Dify Basic Functions

1. Course Content

- Understand and master the basic operations and functions of Dify

2. Starting the Dify Service

- Connect to the car's infotainment system via VNC or SSH. Enter the following command in the terminal:

```
sh ~/bringup_dify.sh
```

```
ROS_DOMAIN_ID: 62 | ROS: humble
my_robot_type: M1 | my_lidar: c1 | my_camera: usb
--------------------------------------------------------
jetson@yahboom:~$ sh ~/bringup_dify.sh
WARN[0000] The "DB_USERNAME" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_DATABASE" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_PASSWORD" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_PASSWORD" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_DATABASE" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_USERNAME" variable is not set. Defaulting to a blank string.
WARN[0000] The "CERTBOT_EMAIL" variable is not set. Defaulting to a blank string
.
WARN[0000] The "CERTBOT_DOMAIN" variable is not set. Defaulting to a blank strin
g.
WARN[0000] The "DB_DATABASE" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_PASSWORD" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_USERNAME" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_USERNAME" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_DATABASE" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_PASSWORD" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_DATABASE" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_PASSWORD" variable is not set. Defaulting to a blank string.
WARN[0000] The "DB_USERNAME" variable is not set. Defaulting to a blank string.
[+] Running 10/10
 ✔ Container docker-sandbox-1          Runni...                            0.0s
 ✔ Container docker-web-1              Running                             0.0s
 ✔ Container docker-ssrf_proxy-1       Ru...                               0.0s
 ✔ Container docker-db-1               Healthy                             0.5s
 ✔ Container docker-redis-1            Running                             0.0s
 ✔ Container docker-worker_beat-1      R...                                0.0s
 ✔ Container docker-plugin_daemon-1    Running                             0.0s
 ✔ Container docker-api-1              Running                             0.0s
 ✔ Container docker-worker-1           Runnin...                           0.0s
 ✔ Container docker-nginx-1            Running                             0.0s
jetson@yahboom:~$
```

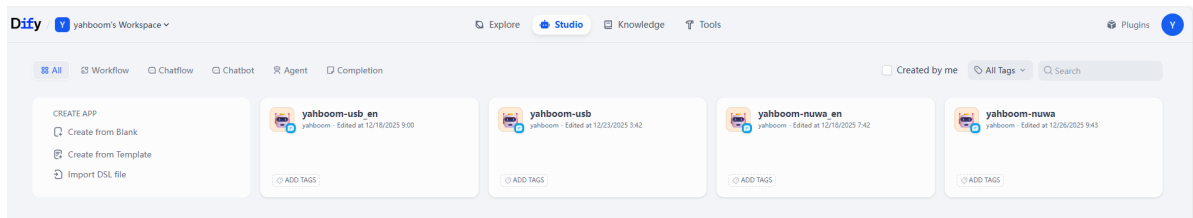- View the car's infotainment system's IP address. This can be done through the OLED screen, `ifconfig`, or directly in the terminal.


```
                            jetson@yahboom: ~
                      jetson@yahboom: ~ 80x24
                       [System Information]
------------------------------------------------------------------
IP_Address_1: 192.168.2.49
IP_Address_2: 192.168.12.34
MACHINE: OrinNx          | ROS_DISTRO:  humble    | ROS_DOMAIN_ID:  30
ROBOT_TYPE: ROSMASTER-M3Pro | CAMERA_TYPE: dabai_dcw2 | RADAR: Tmini-plus*2
------------------------------------------------------------------
jetson@yahboom:~$
```

- Enter the car's infotainment system's IP address directly into the browser's address bar to access the Dify management page. If this is the first time logging in, you will need to use a username and password. You can select the language in the upper left corner.

