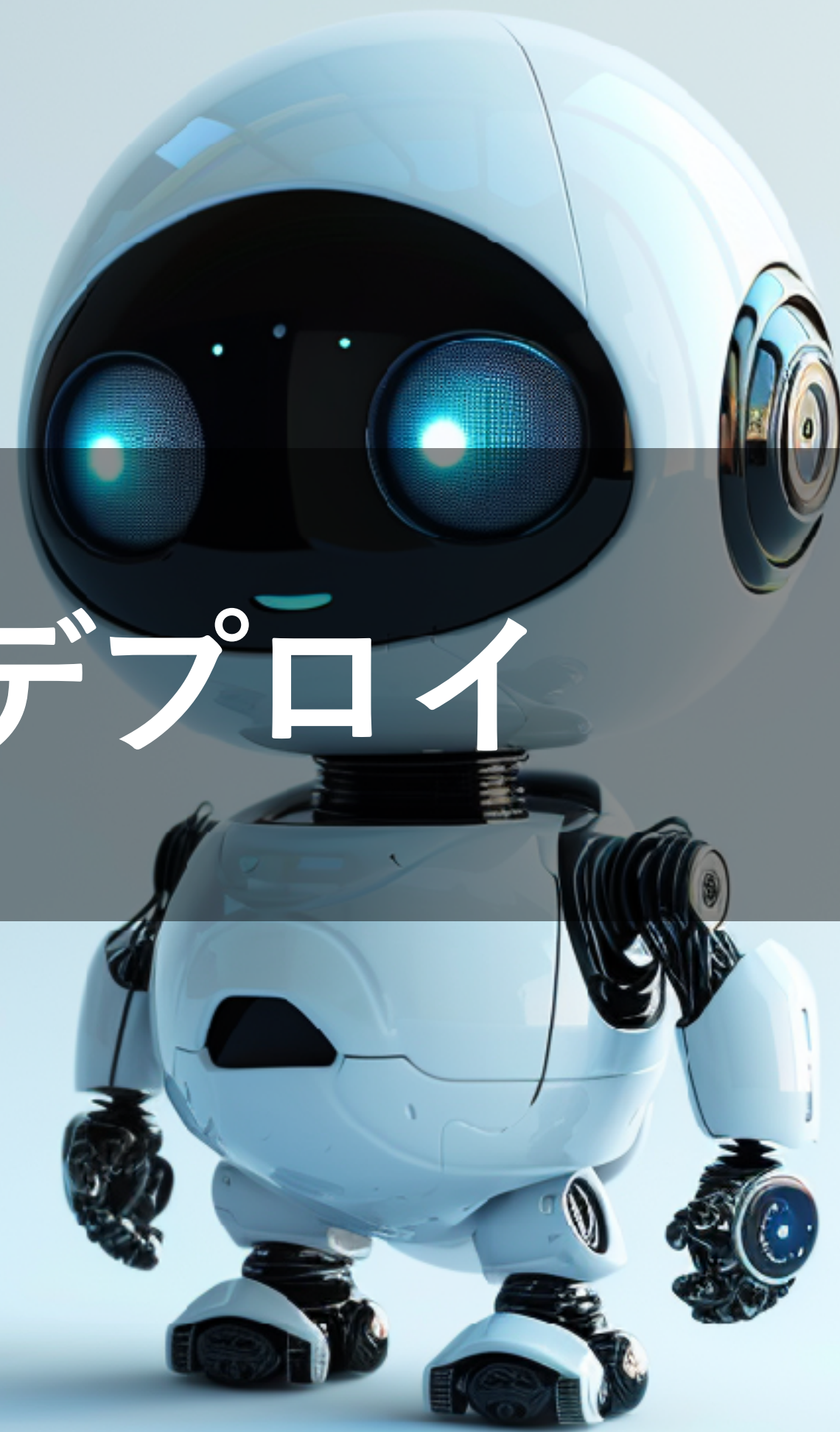
No apps to show in this workspace

Deploy one now



「A primary account」の設定が求められることがあります。

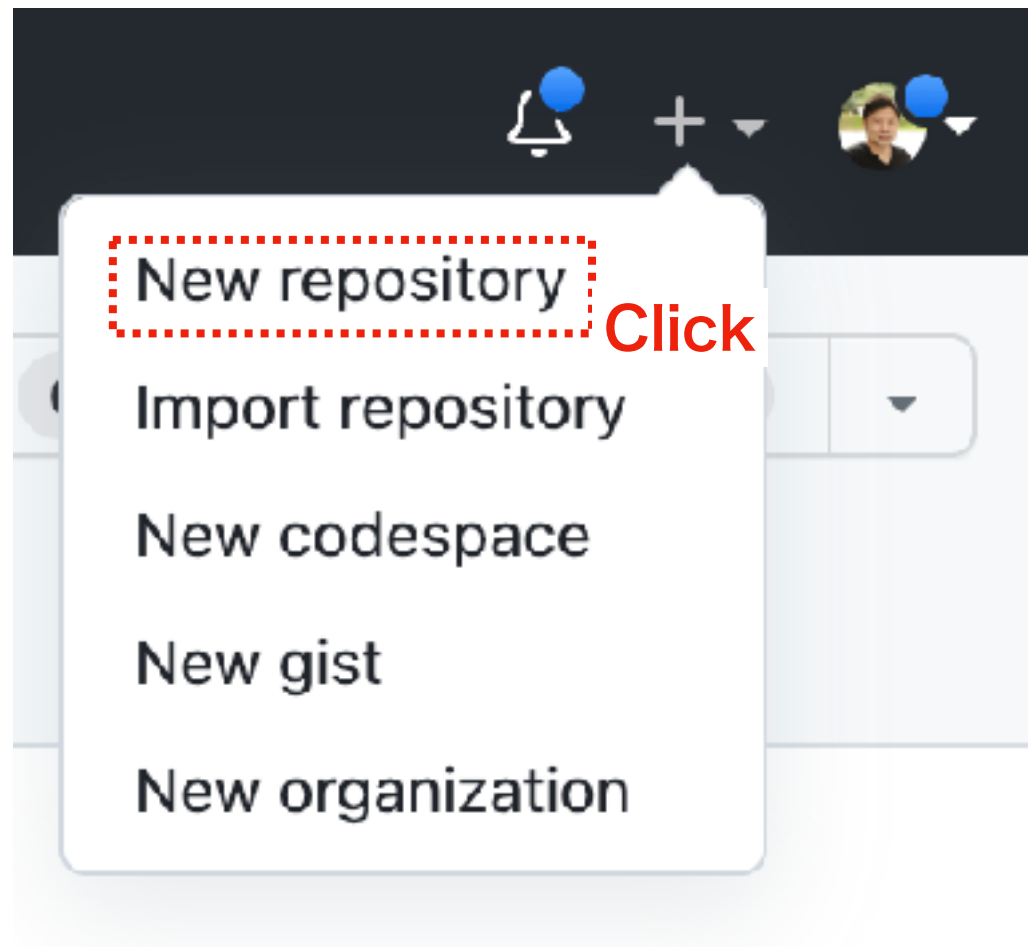
アプリのデプロイ



デプロイの準備

- 03_deploy.ipynb

