EDGE MATRIX

De'AI 2024 Hackathon

De'AI Pioneers' Workshop

Workshop1 Introduction to EMC Development Tools and Resources

Tutorial on how to use EMC Development Tools

Speaker:
Marvior | AI Company R&D Director

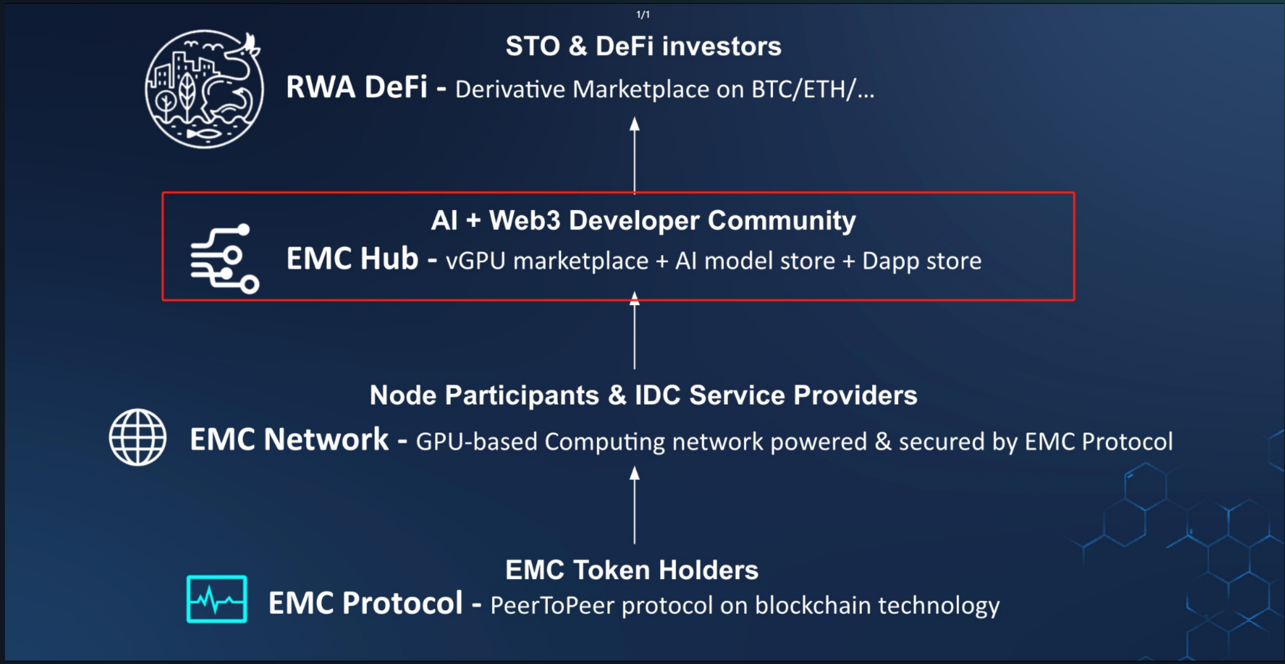
Mar 14th 2024

Agenda

- EMC hub
- API call
- JarvisBot
- JarvisBot SDK
  (Avaialbe for Hackathon)

EMC hub

- Application market built on EMC network
- Integrates AI model repository and computing power onto one platform
- Interact with AI instances through API calling



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STO & DeFi investors

RWA DeFi - Derivative Marketplace on BTC/ETH/...

AI + Web3 Developer Community

EMC Hub - vGPU marketplace + AI model store + Dapp store

Node Participants & IDC Service Providers

EMC Network - GPU-based Computing network powered & secured by EMC Protocol

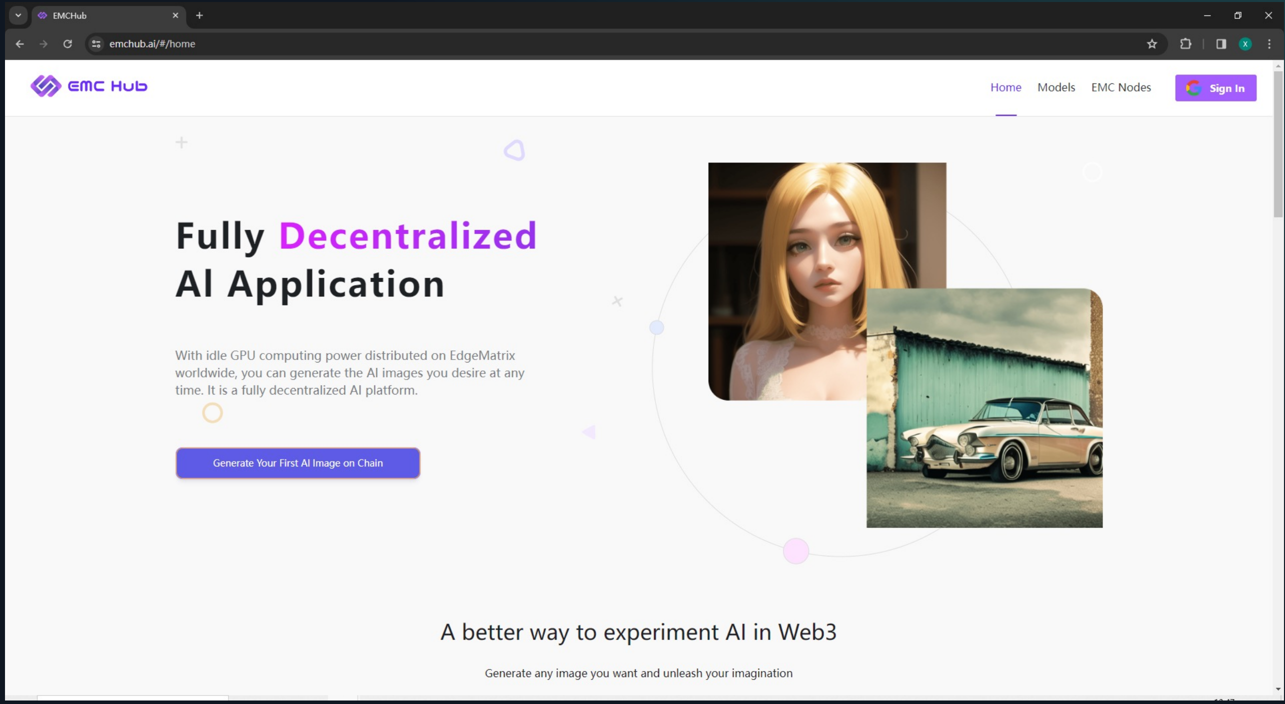
EMC Token Holders

EMC Protocol - PeerToPeer protocol on blockchain technology

https://whitepaper.edgematrix.pro/en/emc-hub

How to API call

- Register account on emc hub
- Get credits
- Manage api secret
- Call apis with api secret