> [!NOTE]
>
> - Account: `yahboom@163.com`
>
> - Password: `yahboom123`
>
> - All account passwords, intelligent agent applications, and RAG data are stored locally.
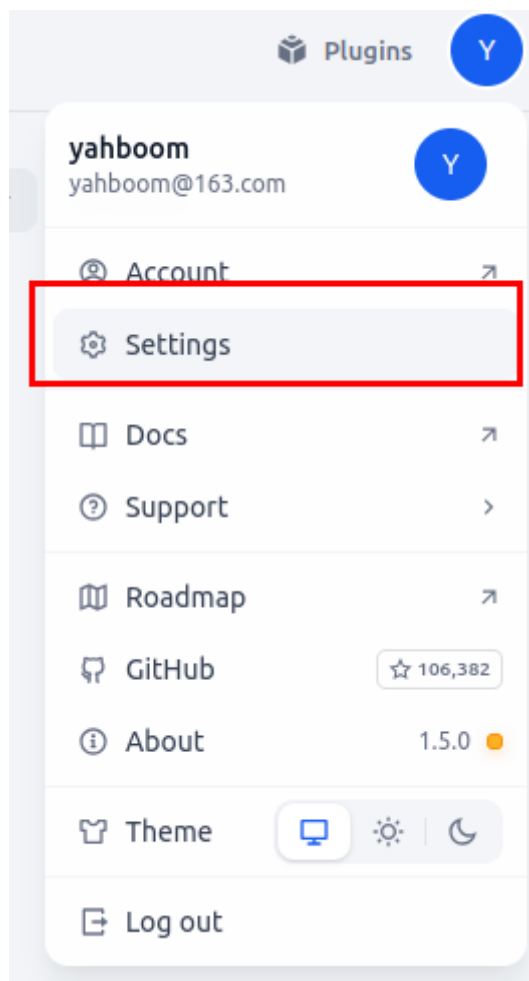
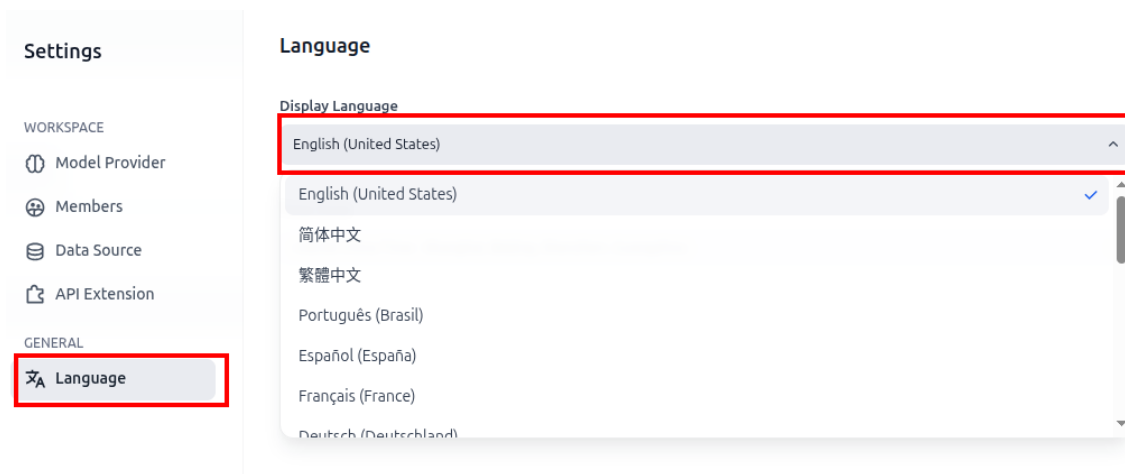- The Dify main interface is shown below.

