


目录

基础八、基于 python 的 Web 服务.....	2
8.1 安装 Flask.....	2
8.2 Flask 测试.....	2
8.2 Flask 返回显示网页	4
8.3 基于模板的方法显示网页	7

基础八、基于 python 的 Web 服务

8.1 安装 Flask

1、在 cmd 界面中，输入 `pip install flask`，如下图所示

 命令提示符

```
Microsoft Windows [版本 10.0.17134.648]
(c) 2018 Microsoft Corporation。保留所有权利。

C:\Users\LENOVO>pip install flask_
```

安装完成示意图如下

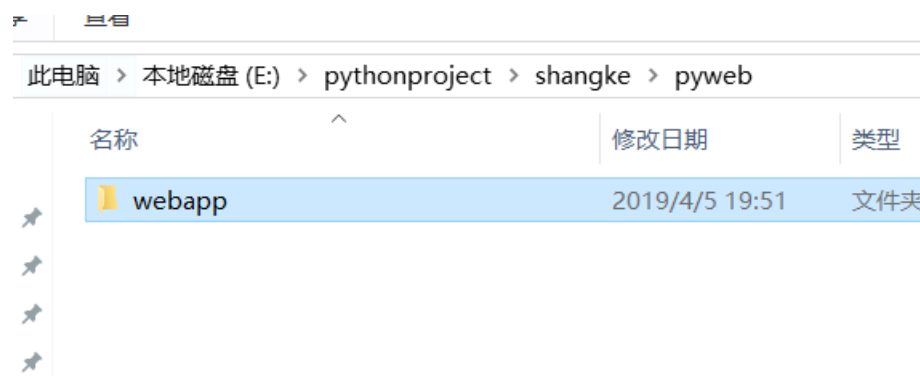
```
C:\Windows\System32\cmd.exe
Microsoft Windows [版本 10.0.17134.648]
(c) 2018 Microsoft Corporation。保留所有权利。

D:\Program Files\Python37\Scripts>pip3.7.exe install flask
Collecting flask
  Downloading https://files.pythonhosted.org/packages/7f/e7/08578774ed4536d3242b14dadb4696386634607af824ea997202cd0edb4b/Flask-1.0.2-py2.py3-none-any.whl (91kB)
    100% |#####| 92kB 381kB/s
Collecting click>=5.1 (from flask)
  Downloading https://files.pythonhosted.org/packages/fa/37/45185cb5abbc30d7257104c434fe0b07e5a195a6847506c074527aa599ec/Click-7.0-py2.py3-none-any.whl (81kB)
    100% |#####| 81kB 52kB/s
Collecting Jinja2>=2.10 (from flask)
  Downloading https://files.pythonhosted.org/packages/7f/ff/ae64bacdfc95f27a016a7bed8e8686763ba4d277a78ca76f32659220a731/Jinja2-2.10-py2.py3-none-any.whl (126kB)
    100% |#####| 133kB 756kB/s
Collecting itsdangerous>=0.24 (from flask)
  Downloading https://files.pythonhosted.org/packages/76/ae/44b03b253d6fade317f32c24d100b3b35c2239807046a4c953c7b89fa49e/itsdangerous-1.1.0-py2.py3-none-any.whl
Requirement already satisfied: Werkzeug>=0.14 in d:\program files\python37\lib\site-packages (from flask) (0.15.2)
Collecting MarkupSafe>=0.23 (from Jinja2>=2.10->flask)
  Downloading https://files.pythonhosted.org/packages/65/c6/2399700d236d1dd681af8aebff1725558cddfd6e43d7a5184a675f4711f5/MarkupSafe-1.1.1-cp37-cp37m-win_amd64.whl
Installing collected packages: click, MarkupSafe, Jinja2, itsdangerous, flask
Successfully installed Jinja2-2.10 MarkupSafe-1.1.1 click-7.0 flask-1.0.2 itsdangerous-1.1.0

D:\Program Files\Python37\Scripts>
```

8.2 Flask 测试

1、创建一个文件夹 webapp



2、创建一个最基础的 flask 测试程序

```
from flask import Flask
```

```
app = Flask(__name__)
```

```
@app.route('/')
```

```
def hello() -> str:
```

```
    return 'Hello World from Flask!'
```

```
app.run()
```

3、用 vscode 打开 webapp 文件夹运行，

```
Windows PowerShell
版权所有 (C) Microsoft Corporation。保留所有权利。

PS E:\pythonproject\shangke\pyweb\webapp> & "D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
* Serving Flask app "helloflask" (lazy loading)
* Environment: production
  WARNING: Do not use the development server in a production environment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

或者在 cmd 中直接输入

