

# Homework 2: REST API

方嘉聪, 2200017849

## 1. Weather Client

比较简单, `python weather_client.py -h` 查看用法.

```
(base) fangjiacong:方嘉聪-2200017849/ (main) $ python weather_client.py --district_id 110100 --data_type now [21:06:03]
{'status': 0, 'result': {'location': {'country': '中国', 'province': '北京市', 'city': '北京市', 'name': '北京', 'id': '110100'}, '
now': {'text': '晴', 'temp': 22, 'feels_like': 22, 'rh': 69, 'wind_class': '1级', 'wind_dir': '西南风', 'prec_1h': 0.0, 'clouds': 7
, 'vis': 16700, 'aqi': 33, 'pm25': 16, 'pm10': 32, 'no2': 27, 'so2': 4, 'o3': 104, 'co': 0.6, 'wind_angle': 241, 'uvi': 0, 'pressur
e': 1010, 'dpt': 16, 'uptime': '20250928210000'}}, 'message': 'success'}
```

## 2. TODO-List API

```
python app.py    # 0. 启动服务器 `http://127.0.0.1:5000`

curl -X GET http://127.0.0.1:5000/todos          # 1. 查看所有待办事项

curl -X POST http://127.0.0.1:5000/todos \      # 2. 添加一个/多个待办事项
-H "Content-Type: application/json" \
-d '{"task": "description-1"}, {"task": "description-2"}'

curl -X DELETE http://127.0.0.1:5000/todos/<id> # 3. 删除一个待办事项

curl -X PUT http://127.0.0.1:5000/todos/<id> \  # 4. 更新一个待办事项
-H "Content-Type: application/json" -d '{"task": "new description"}'
```

```
(base) fangjiacong:方嘉聪-2200017849/ (main) $ curl -X POST http://127.0.0.1:5000/todos \ [21:31:10]
-H "Content-Type: application/json" \
-d '[{"task": "finish math hw1"}, {"task": "finish math hw2"}, {"task": "finish math hw3"}]'
{
  "id": 1,
  "task": "finish math hw1"
},
{
  "id": 2,
  "task": "finish math hw2"
},
{
  "id": 3,
  "task": "finish math hw3"
}
(base) fangjiacong:方嘉聪-2200017849/ (main) $ curl -X DELETE http://127.0.0.1:5000/todos/1 [21:31:50]
{"message": "(TODO-1:finish math hw1) is deleted"}
(base) fangjiacong:方嘉聪-2200017849/ (main) $ curl -X DELETE http://127.0.0.1:5000/todos/2 [21:32:00]
{"message": "(TODO-2:finish math hw2) is deleted"}
(base) fangjiacong:方嘉聪-2200017849/ (main) $ curl -X GET http://127.0.0.1:5000/todos [21:32:10]
{"3": "finish math hw3"}
(base) fangjiacong:方嘉聪-2200017849/ (main) $ curl -X PUT http://127.0.0.1:5000/todos/1 \ [21:32:16]
-H "Content-Type: application/json" \
-d '{"task": "quit math, finish coding homework"}'
{"error": "Item not found"}
(base) fangjiacong:方嘉聪-2200017849/ (main) $ curl -X PUT http://127.0.0.1:5000/todos/3 \ [21:33:05]
-H "Content-Type: application/json" \
-d '{"task": "quit math, finish coding homework"}'
{"3": "quit math, finish coding homework"}
(base) fangjiacong:方嘉聪-2200017849/ (main) $ curl -X GET http://127.0.0.1:5000/todos [21:33:11]
{"3": "quit math, finish coding homework"}
```

## 2.1 获取所有待办事项

- Endpoint: `/todos`
- Method: `GET`
- 参数: 无
- 返回值:

```
{
  "1": "task1",
  "2": "task2"
}
```

返回所有待办事项，key 为任务 id，value 为任务内容。

## 2.2 添加待办事项

- Endpoint: `/todos`
- Method: `POST`
- 参数:
  - 单个任务:

```
{"task": "description"}
```

- 多个任务:

```
[
  {"task": "description-1"},
  {"task": "description-2"}
]
```

- 返回值:
  - 单个任务:

```
{"id": 1, "task": "description"}
```

- 多个任务:

```
[
  {"id": 1, "task": "description-1"},
  {"id": 2, "task": "description-2"}
]
```

## 2.3 删除待办事项

- Endpoint: `/todos/<id>`
- Method: `DELETE`
- 参数:
  - `id`: 待删除任务的编号 (URL 路径参数)
- 返回值:
  - 成功:

```
{"message": "(TODO-1:description) is deleted"}
```

- 失败:

```
{"error": "Item not found"}
```

## 2.4 更新待办事项

- Endpoint: `/todos/<id>`
- Method: `PUT`
- 参数:
  - `id`: 待更新任务的编号 (URL 路径参数)
  - 请求体:

```
{"task": "new description"}
```

- 返回值:
  - 成功:

```
{"1": "new description"}
```

- 失败:

```
{"error": "Item not found"}
```

Remarks: API使用文档由 GPT-4.1 生成, 再由个人进行校对修改.