Comprehensive Tutorial for the Google AI Python SDK for the Gemini API

Project Overview

The Google AI Python SDK for the Gemini API provides a high-level interface for developers to interact with the Gemini API. Gemini is a multimodal AI model developed by Google DeepMind that can reason across text, images, and code.

Setup

1. Install the SDK

```
pip install google-generativeai
```

2. Configure API Key

Set the `GEMINI_API_KEY` environment variable with your API key. You can obtain an API key from the [Google AI Studio](https://aistudio.google.com/).

Key Files

1. README.md

Provides an overview of the SDK, usage examples, and documentation links.

2. CONTRIBUTING.md

Outlines the process for contributing to the SDK, including signing a Contributor License Agreement (CLA).

3. RELEASE.md

Lists the changes and new features introduced in each release.

4. setup.py

Defines the package metadata, dependencies, and installation instructions.

#
Step-by-Step Instructions

1. Import the SDK

```python
import google.generativeai as genai
```

2. Configure API Key

```python
```

```python
genai.configure(api_key=os.environ["GEMINI_API_KEY"])
```

3. Create a Model

```python
model = genai.GenerativeModel('gemini-1.5-flash')
```

4. Run a Prompt

```python
response = model.generate_content("The opposite of hot is")
print(response.text)
```

Configuration and Dependencies

Dependencies:

- `google-ai-generativelanguage`

- `google-api-core`

- `google-api-python-client`

- `google-auth`

- `protobuf`

- `pydantic`

- `tqdm`

- `typing-extensions`

Configuration:

The SDK uses environment variables for configuration. The following variables are supported:

- `GEMINI_API_KEY`: Your Gemini API key.

- `GEMINI_ENDPOINT`: The endpoint URL for the Gemini API. Defaults to `https://generativelanguage.googleapis.com`.

Additional Notes

- For more detailed documentation, refer to the [Gemini API Cookbook](https://github.com/google-gemini/gemini-api-cookbook/) and ai.google.dev.

- To contribute to the SDK, follow the instructions in the [CONTRIBUTING.md](https://github.com/google/generative-ai-python/blob/main/CONTRIBUTING.md) file.

- The SDK is licensed under the Apache License, version 2.0.