```
"D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
```

```
命令提示符 - "D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
Microsoft Windows [版本 10.0.17134.648]
(c) 2018 Microsoft Corporation。保留所有权利。

C:\Users\LENOVO>"D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
* Serving Flask app "helloflask" (lazy loading)
* Environment: production
  WARNING: Do not use the development server in a production environment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

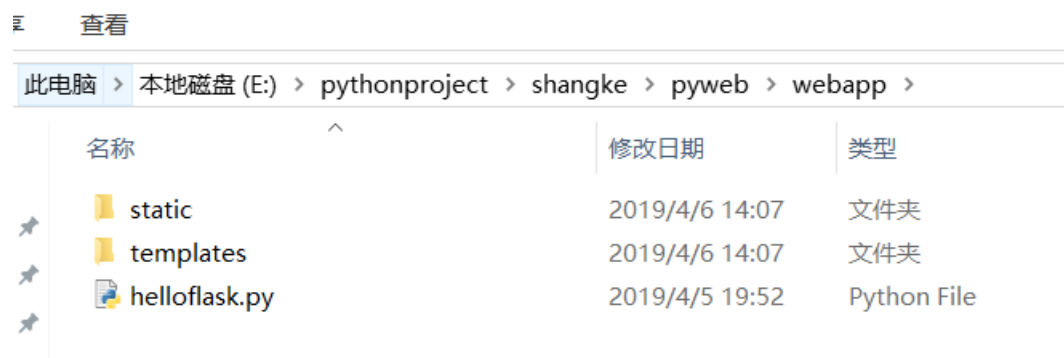
4、根据提示在浏览其中输入

http://127.0.0.1:5000

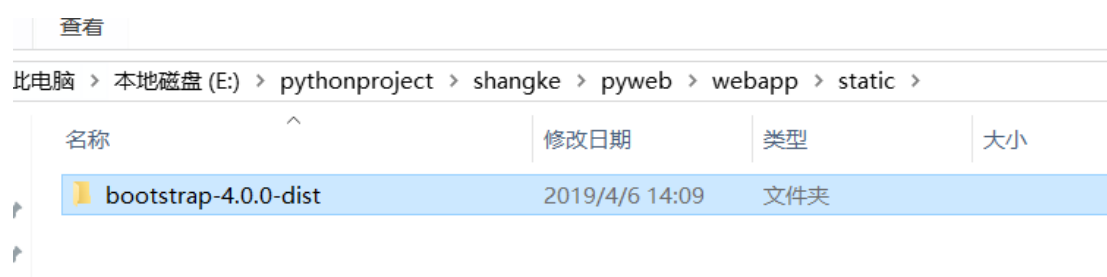


8.2 Flask 返回显示网页

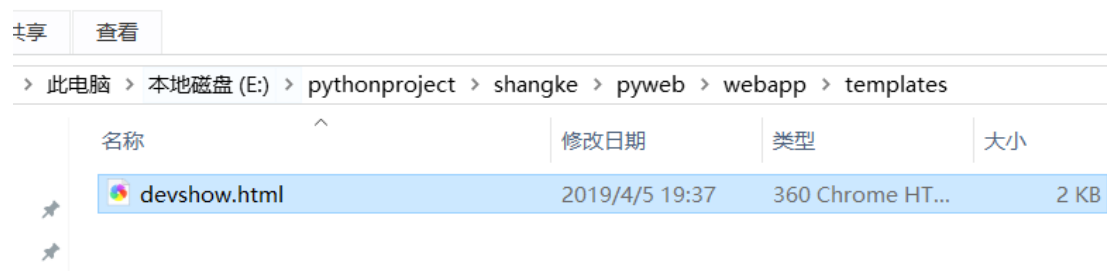
1、在 8.1 章节中创建的 webapp 目录下新建 static 目录和 templates 目录，如下图所示：



2、将 7.4 章节下载的 bootstrap 包复制到 static 目录下



3、在刚才新建的 templates 目录下新建网页 devshow.html 如下图所示






4、devshow.html 的内容如下

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta http-equiv='X-UA-Compatible' content='IE=edge'>
    <meta name='viewport' content='width=device-width, initial-scale=1'>
    <link rel="stylesheet" href="static/bootstrap-4.0.0-dist/css/bootstrap.min.css">
    <script src="static/bootstrap-4.0.0-dist/js/bootstrap.min.js"></script>
```