3. Basic Usage

> [!TIP]
>
> - If you need to use the model supplier's cloud AI model, please ensure the car's infotainment system is connected to the internet.
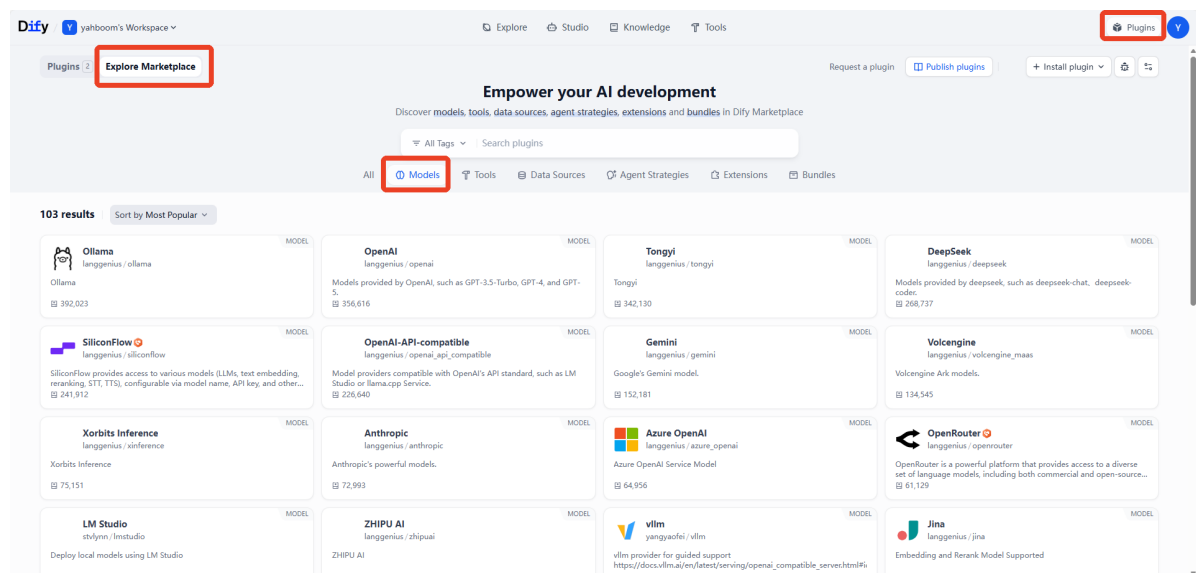
3.1 Switching Dify Language

- Generally, the Dify page will open with the browser language. If you need to switch manually, you can do so in the settings.
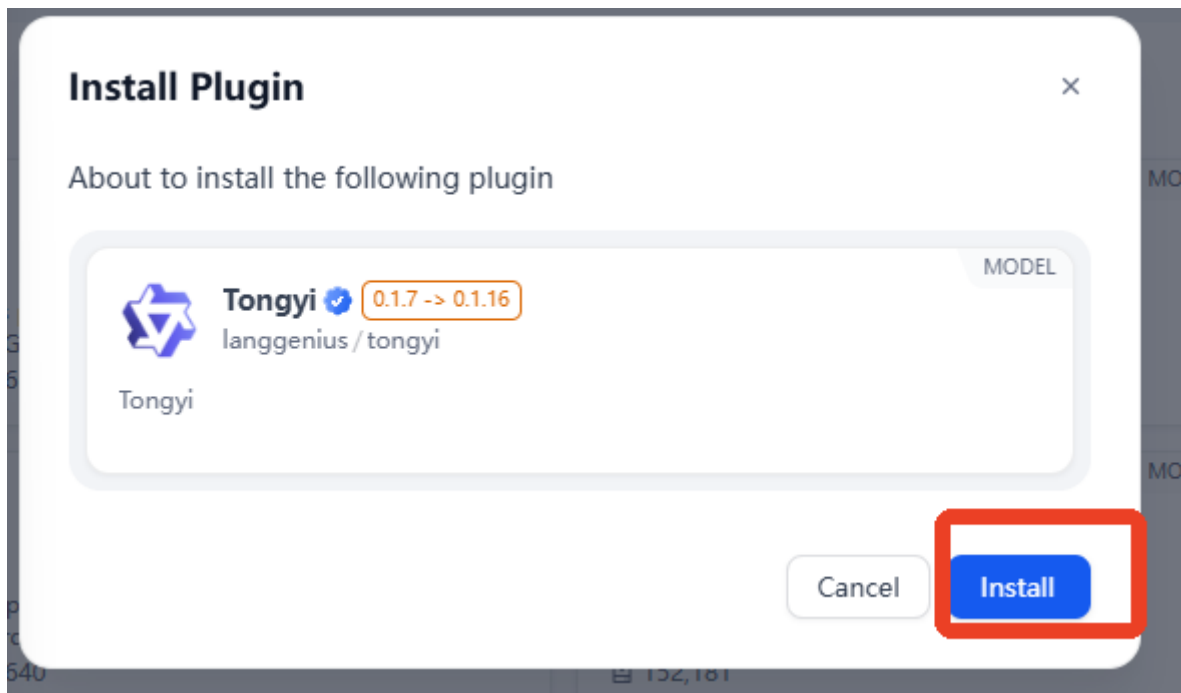
3.2 Integrating Model Provider Services