GitHubレポジトリの作成



以下のファイルをレポジトリにアップ

- app.py
- requirements.txt

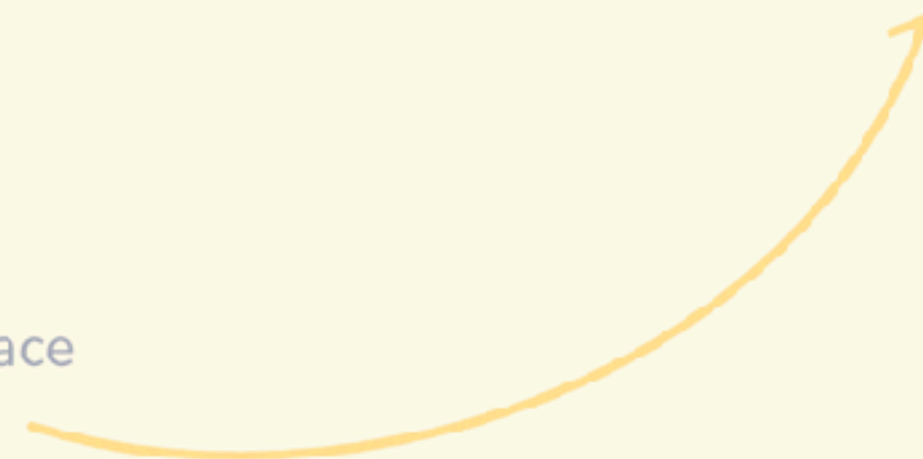
新しいアプリの作成

Your apps

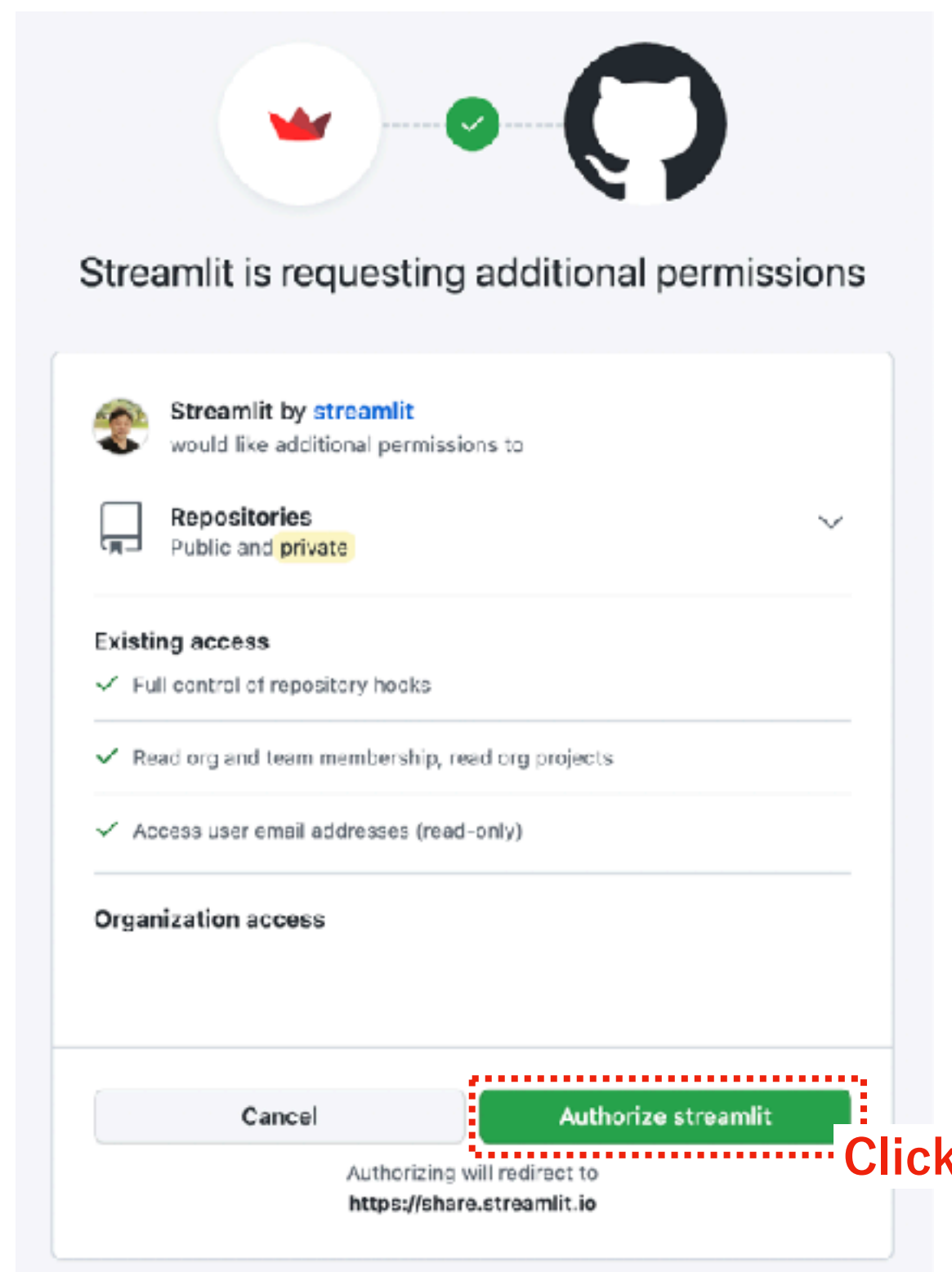


No apps to show in this workspace

Deploy one now



GitHubとの接続



アプリのデプロイ

[← Back](#)

Deploy an app

Repository

[Paste GitHub URL](#)

yukinaga/sample_aiapp

Branch

main

Main file path

app.py

[Advanced settings...](#)

Deploy!