Fully Decentralized AI Application

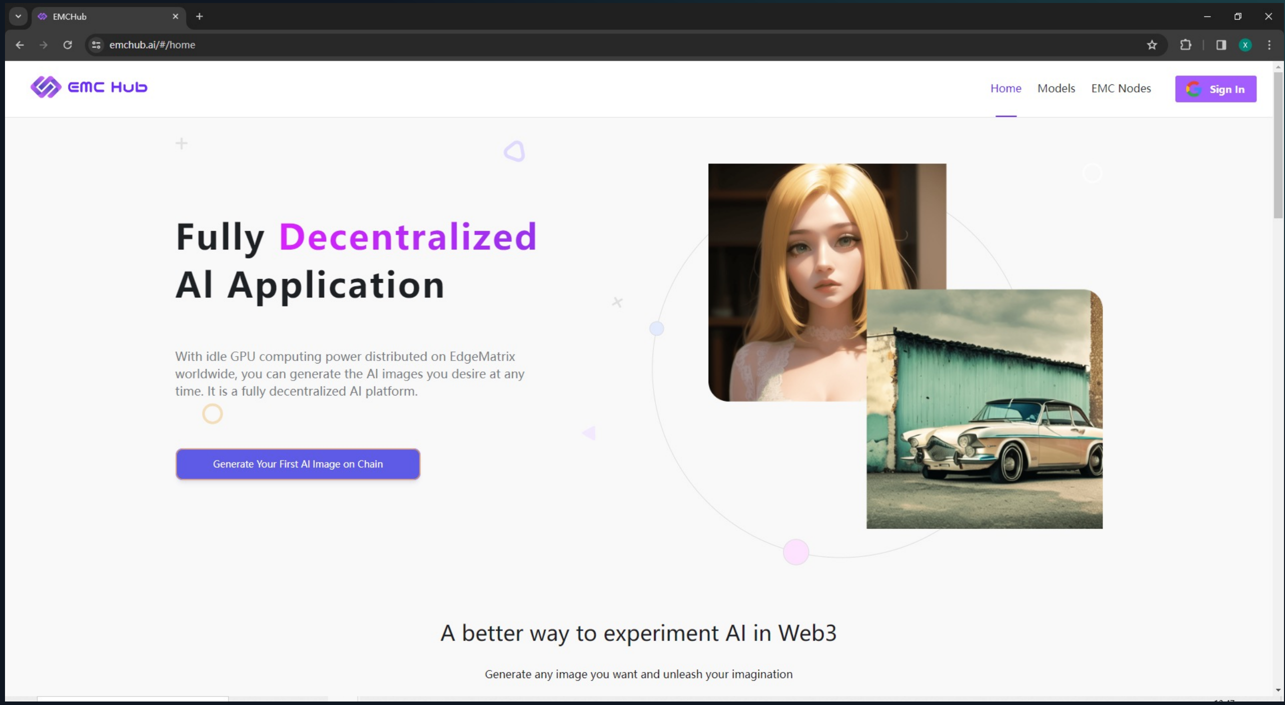
With idle GPU computing power distributed on EdgeMatrix worldwide, you can generate the AI images you desire at any time. It is a fully decentralized AI platform.

A better way to experiment AI in Web3

Generate any image you want and unleash your imagination

Register account

- Visit emc hub website
  - https://emchub.ai/#/home



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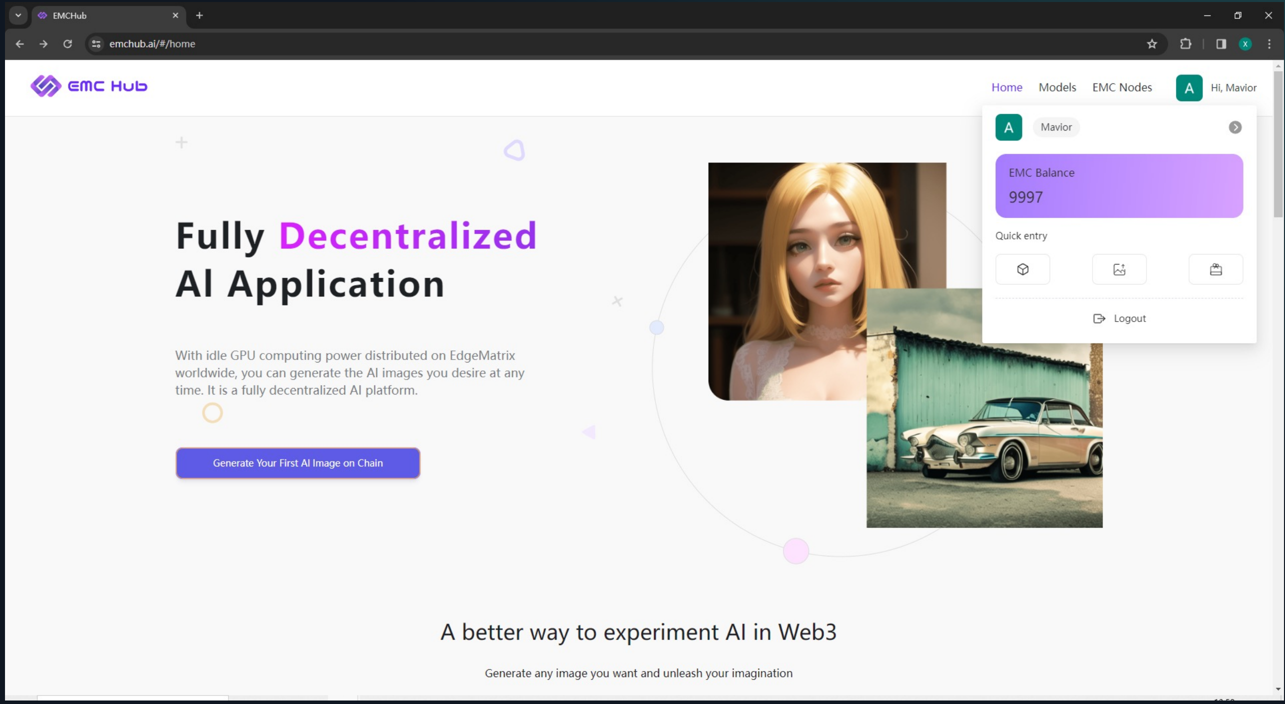
Register account

- Sign in with google account



emchub.ai/#/home

Fully Decentralized AI Application

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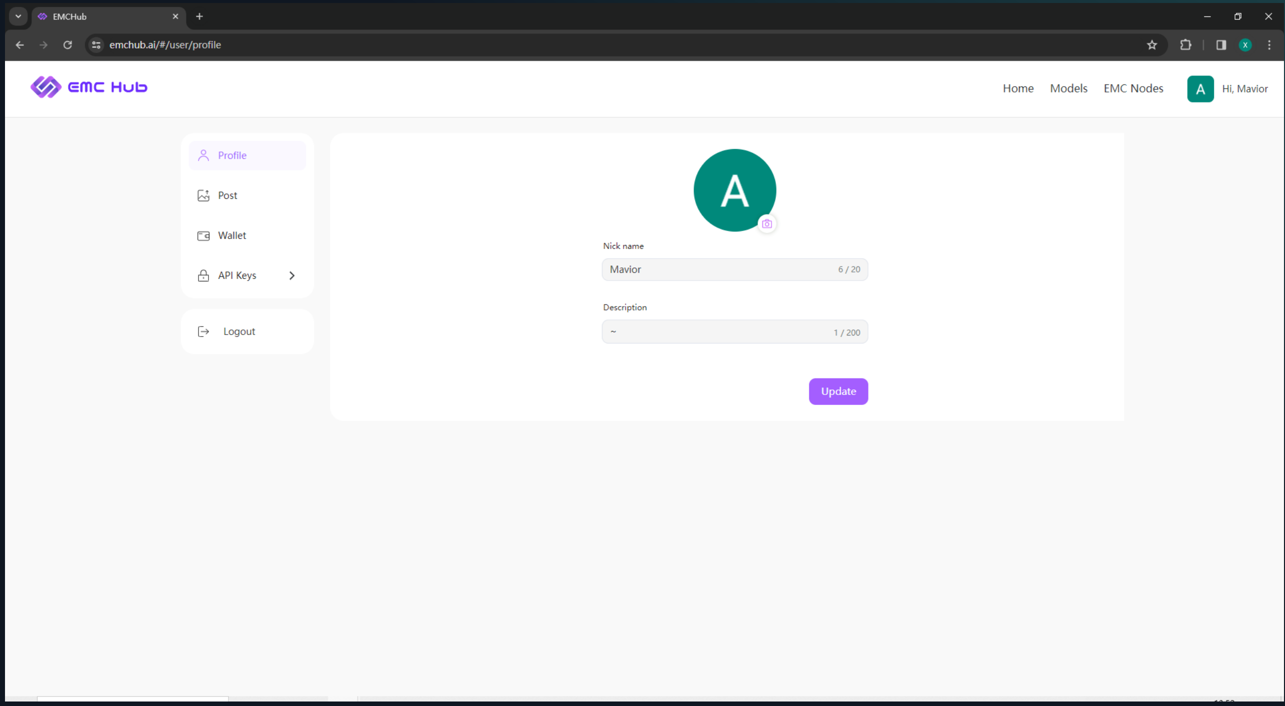
A better way to experiment AI in Web3