- Dify has built-in model interface plugins for different model providers. These plugins are maintained and upgraded by their respective model providers. We can install the corresponding model provider's plugin to quickly integrate cloud models from different manufacturers.
- Click on Plugins in the upper left corner of the homepage -> Explore Marketplace -> Models to enter the model interface plugin page.
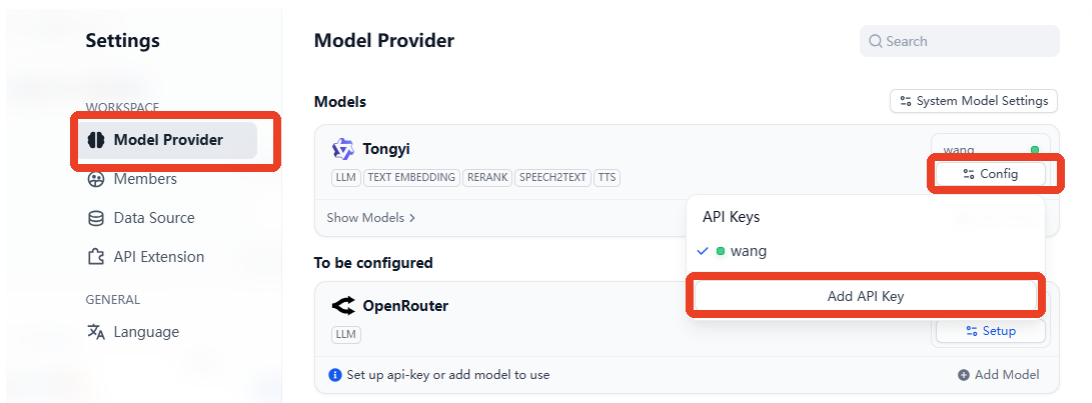

- This example demonstrates how to install and configure the Tongyi Qianwen plugin. The method for other plugins is the same; simply click to install.

- Afterwards, in the "Model Supplier" field of the "Settings" page, enter the API-KEY obtained from the corresponding platform. If the API-KEY is available, the corresponding plugin's API-KEY will show a green light.

