

## 软件使用说明文档

### 实现的功能：

多线程 web 服务器，向服务器请求特定文件，从服务器文件系统读取请求的文件，并创建一个由请求的文件的 html 内容组成的 HTTP 响应报文反馈给浏览器并显示出来。

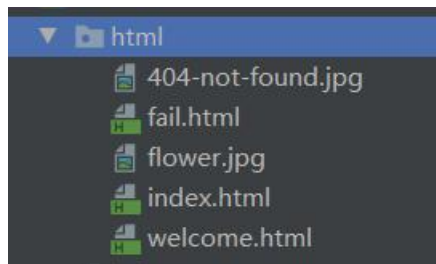
### 项目文件：

html 文件夹：存储网页呈现所需要的文件

fail.html: 访问路径不存在时的提示界面，可返回主页面。

index.html: 主页面，可跳转到欢迎页面。

Welcome.html: 欢迎页面。



主程序: webserver.py

requirement.txt

webserver.iml

### 具体使用步骤：

1、运行 webserver

2、在浏览器中输入 [localhost:7890/index.html](http://localhost:7890/index.html) 或 [localhost:7890](http://localhost:7890) 访问主界面

浏览器端显示出的访问服务器文件成功的页面



**Connect to local web server!**



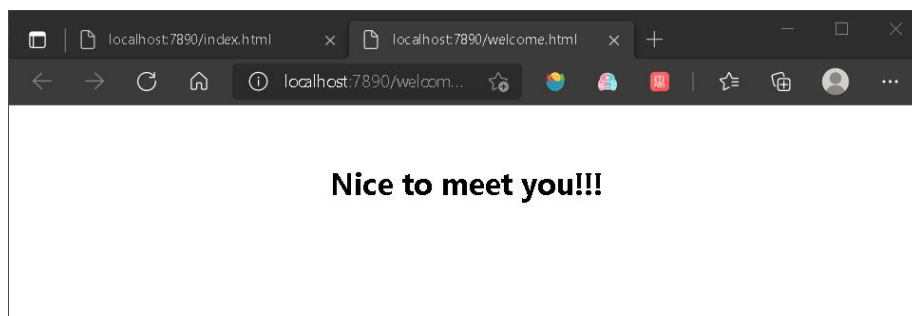
[welcome](#)

从后台可以看到请求报文和响应报文

```
C:\Users\admin\AppData\Local\Programs\Python\Python36\python.exe D:/资料/webserver/src/web
request:GET /index.html HTTP/1.1
Host: localhost:7890
Connection: keep-alive
Cache-Control: max-age=0
sec-ch-ua: " Not;A Brand";v="99", "Microsoft Edge";v="91", "Chromium";v="91"
sec-ch-ua-mobile: ?0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko)
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8
Sec-Fetch-Site: none
Sec-Fetch-Mode: navigate
Sec-Fetch-User: ?1
Sec-Fetch-Dest: document
Accept-Encoding: gzip, deflate, br
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-GB;q=0.7,en-US;q=0.6
Cookie: Idea-47a386c3=0b9140fd-7397-4a47-92e5-4b1948e71c4b

<socket.socket fd=444, family=AddressFamily.AF_INET, type=SocketKind.SOCK_STREAM, proto=0,
request:GET /flower.jpg HTTP/1.1
Host: localhost:7890
Connection: keep-alive
```

3、点击 welcome，浏览器跳转到 [localhost:7890/welcome.html](http://localhost:7890/welcome.html)



后台出现对 `welcome.html` 的请求和响应报文，且和之前的网页并发访问。

```

<socket.socket fd=444, family=AddressFamily.AF_INET, type=SocketKind.SOCK_STREAM, proto=0
request:GET /flower.jpg HTTP/1.1
Host: localhost:7890
Connection: keep-alive
sec-ch-ua: " Not;A Brand";v="99", "Microsoft Edge";v="91", "Chromium";v="91"
sec-ch-ua-mobile: ?0
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko)
Accept: image/webp,image/apng,image/svg+xml,image/*,*/*;q=0.8
Sec-Fetch-Site: same-origin
Sec-Fetch-Mode: no-cors
Sec-Fetch-Dest: image
Referer: http://localhost:7890/index.html
Accept-Encoding: gzip, deflate, br
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-GB;q=0.7,en-US;q=0.6
Cookie: Idea-47a386c3=0b9140fd-7397-4a47-92e5-4b1948e71c4b

<socket.socket fd=568, family=AddressFamily.AF_INET, type=SocketKind.SOCK_STREAM, proto=0
request:GET /welcome.html HTTP/1.1
Host: localhost:7890
Connection: keep-alive
sec-ch-ua: " Not;A Brand";v="99", "Microsoft Edge";v="91", "Chromium";v="91"
sec-ch-ua-mobile: ?0

```

4、多个客户端访问服务器时，都可以并发地访问，通过后台观察打印出的地址可以发现服务器已经接收到了多个客户端的访问，并且服务器为每个客户端联系时均建立了连接套接字。从浏览器访问可以看出，可以同时打开两个页面访问本地服务器，其中服务器的端口号为 7890，客户端端口号不同。

```

laddr=('127.0.0.1', 7890), raddr=('127.0.0.1', 62074)>

o) Chrome/91.0.4472.114 Safari/537.36 Edg/91.0.864.59

laddr=('127.0.0.1', 7890), raddr=('127.0.0.1', 63663)>

```

## 5、异常检测

访问服务器中不存在的文件路径时，后台会返回访问失败的页面，提示页面不存在，访问 [localhost:7890/11](http://localhost:7890/11)

所访问的路径不存在!



[返回主页面](#)

后台显示对 fail.html 的请求和相应

```
Sec-Fetch-Site: none
Sec-Fetch-Mode: navigate
Sec-Fetch-User: ?1
Sec-Fetch-Dest: document
Accept-Encoding: gzip, deflate, br
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-GB;q=0.7,en-US;q=0.6
Cookie: Idea-47a386c3=0b9140fd-7397-4a47-92e5-4b1948e71c4b

<socket.socket fd=532, family=AddressFamily.AF_INET, type=SocketKind.SOCK_STREAM, proto=0, laddr=('127.0.0.1', 7890), raddr=('127.0.0.1', 53308)>
request:GET /404-not-found.jpg HTTP/1.1
Host: localhost:7890
Connection: keep-alive
sec-ch-ua: " Not;A Brand";v="99", "Microsoft Edge";v="91", "Chromium";v="91"
sec-ch-ua-mobile: ?0
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/91.0.4472.114 Safari/537.36 Edg/91.0.864.59
Accept: image/webp,image/apng,image/svg+xml,image/*,*/*;q=0.8
Sec-Fetch-Site: same-origin
Sec-Fetch-Mode: no-cors
Sec-Fetch-Dest: image
Referer: http://localhost:7890/11
Accept-Encoding: gzip, deflate, br
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-GB;q=0.7,en-US;q=0.6
```