Generate any image you want and unleash your imagination

EMC Balance 9997

Register account

- Check your profile

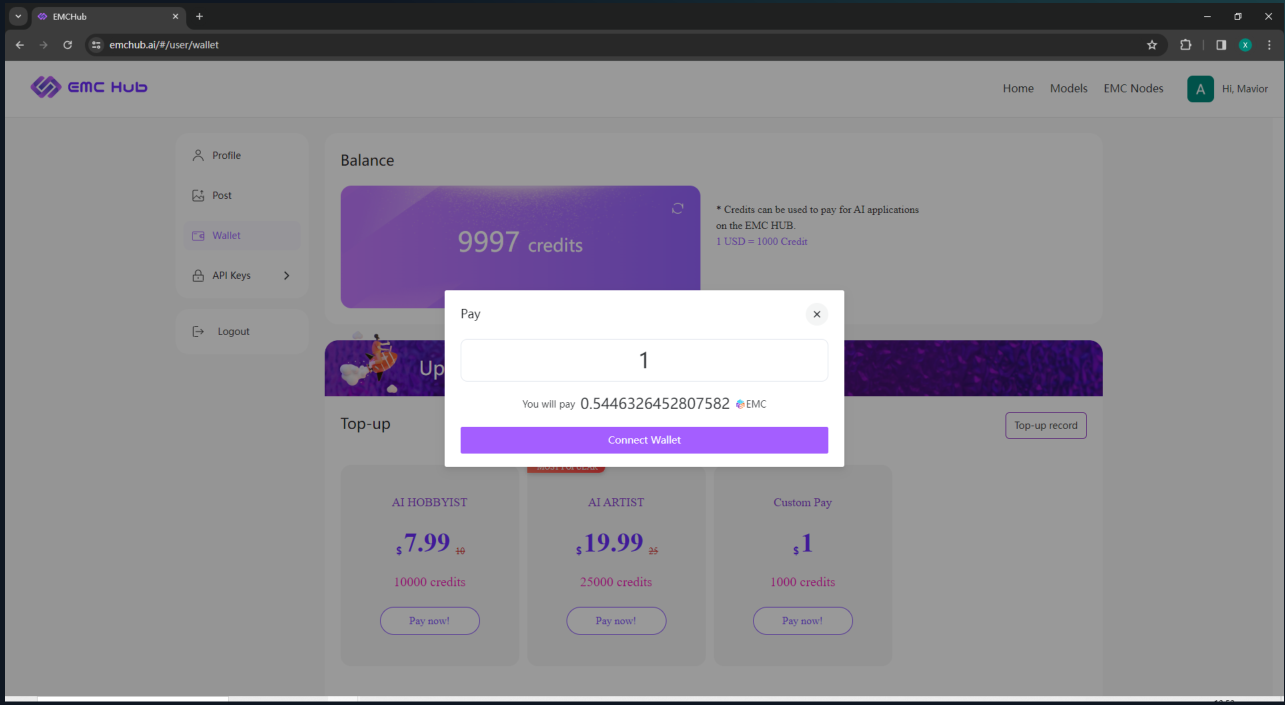


Nick name: Mavior 6 / 20

Description: ~ 1 / 200

Get credits

- Make sure you have enough credits.
- You can buy credits with EMC token.



Balance

9997 credits

* Credits can be used to pay for AI applications on the EMC HUB.
1 USD = 1000 Credit

Pay

1

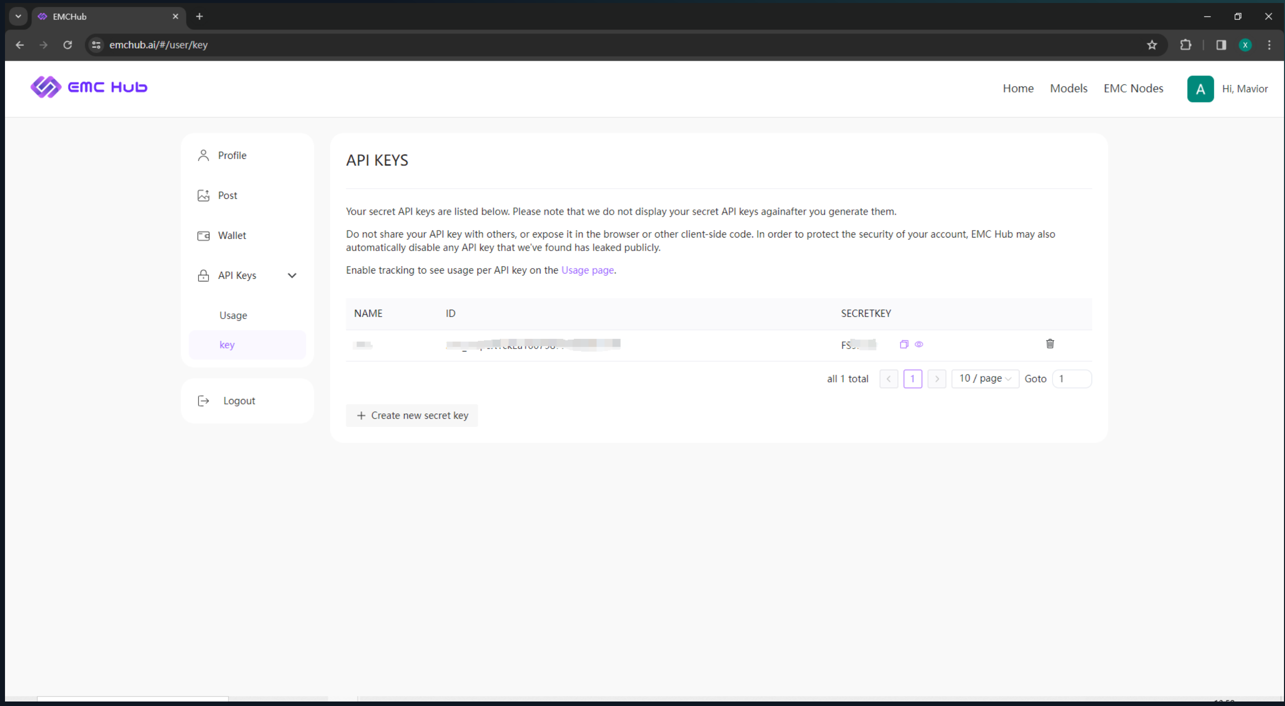
You will pay 0.5446326452807582 EMC

Top-up

AI HOBBYIST	AI ARTIST	Custom Pay
$ 7.99 ~~10~~	$ 19.99 ~~25~~	$ 1
10000 credits	25000 credits	1000 credits

Manage api secret

- Check the api secret



API KEYS

Your secret API keys are listed below. Please note that we do not display your secret API keys againafter 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, EMC Hub may also automatically disable any API key that we've found has leaked publicly.

Enable tracking to see usage per API key on the Usage page.

NAME	ID	SECRETKEY
[redacted]	[redacted]	FS[redacted]

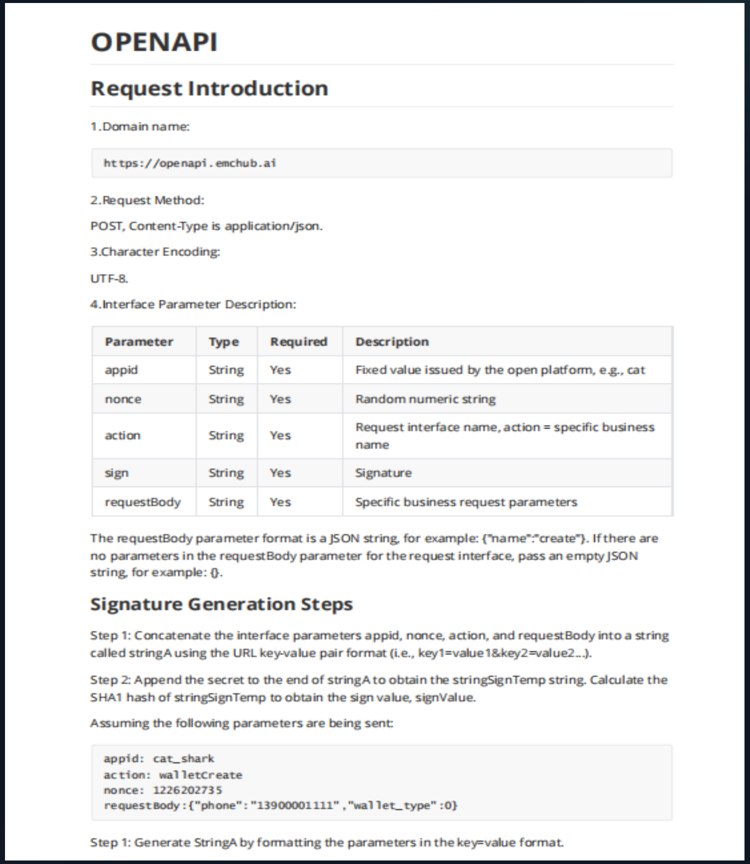
all 1 total 1 10 / page Goto 1

+ Create new secret key

Call apis with api secret

- Call the apis hosted on emc hub with your api secret.
- For detailed-introduction of how to request api, please refer to the document below.