> [!TIP]
>
> - For more detailed API-KEY configuration steps and testing methods, please refer to section 6. Configuring API-KEY in the previous chapter.
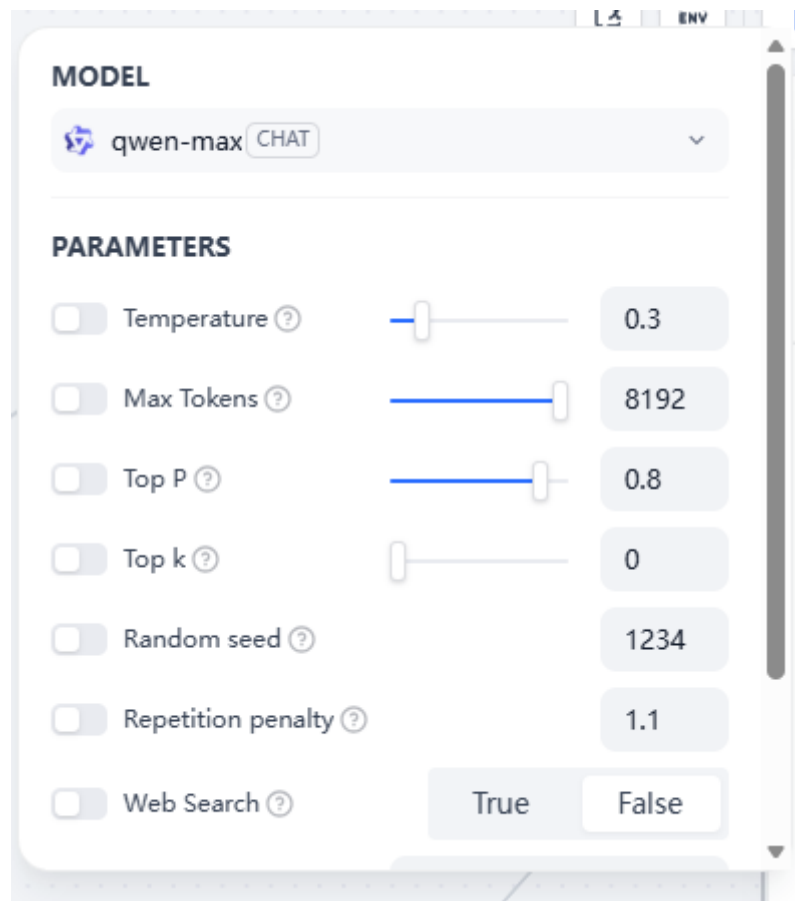

3.3 Switching Models in AI Applications

- For already developed AI agent applications, you can quickly switch between different models to test their effects. Here, we use ROSMASTER-M3. Taking the core AI agent multi_brains in Pro as an example, open the AI agent application on the homepage.
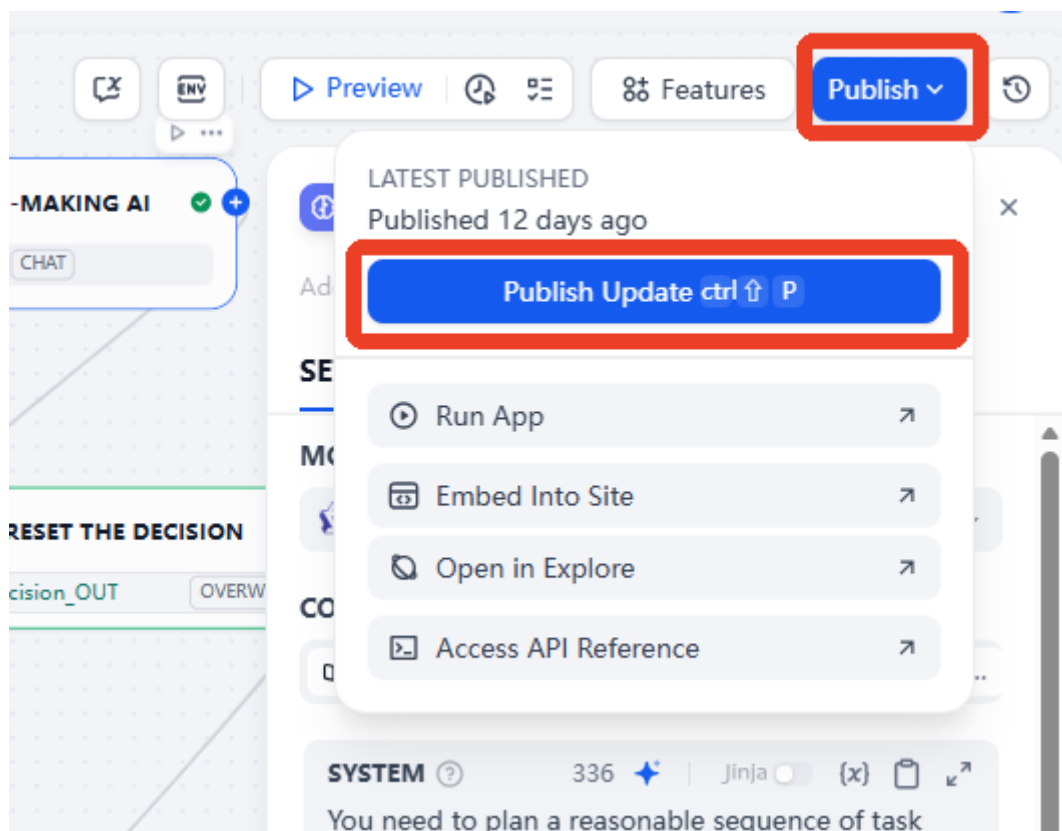

