Mahasiswa Cinta Quran

Telegram API usage and documentation

@mataquid

Agenda

API Definition

- What is API?
- Telegram API
- Telebot module

Consuming API

- Install requests
- Consume public API

Telegram API

- Understand the Telegram Bot API
- Consume Telebot API

Takeaways

- Recap
- Referensi belajar

What is API?

API or Application Programming Interfaces is system that allows two application to communicate each other or simply it is a **middleman**.

Usually it make **Request** for resource (Information or data) and then API returns a **Response** for the requested data

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Follow

Best API analogy I've seen: take a restaurant. The menu is the API, your order is the API call, the food from the kitchen is the response.

12:23 PM - 19 Dec 2013

API Components

1. **Interface**: A **place** where different software interact
2. **Protocol:** Set of **rules** defining how they interact
3. **Format:** How they talks each other
4. **Endpoint:** Provide different functionalities within same interface

Contoh: Saya ingin mengurus akta kelahiran anak -> saya pergi ke Disdukcapil (**Interface**) -> disana ada beberapa aturan seperti ambil antrian dulu dsb (**Protocol**) -> saya disuruh menuju loket akta kelahiran (**endpoint**) -> sebelumnya saya harus mengisi blanko dulu (**format**) di loket tersebut saya supaya dilayani -> hasilnya nanti adalah print out akta kelahiran yg berisi data-data kita.

Web Service APIs

REST (Representational State Transfer) : Standard or rule to accessing the data. Ex: User A want to access profile data by hit endpoint `/profile`.

RPC(Remote Procedure Call): Client-Server predefined rule to access resources (data). ex: Server will allow Client to access profile data but with previous agreement.

GraphQL: Provide easy data collecting with fast query response

Consuming API

We will consume REST API using *requests* library in Python

- Install requests library

```
(daurohbot) [gbimo@sandbox telegrambot]$ pip install requests
```

- **Import** requests library

```
1    import requests
```

Example request

Create file with name: **request.py** and then try to run the following code:
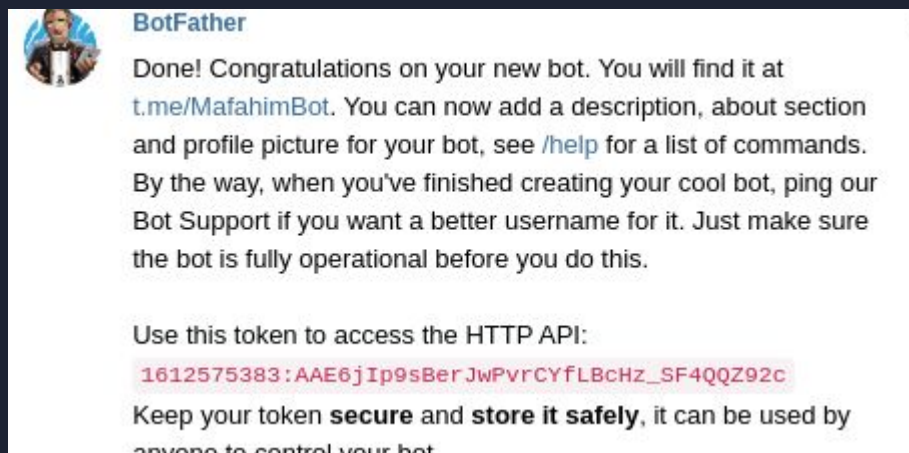
```python
api > 🐍 request.py > ...
  1    import requests
  2    from pprint import pprint
  3
  4    request = requests.get("https://api.quran.sutanlab.id/surah/1/1")
  5
  6    response = request.json()
  7
  8    pprint(response)
  9
```