emc_hub_open_api_guide.pdf



OPENAPI

Request Introduction

1.Domain name:

```
https://openapi.emchub.ai
```

2.Request Method:

POST, Content-Type is application/json.

3.Character Encoding:

UTF-8.

4.Interface Parameter Description:

Parameter	Type	Required	Description
appid	String	Yes	Fixed value issued by the open platform, e.g., cat
nonce	String	Yes	Random numeric string
action	String	Yes	Request interface name, action = specific business name
sign	String	Yes	Signature
requestBody	String	Yes	Specific business request parameters

The requestBody parameter format is a JSON string, for example: {"name":"create"}. If there are no parameters in the requestBody parameter for the request interface, pass an empty JSON string, for example: {}.

Signature Generation Steps

Step 1: Concatenate the interface parameters appid, nonce, action, and requestBody into a string called stringA using the URL key-value pair format (i.e., key1=value1&key2=value2...).

Step 2: Append the secret to the end of stringA to obtain the stringSignTemp string. Calculate the SHA1 hash of stringSignTemp to obtain the sign value, signValue.

Assuming the following parameters are being sent:

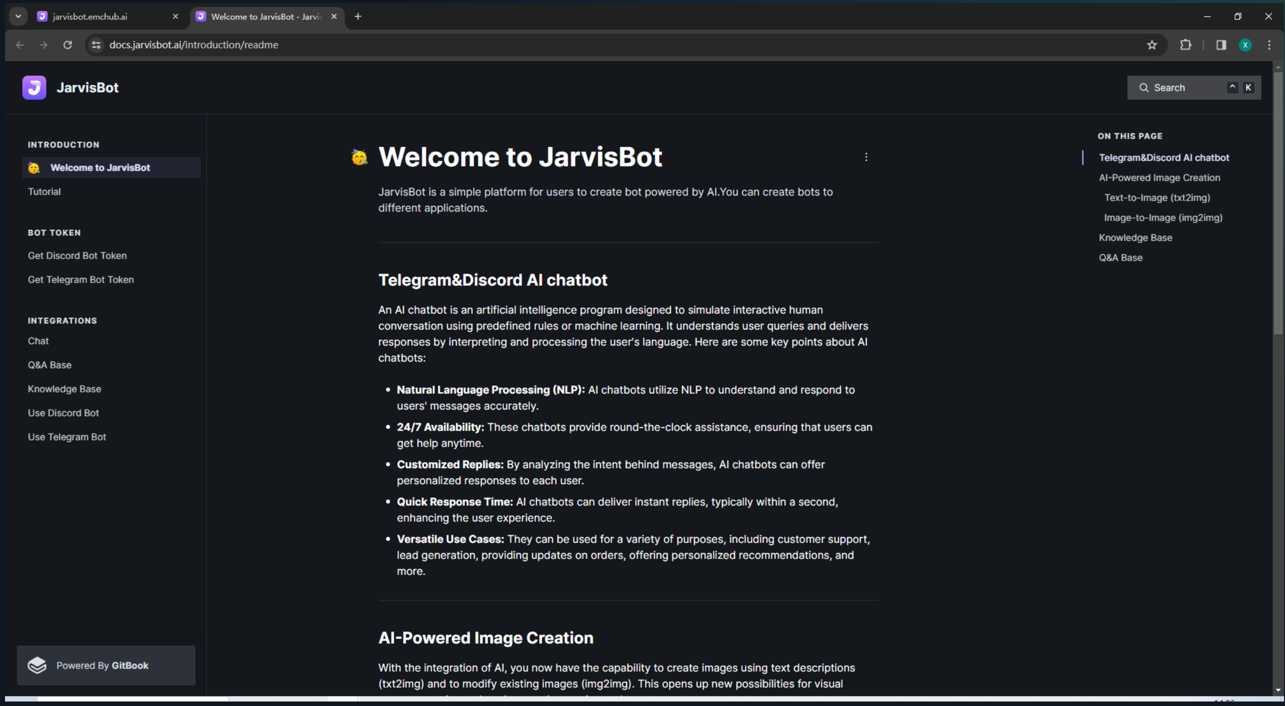
```
appid: cat_shark
action: walletCreate
nonce: 1226202735
requestBody:{"phone":"13900001111","wallet_type":0}
```

Step 1: Generate StringA by formatting the parameters in the key=value format.

JarvisBot

- JarvisBot is a simple platform for users to create bot powered by AI
- Hosted on EMC hub
- 3 major capabilities integrated.
  QA Base
  Knoweledge Base
  Image Creation (txt2img/img2img)

https://jarvisbot.emchub.ai



Welcome to JarvisBot

JarvisBot is a simple platform for users to create bot powered by AI.You can create bots to different applications.

Telegram&Discord AI chatbot

An AI chatbot is an artificial intelligence program designed to simulate interactive human conversation using predefined rules or machine learning. It understands user queries and delivers responses by interpreting and processing the user's language. Here are some key points about AI chatbots:

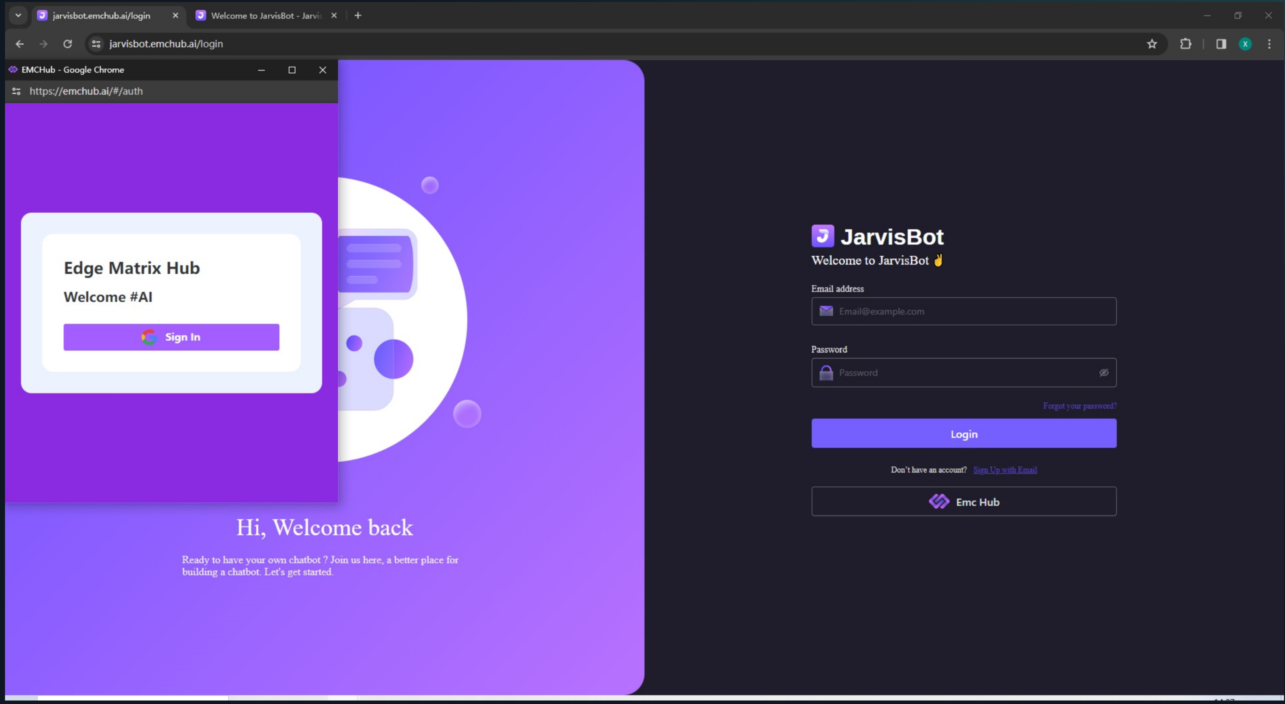
- **Natural Language Processing (NLP):** AI chatbots utilize NLP to understand and respond to users' messages accurately.
- **24/7 Availability:** These chatbots provide round-the-clock assistance, ensuring that users can get help anytime.
- **Customized Replies:** By analyzing the intent behind messages, AI chatbots can offer personalized responses to each user.
- **Quick Response Time:** AI chatbots can deliver instant replies, typically within a second, enhancing the user experience.
- **Versatile Use Cases:** They can be used for a variety of purposes, including customer support, lead generation, providing updates on orders, offering personalized recommendations, and more.