OpenAI API Keyの設定

App settings

Sharing

Secrets

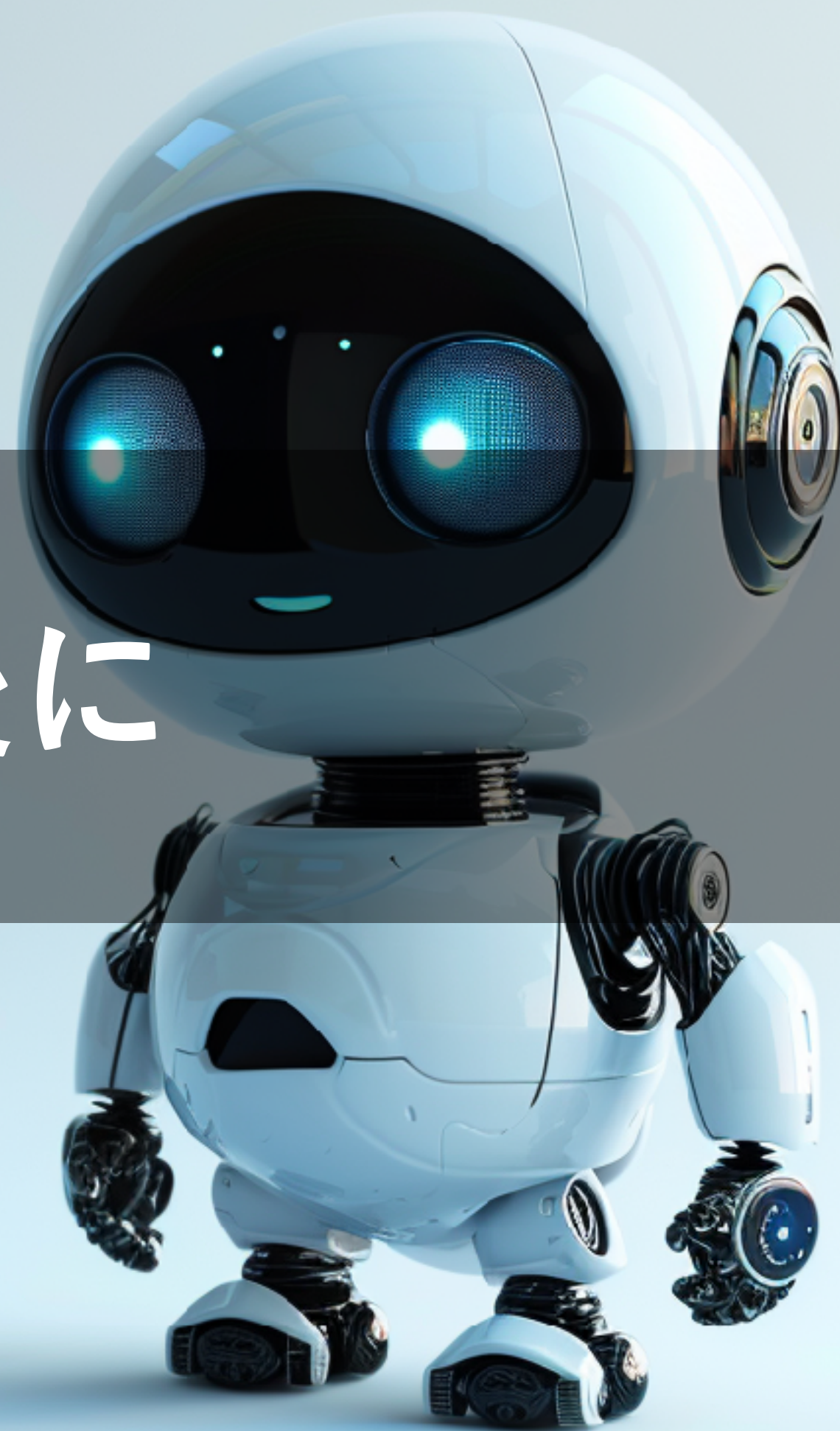
Secrets

Provide environment variables and other secrets to your app using [TOML](#) format. This information is encrypted and served securely to your app at runtime. Learn more about Secrets in our [docs](#). Changes take around a minute to propagate.

```
[OpenAIAPI]
openai_api_key = "[REDACTED]"
```

Save

最後に



受講いただき
ありがとうございました！