It should produce a data in dictionary or JSON format
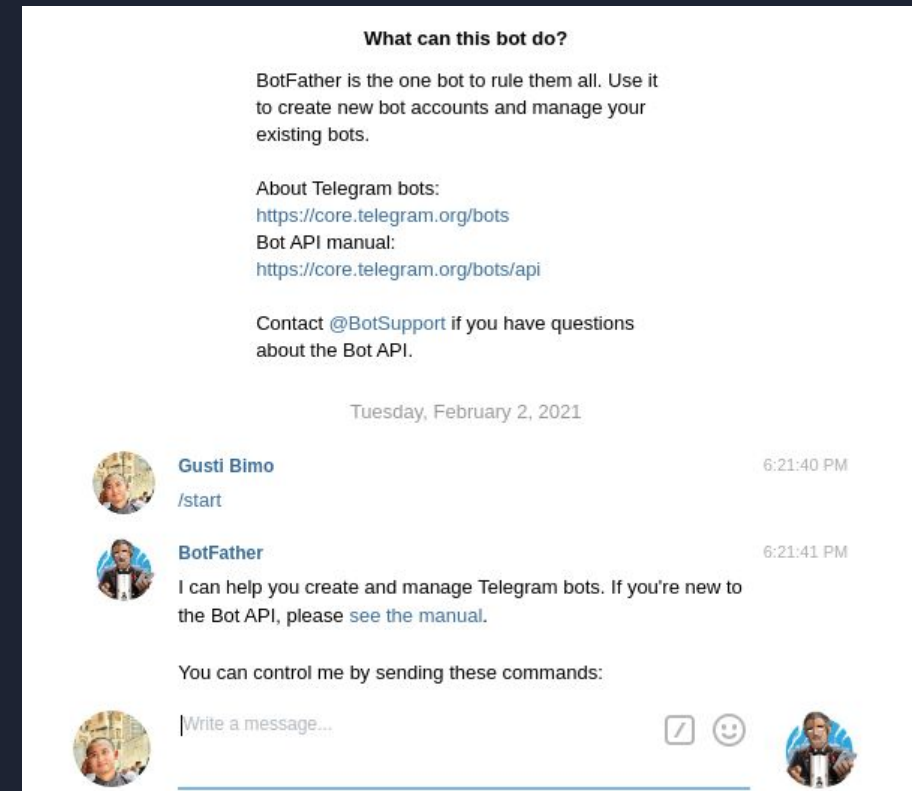
Register Telegram Bot

Register our bot and get the token for further development

Telegram Bot API

We need to know **where** is the telegram bot **INTERFACE** and how to request data by accessing the **ENDPOINTS**.

Telegram Bot API

> The Bot API is an HTTP-based interface created for developers keen on building bots for Telegram.
> To learn how to create and set up a bot, please consult our **Introduction to Bots** and **Bot FAQ**.

Making requests

All queries to the Telegram Bot API must be served over HTTPS and need to be presented in this form:

`https://api.telegram.org/bot<token>/METHOD_NAME` . Like this for example:

`https://api.telegram.org/bot123456:ABC-DEF1234ghIkl-zyx57W2v1u123ew11/getMe`

We support **GET** and **POST** HTTP methods. We support four ways of passing parameters in Bot API requests:

- URL query string
- application/x-www-form-urlencoded
- application/json (except for uploading files)
- multipart/form-data (use to upload files)

The response contains a JSON object, which always has a Boolean field 'ok' and may have an optional String field 'description'

Telebot Module

pyTelegramBotAPI 3.7.6

pip install pyTelegramBotAPI

```python
1   import telebot
2   import time
3
4   # pip install pyTelegramBotAPI
5
6   bot_token="1612575383:AAE6jIp9sBerJwPvrCYfLBcHz_SF4QQZ92c"
7
8   bot = telebot.TeleBot(token=bot_token)
9
10  @bot.message_handler(commands=['start'])
11  def send_welcome(message):
12      bot.reply_to(message, "selamat datang")
```

Let's Code!

Have fun with function

- **Pizza Robot**: Fungsi untuk menambahkan toping di pizza, inputan contoh "Meat lover", output " meat lover with …. toping"
- **Grateful Robot**: Fungsi untuk menerima input string "apa kabar?" dan menampilkan output dengan menambahkan kata "baik , alhamdulilah" di akhir pesan
- **Greeting Robot**: Fungsi untuk generate kalimat sapa secara random
- **Euro Conversion Bot**: Fungsi yg menerima input uang dan menampilkan output "uang anda setara… rupiah"
- **Sholat Reminder Bot**: Fungsi yg menerima input waktu sekarang dan menampilkan output "ayo sholat subuh/dzuhur/ashar…."

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Recap!

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Thank You!

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