AI-Powered Image Creation

With the integration of AI, you now have the capability to create images using text descriptions (txt2img) and to modify existing images (img2img). This opens up new possibilities for visual

JarvisBot

- Sign in with Google account
- Share the login status with EMC hub



Hi, Welcome back

Ready to have your own chatbot ? Join us here, a better place for building a chatbot. Let's get started.

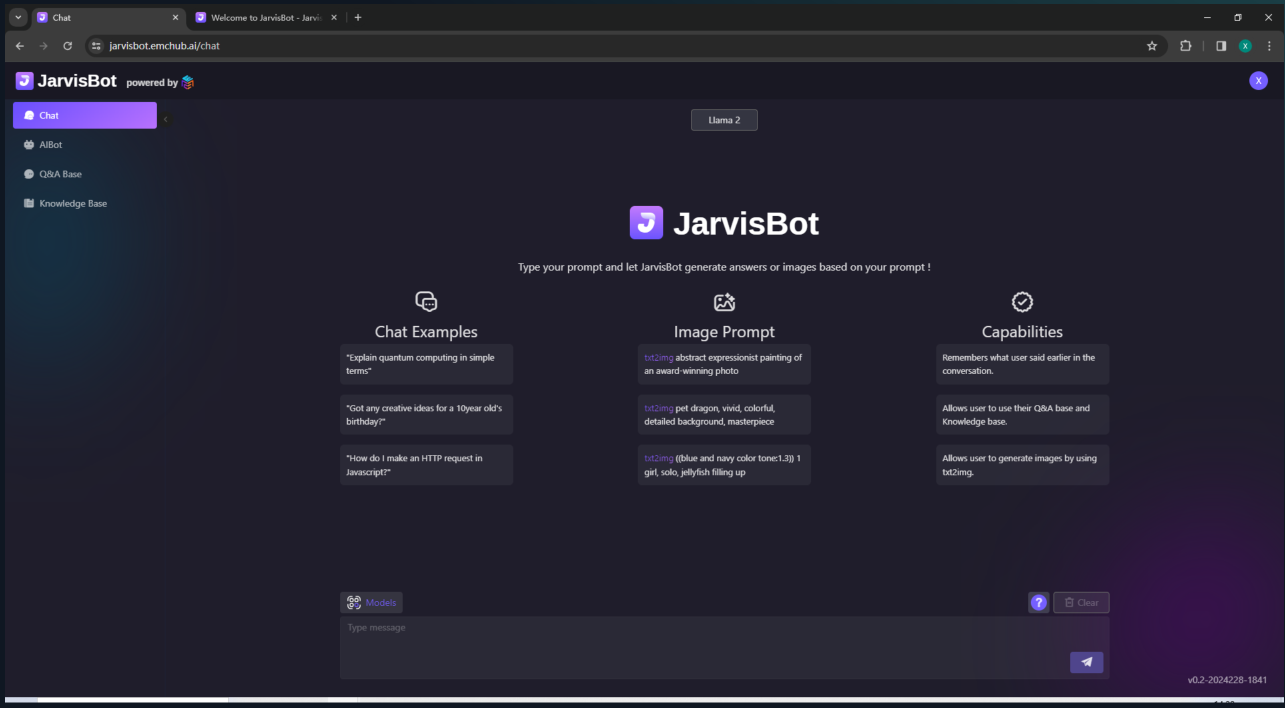
Welcome to JarvisBot ✌

Don't have an account? Sign Up with Email

https://jarvisbot.emchub.ai/login

JarvisBot

- Welcome page



Type your prompt and let JarvisBot generate answers or images based on your prompt !

Chat Examples

"Explain quantum computing in simple terms"

"Got any creative ideas for a 10year old's birthday?"

"How do I make an HTTP request in Javascript?"

Image Prompt

txt2img abstract expressionist painting of an award-winning photo

txt2img pet dragon, vivid, colorful, detailed background, masterpiece

txt2img ((blue and navy color tone:1.3)) 1 girl, solo, jellyfish filling up

Capabilities

Remembers what user said earlier in the conversation.

Allows user to use their Q&A base and Knowledge base.

Allows user to generate images by using txt2img.