```
<title>RiYueLake 在线检测系统</title>
</head>
<body>
  <table class="table">
    <thead>
      <tr>
        <th>内容</th>
        <th>取值</th>
      </tr>
    </thead>
    <tbody>
      <tr>
        <td>时间</td>
        <td><input type="text" id="devaddress" value="" " readonly="true"/></td>
      </tr>
      <tr>
        <td>光照</td>
        <td><input type="text" id="light" value="" " readonly="true"/></td>
      </tr>
      <tr>
        <td>温度</td>
        <td><input type="text" id="temperature" value="" " readonly="true"/></td>
      </tr>
      <tr>
        <td>湿度</td>
        <td><input type="text" id="humidity" value="" " readonly="true"/></td>
      </tr>
    </tbody>
  </table>
</body>
</html>
```

5、修改 helloflask 的内容如下

脑 > 本地磁盘 (E:) > pythonproject > shangke > pyweb > webapp >			
名称	修改日期	类型	大小
 static	2019/4/6 14:09	文件夹	
 templates	2019/4/6 14:10	文件夹	
 helloflask.py	2019/4/5 19:52	Python File	

```
from flask import Flask, render_template
```

```
app = Flask(__name__)
```

```
@app.route('/')
def hello() -> str:
    return 'Hello World from Flask!'
```

```
@app.route('/devshow')
def devshow() -> 'html':
    return render_template('devshow.html')
```

```
app.run()
```

6、用 vscode 打开 webapp 文件夹运行，

```
Windows PowerShell
版权所有 (C) Microsoft Corporation。保留所有权利。

PS E:\pythonproject\shangke\pyweb\webapp> & "D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
* Serving Flask app "helloflask" (lazy loading)
* Environment: production
  WARNING: Do not use the development server in a production environment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

或者在 cmd 中直接输入

```
"D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
```

```
命令提示符 - "D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
Microsoft Windows [版本 10.0.17134.648]
(c) 2018 Microsoft Corporation。保留所有权利。

C:\Users\LENOVO>"D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
* Serving Flask app "helloflask" (lazy loading)
* Environment: production
  WARNING: Do not use the development server in a production environment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

4、根据提示在浏览其中输入

<http://127.0.0.1:5000/devshow>

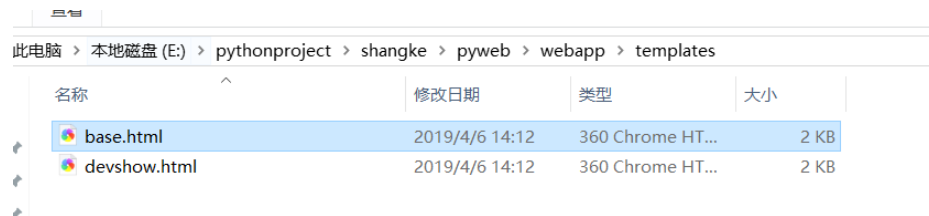


内容	取值
时间	<input type="text"/>
光照	<input type="text"/>
温度	<input type="text"/>
湿度	<input type="text"/>

此时可以看到我们要显示的网页已经出来了

8.3 基于模板的方法显示网页

1、在 templates 目录下新建网页 base.html 如下图所示



此电脑 > 本地磁盘 (E:) > pythonproject > shangke > pyweb > webapp > templates

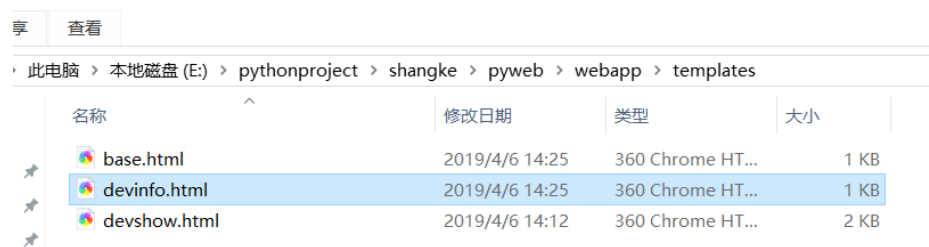
名称	修改日期	类型	大小
base.html	2019/4/6 14:12	360 Chrome HT...	2 KB
devshow.html	2019/4/6 14:12	360 Chrome HT...	2 KB

2、base.html 的主要内容如下

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta http-equiv='X-UA-Compatible' content='IE=edge'>
    <meta name='viewport' content='width=device-width, initial-scale=1'>
    <link rel="stylesheet" href="static/bootstrap-4.0.0-dist/css/bootstrap.min.css">
    <script src="static/bootstrap-4.0.0-dist/js/bootstrap.min.js"></script>
    <title>RiYueLake 在线检测系统</title>
  </head>
  <body>
    {% block body %}

    {% endblock %}
  </body>
</html>
```