- There are three core AIs: Task Routing, Decision-Making AI, and Execution-Making AI.

- Here, we take switching the Decision-Making AI as an example. Open the `Decision-Making AI` card, and you can switch between different vendor models in the model selection bar.

- We can also fine-tune the parameters of the model's response effect. The detailed function of each parameter can be viewed with the mouse.
- Taking temperature as an example:

```
This parameter controls the degree of randomness and diversity. The temperature
value controls the smoothing of the probability distribution for each candidate
word during text generation. A higher temperature value reduces the peak of the
probability distribution, allowing more low-probability words to be selected,
resulting in more diverse generation results; while a lower temperature value
enhances the peak of the probability distribution, making high-probability words
more likely to be selected, resulting in more predictable generation results.
```

> [!TIP]
>
> - Beginners can generally use the default parameters without adjustment.

- Note that after modifying the AI application, you need to click Publish—Publish Update to save the changes.
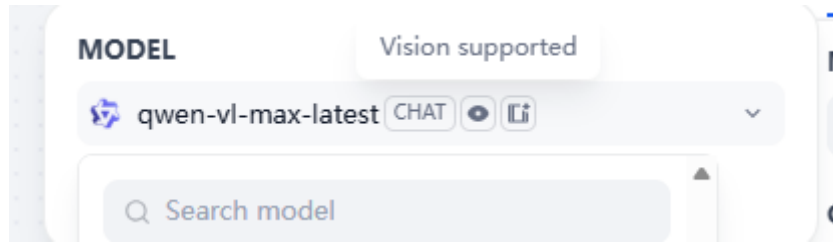

[!WARNING]

Important Notes

- For the execution layer model, because it processes images, only multimodal models can be used (visual models will have special symbols as shown in the image below).

- There are no restrictions on the model for task routing and decision layer models.
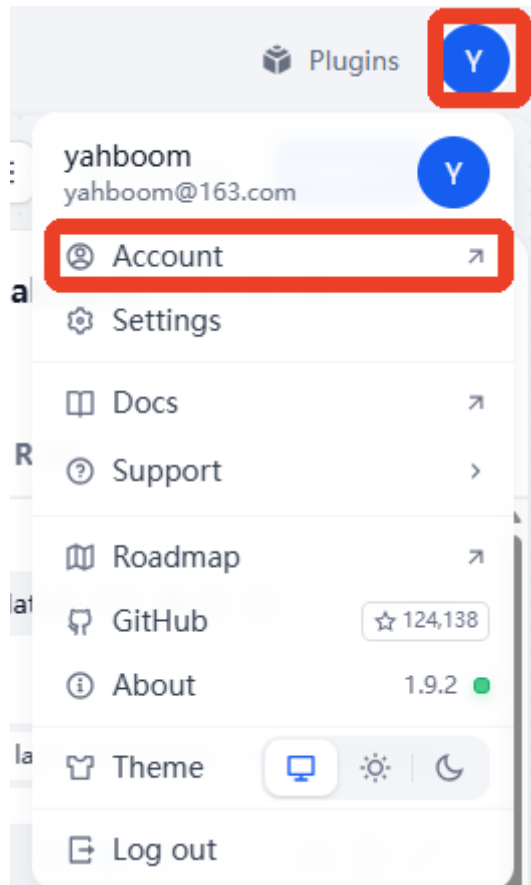- Task routing can choose a model with small parameters to improve response speed.