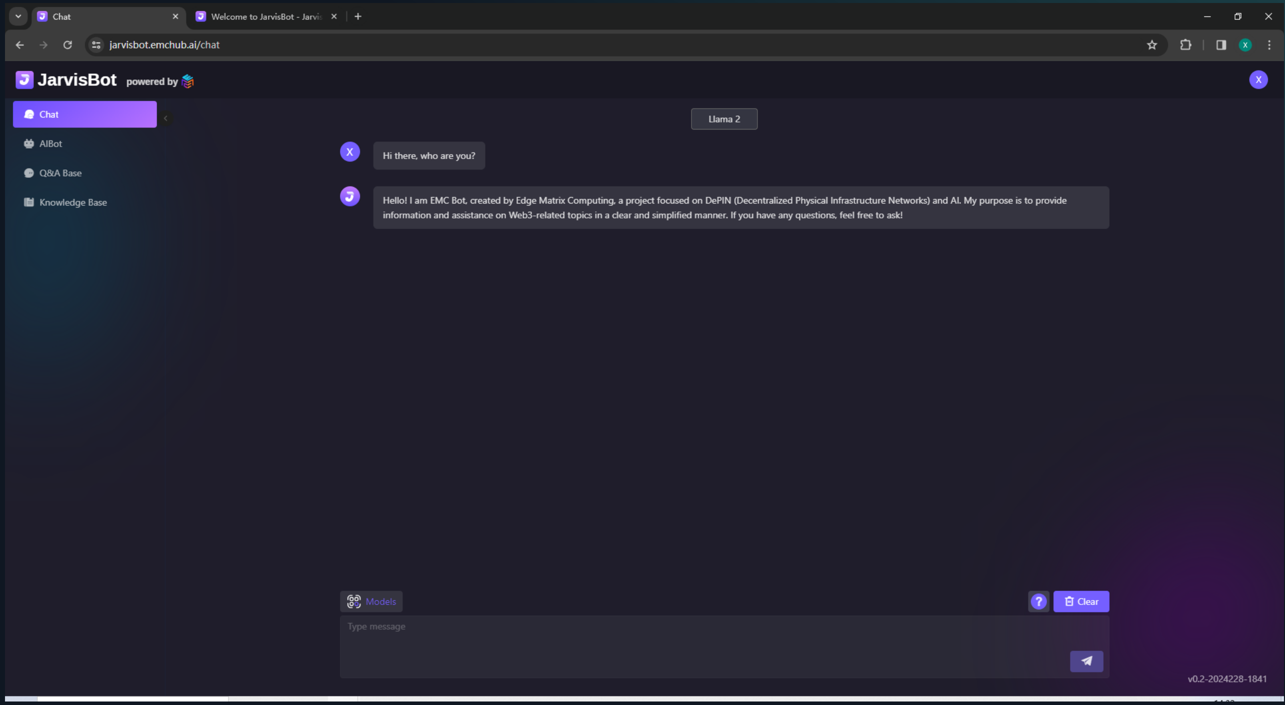
v0.2-2024228-1841

https://jarvisbot.emchub.ai

JarvisBot

- Chat with JarvisBot
  - QA Base
  - Knoweledge Base

https://jarvisbot.emchub.ai

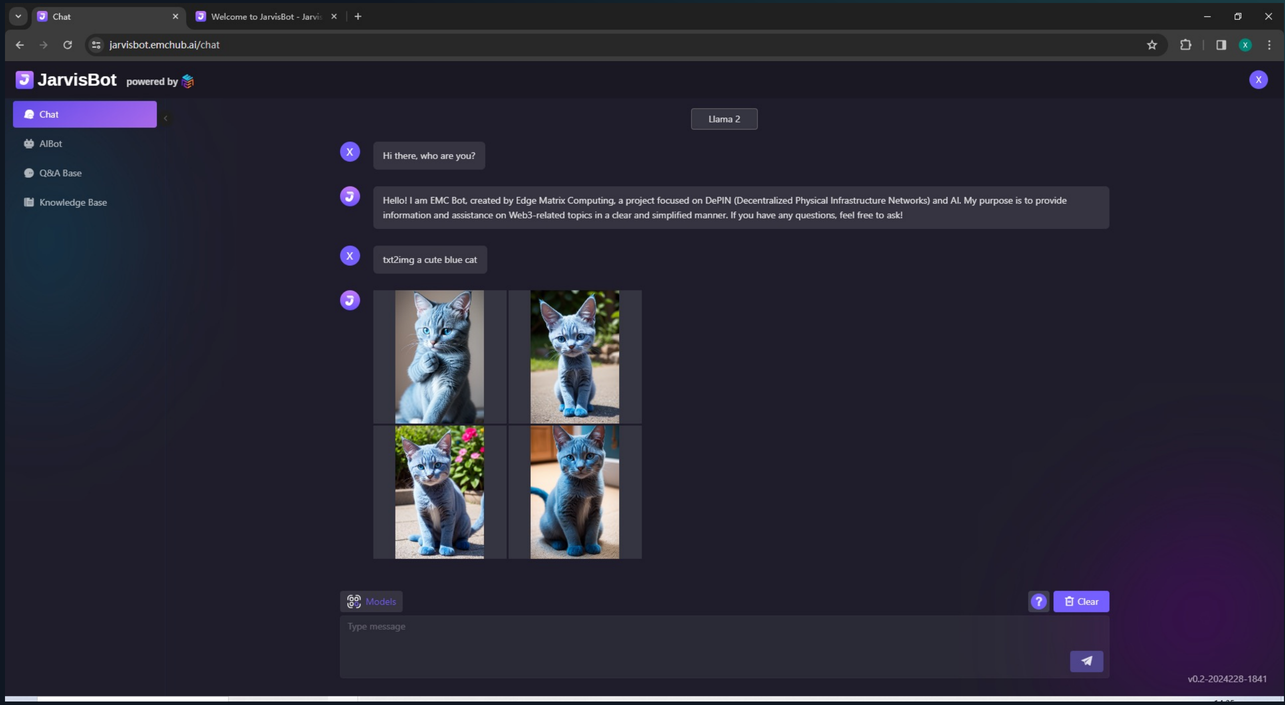


Hi there, who are you?

Hello! I am EMC Bot, created by Edge Matrix Computing, a project focused on DePIN (Decentralized Physical Infrastructure Networks) and AI. My purpose is to provide information and assistance on Web3-related topics in a clear and simplified manner. If you have any questions, feel free to ask!

JarvisBot

- Image generation



X: Hi there, who are you?

Hello! I am EMC Bot, created by Edge Matrix Computing, a project focused on DePIN (Decentralized Physical Infrastructure Networks) and AI. My purpose is to provide information and assistance on Web3-related topics in a clear and simplified manner. If you have any questions, feel free to ask!