3、在 templates 目录下新建网页 devinfo.html 如下图所示



此电脑 > 本地磁盘 (E:) > pythonproject > shangke > pyweb > webapp > templates

名称	修改日期	类型	大小
base.html	2019/4/6 14:25	360 Chrome HT...	1 KB
devinfo.html	2019/4/6 14:25	360 Chrome HT...	1 KB
devshow.html	2019/4/6 14:12	360 Chrome HT...	2 KB

4、devinfo.html 的主要内容如下

```
{% extends 'base.html' %}
{% block body %}

<table class="table">
  <thead>
    <tr>
```

```
<th>内容</th>
<th>取值</th>
</tr>
</thead>
<tbody>
<tr>
<td>时间</td>
<td><input type="text" id="recodetime" value={{ the_recordtime }} readonly="true"/></td>
</tr>
<tr>
<td>光照</td>
<td><input type="text" id="light" value={{ the_light }} readonly="true"/></td>
</tr>
<tr>
<td>温度</td>
<td><input type="text" id="temperature" value={{ the_temperature }} readonly="true"/></td>
</tr>
<tr>
<td>湿度</td>
<td><input type="text" id="humidity" value={{ the_humidity }} readonly="true"/></td>
</tr>
</tbody>
</table>
{% endblock %}
```

5、将 6.3 章节创建的 chendbmanage.py，复制到 webapp 目录下

此电脑 > 本地磁盘 (E:) > pythonproject > shangke > pyweb > webapp

名称	修改日期	类型	大小
static	2019/4/6 14:09	文件夹	
templates	2019/4/6 14:26	文件夹	
chendbmanage.py	2019/4/5 16:38	Python File	1 KB
helloflask.py	2019/4/6 14:33	Python File	1 KB

6、修改 helloflask.py 的内容如下

```
from flask import Flask,render_template
```

```
from chendbmanage import ChenUseDatabase
```

```
app = Flask(__name__)
```

```
app.config['dbconfig'] = {'host':'127.0.0.1',
```

```
    'user':'root',
```

```
    'password':'111111',
```

```
    'database':'chenriyuelakedb'}
```



```
@app.route('/')
def hello() -> str:
    return 'Hello World from Flask!'
```

```
@app.route('/devshow')
def devshow() -> 'html':
    return render_template('devshow.html')
```

```
@app.route('/devinfo')
def devinfo() -> 'html':
    with ChenUseDatabase(app.config['dbconfig']) as cursor:
        _SQL = """select recordtime, light, temperature,
                        humidity from sensordata order by id desc limit 1"""
        cursor.execute(_SQL)
        contents = cursor.fetchall()
        recordtime = str(contents[0][0]).replace(' ','\b')
        #recordtime = str(contents[0][0]).replace(' ','')
        light = contents[0][1]
        temperature = contents[0][2]
        humidity = contents[0][3]
        return render_template('devinfo.html',the_recordtime=recordtime,the_light=light,
                                the_temperature=temperature,the_humidity=humidity,)
```

```
if __name__ == '__main__':
    app.run()
```

6、用 vscode 打开 webapp 文件夹运行，

```
Windows PowerShell
版权所有 (c) Microsoft Corporation。保留所有权利。

PS E:\pythonproject\shangke\pyweb\webapp> "D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
* Serving Flask app "helloflask" (lazy loading)
* Environment: production
  WARNING: Do not use the development server in a production environment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

或者在 cmd 中直接输入

```
"D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
```


```
命令提示符 - "D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
Microsoft Windows [版本 10.0.17134.648]
(c) 2018 Microsoft Corporation。保留所有权利。

C:\Users\LENOVO>"D:/Program Files/Python37/python.exe" e:/pythonproject/shangke/pyweb/webapp/helloflask.py
* Serving Flask app "helloflask" (lazy loading)
* Environment: production
  WARNING: Do not use the development server in a production environment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

4、根据提示在浏览其中输入

<http://127.0.0.1:5000/devinfo>

此时可以看到我们要显示的最近检测的数据的网页已经出来了



RiYueLake在线检测系

复制网址

←

↻

🏠

↶

☆

🔒

127.0.0.1:5000/devinfo

SpringBoot VS2017 Win 开放平台文档 支付宝:sign c Spring Boot

内容	取值
时间	<input type="text" value="2019-04-05"/>
光照	<input type="text" value="90.1"/>
温度	<input type="text" value="26.2"/>
湿度	<input type="text" value="91.3"/>