4. Account Settings

> [!NOTE]
>
> The dify account is information stored locally and has no privacy risks. The ROSMASTER-M3 Pro comes with a default administrator account. This section of the tutorial should only be consulted if you need to modify the account information.

- Click your avatar in the upper right corner —> Account

- Account information is as follows; you can modify the information as needed.

My Account

Y **yahboom**
yahboom@163.com

Name

| yahboom | Edit |

Email

| yahboom@163.com | Change |

Password
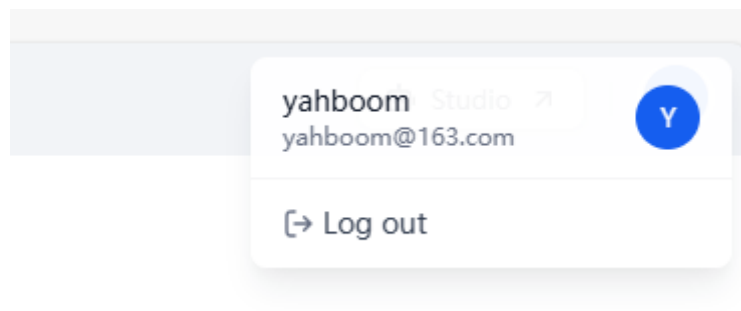You can set a permanent password if you don't want to use temporary login codes

Reset password

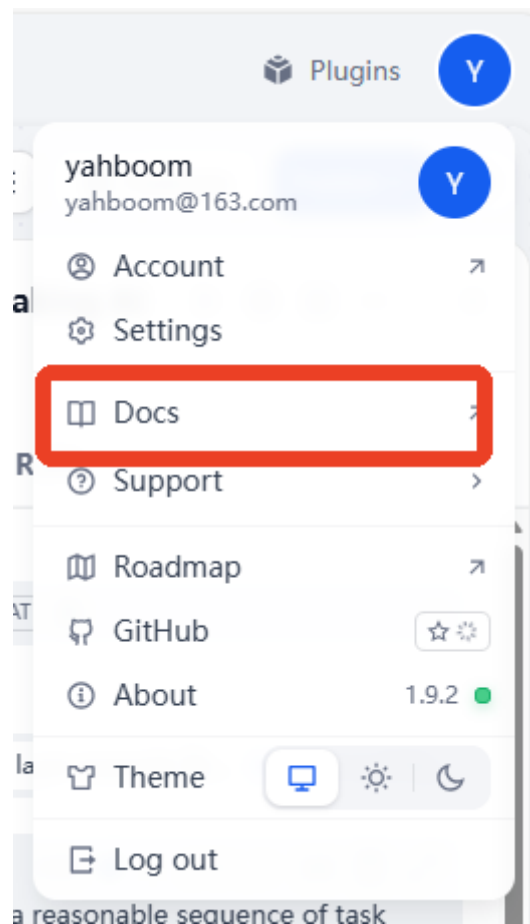**Account's data**
The user data of your account.

| Show 4 apps | > |

- To log out, click your avatar again.

yahboom Studio ↗   Y
yahboom@163.com

[→ Log out

5. Development Documentation

- For users with further development needs, you can view more detailed development documentation. Click your avatar in the upper right corner —> View Help Documentation

- This will open the Dify online developer documentation page. You can select different content from the dropdown list on the left.

Dify

Search...   Ctrl K

Use Dify   ^

Use Dify   ✓

Self Host

API Reference

Develop Plugin

Nodes ⌄

User Input

Trigger ›

LLM

Knowledge Retrieval

Answer

Output

Agent