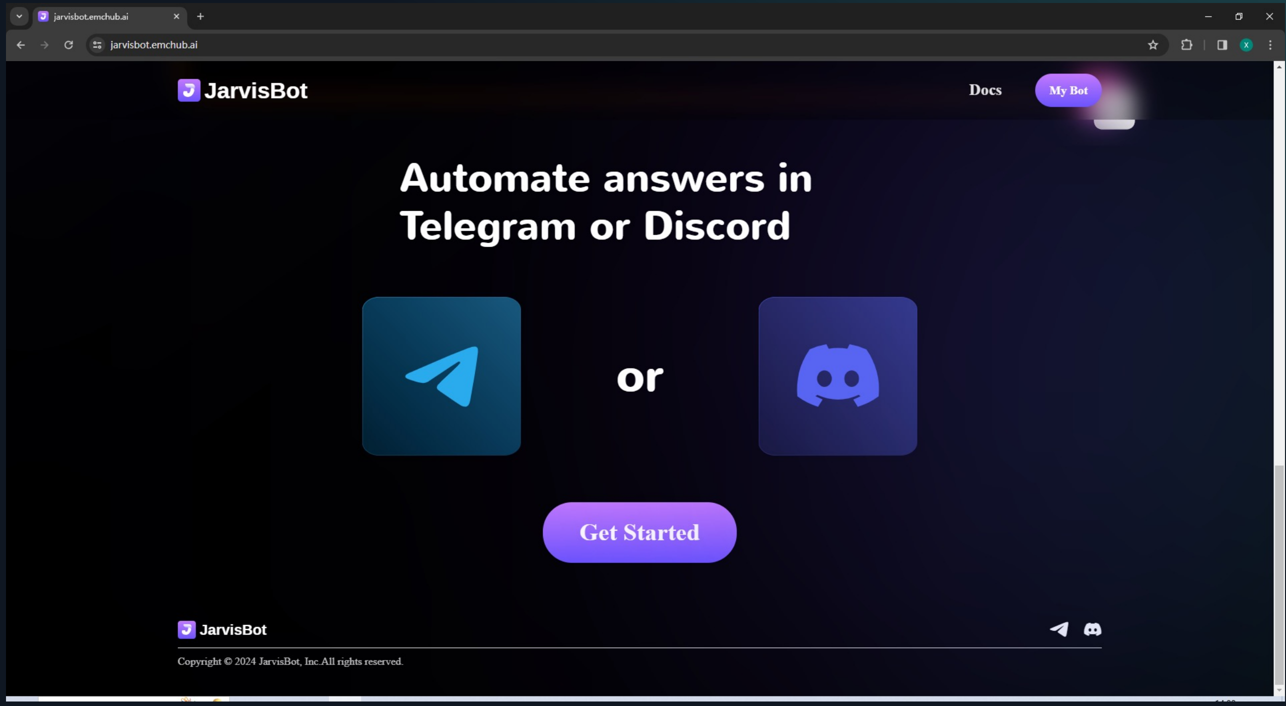
X: txt2img a cute blue cat

v0.2-2024228-1841

https://jarvisbot.emchub.ai

JarvisBot

- Integrate with Telegram & Discord



Automate answers in Telegram or Discord

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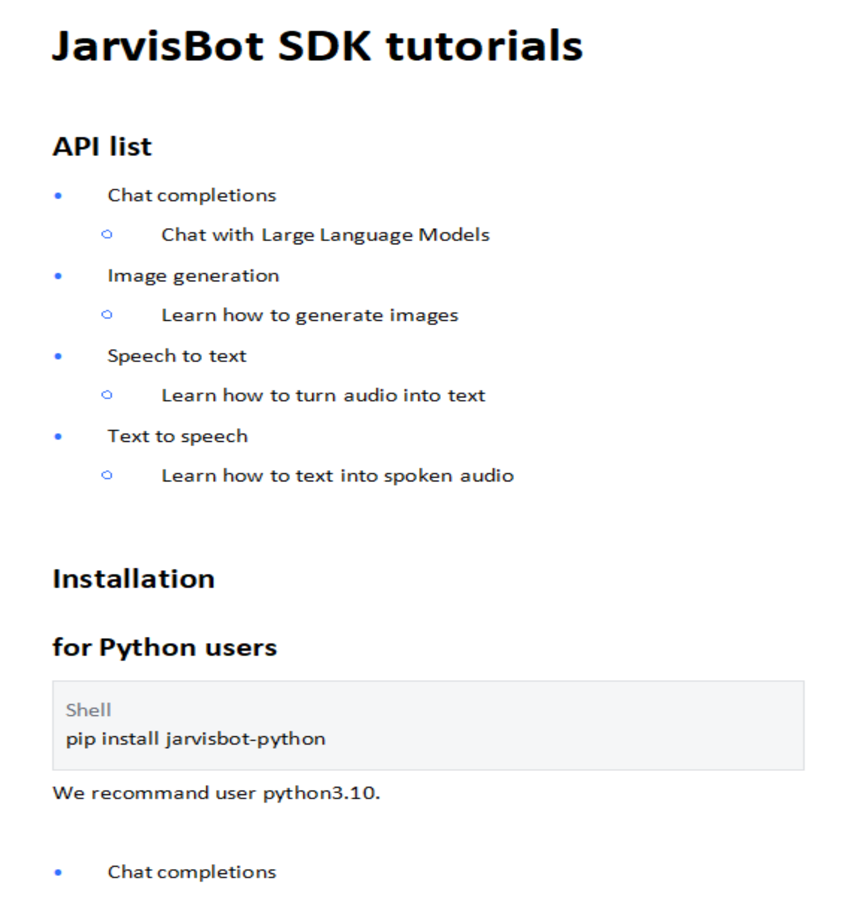
https://docs.jarvisbot.ai

JarvisBot SDK - python

- Chat completions
- Image generation
- Speech to text
- Text to speech

JarvisBot SDK tutorials.pdf



JarvisBot SDK tutorials

API list

- Chat completions
  - Chat with Large Language Models
- Image generation
  - Learn how to generate images
- Speech to text
  - Learn how to turn audio into text
- Text to speech
  - Learn how to text into spoken audio

Installation

for Python users

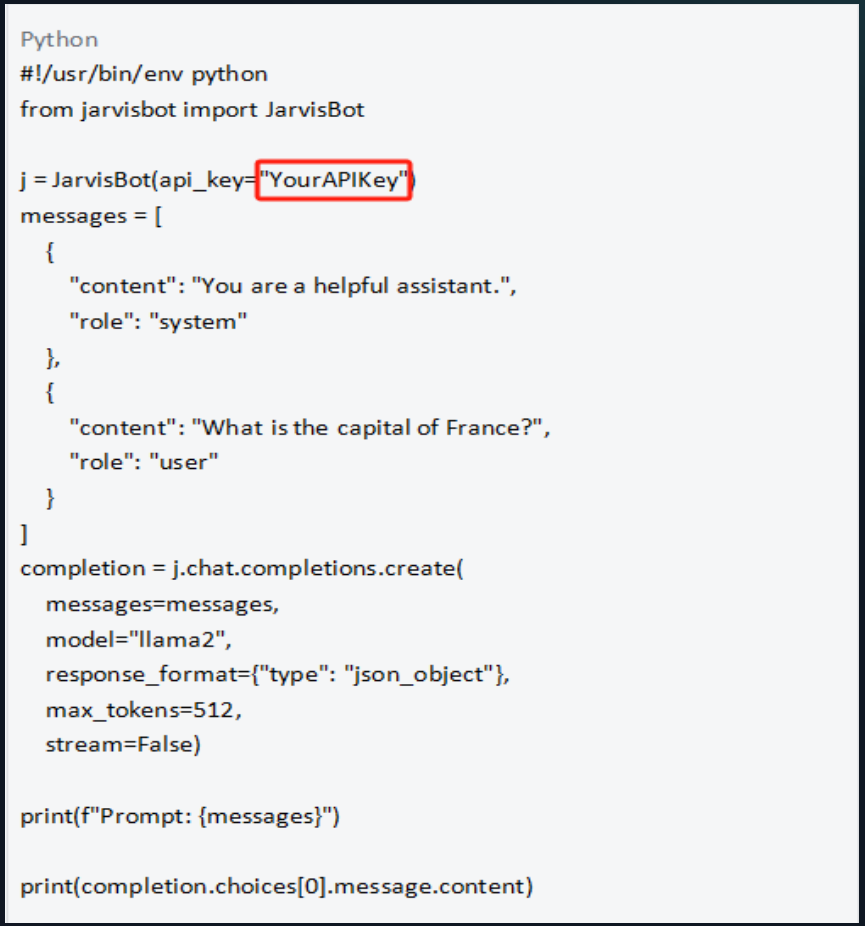
```
Shell
pip install jarvisbot-python
```

We recommand user python3.10.

- Chat completions

JarvisBot SDK - python

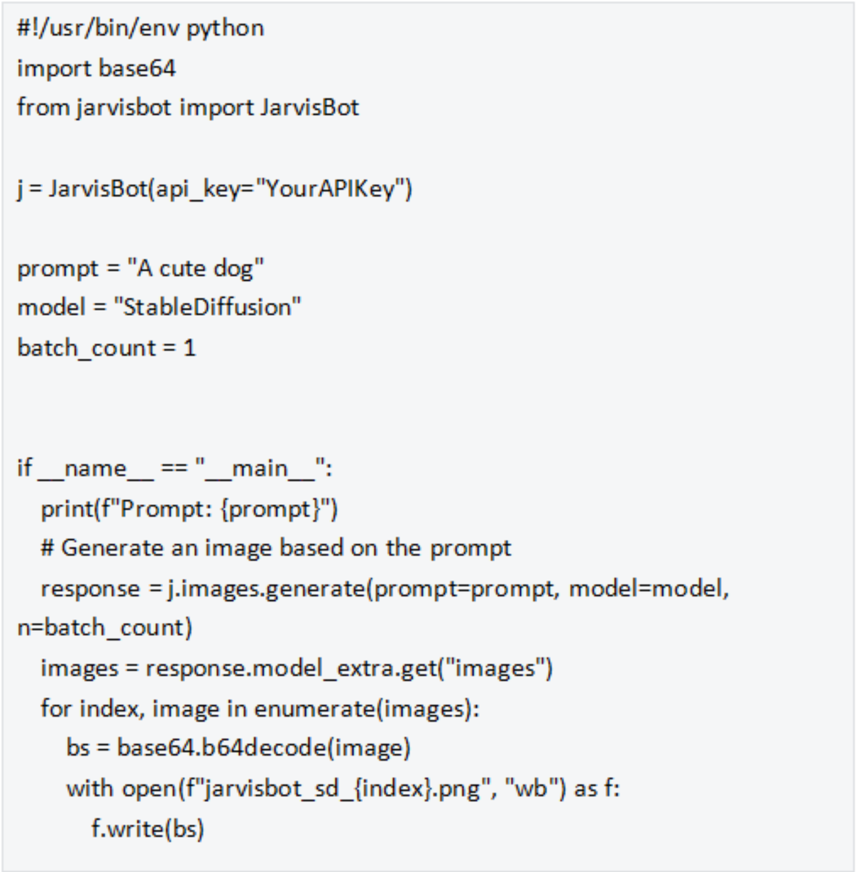
- Chat completions
- Replace the api_key with your own api_secret from emc hub



```
Python
#!/usr/bin/env python
from jarvisbot import JarvisBot

j = JarvisBot(api_key="YourAPIKey")
messages = [
  {
    "content": "You are a helpful assistant.",
    "role": "system"
  },
  {
    "content": "What is the capital of France?",
    "role": "user"
  }
]
completion = j.chat.completions.create(
  messages=messages,
  model="llama2",
  response_format={"type": "json_object"},
  max_tokens=512,
  stream=False)

print(f"Prompt: {messages}")

print(completion.choices[0].message.content)
```

JarvisBot SDK - python

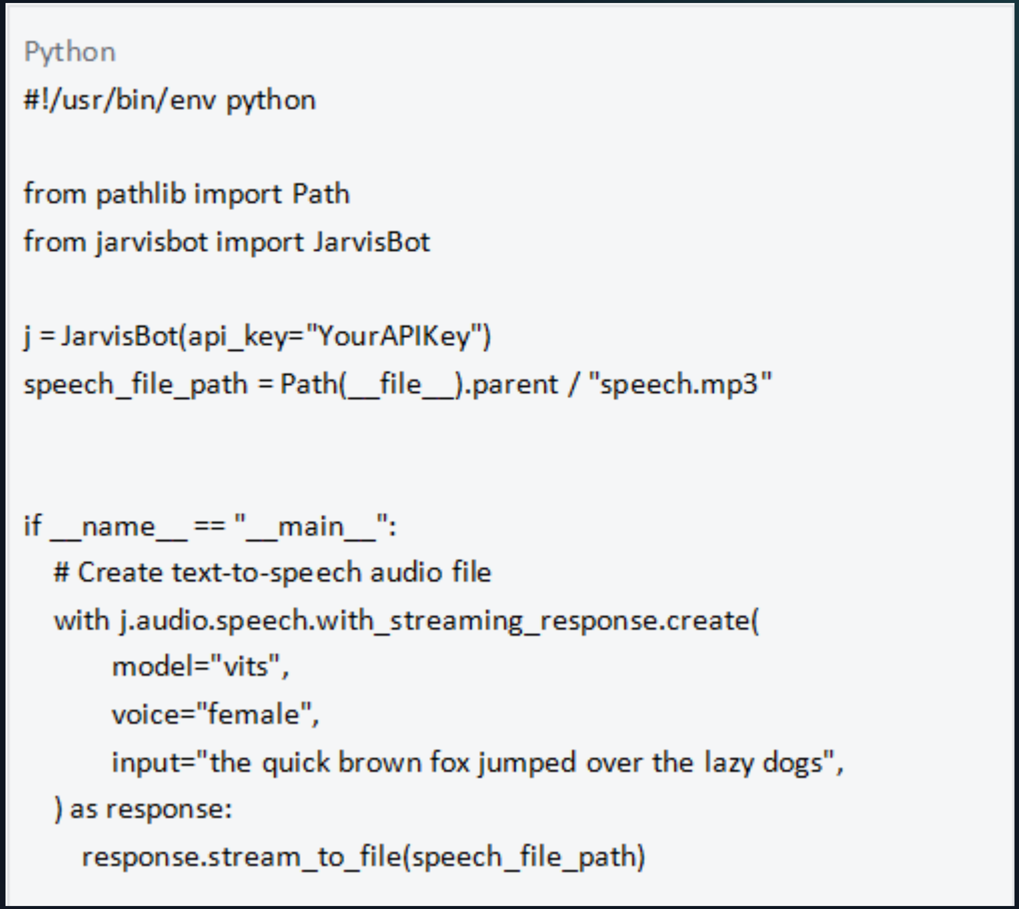
- Image generation
- Replace the api_key with your own api_secret from emc hub



```
#!/usr/bin/env python
import base64
from jarvisbot import JarvisBot

j = JarvisBot(api_key="YourAPIKey")

prompt = "A cute dog"
model = "StableDiffusion"
batch_count = 1


if __name__ == "__main__":
    print(f"Prompt: {prompt}")
    # Generate an image based on the prompt
    response = j.images.generate(prompt=prompt, model=model,
n=batch_count)
    images = response.model_extra.get("images")
    for index, image in enumerate(images):
        bs = base64.b64decode(image)
        with open(f"jarvisbot_sd_{index}.png", "wb") as f:
            f.write(bs)
```

JarvisBot SDK - python

- Speech to text
- Replace the api_key with your own api_secret from emc hub

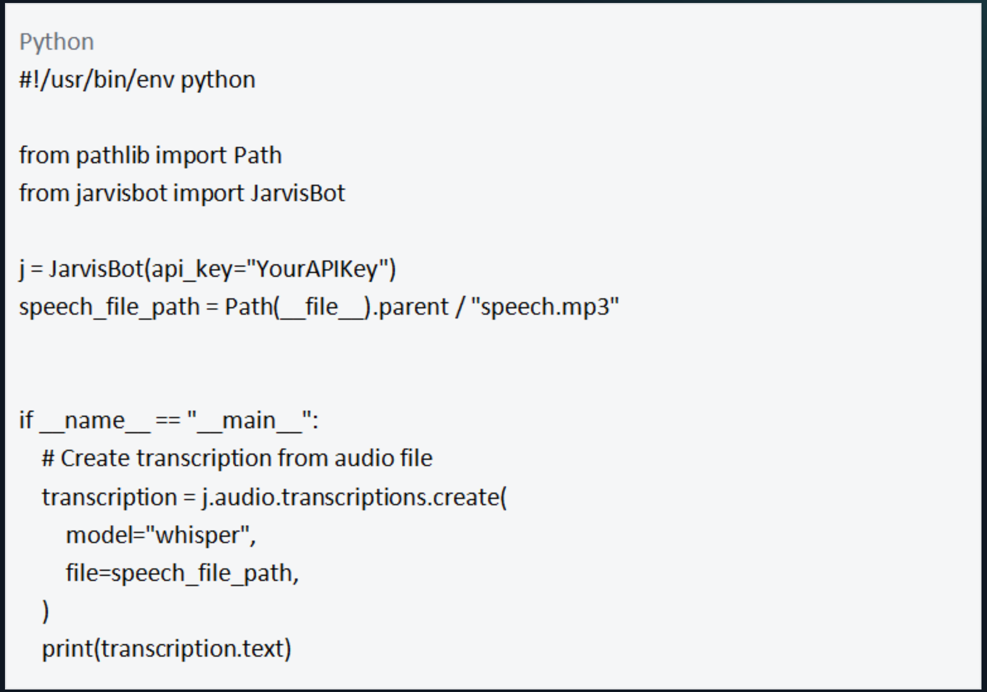


Python

```
#!/usr/bin/env python

from pathlib import Path
from jarvisbot import JarvisBot

j = JarvisBot(api_key="YourAPIKey")
speech_file_path = Path(__file__).parent / "speech.mp3"


if __name__ == "__main__":
    # Create text-to-speech audio file
    with j.audio.speech.with_streaming_response.create(
            model="vits",
            voice="female",
            input="the quick brown fox jumped over the lazy dogs",
    ) as response:
        response.stream_to_file(speech_file_path)
```

JarvisBot SDK - python

- Text to speech
- Replace the api_key with your own api_secret from emc hub



Python

```python
#!/usr/bin/env python

from pathlib import Path
from jarvisbot import JarvisBot

j = JarvisBot(api_key="YourAPIKey")
speech_file_path = Path(__file__).parent / "speech.mp3"


if __name__ == "__main__":
  # Create transcription from audio file
  transcription = j.audio.transcriptions.create(
    model="whisper",
    file=speech_file_path,
  )
  print(transcription.text)
```

JarvisBot SDK

- Coming soon…
  - **Java SDK**
  - **JavaScript SDK**

Join in the revolution

Hackathon Website:
https://edgematrix.pro/#/hackathon

Register:
https://build.bewater.xyz/en/campaigns/QK6e-DeAI-Hackathon-2024

EDGE MATRIX
DeAI 2024
Hackathon
is Now Open!

Shaping the Future with DeAI - Innovate, Incubate, Accelerate

Registration starts Feb 29th

Open to individuals or teams worldwide interested in AI and Web3

Offering up to $1,000,000 in prizes, computing resources and funding support, the hackathon aims to advance the development and implementation of AI applications and products within the EMC ecosystem

Host
EDGE MATRIX
Cohost
Universities and Institutions Partners
Media Partners
Community Partners

About EMC

Website: https://www.edgematrix.pro/#/home

Whitepaper: https://whitepaper.edgematrix.pro/en/

X (Twiiter) : https://twitter.com/EMCprotocol

Discord: https://discord.com/invite/qg6QXBqB7r