

一、开发环境与工具

1. 开发环境

Python 3.6

2. 开发工具

visual studio 201

3. 主要使用的模块

socket, os, threading

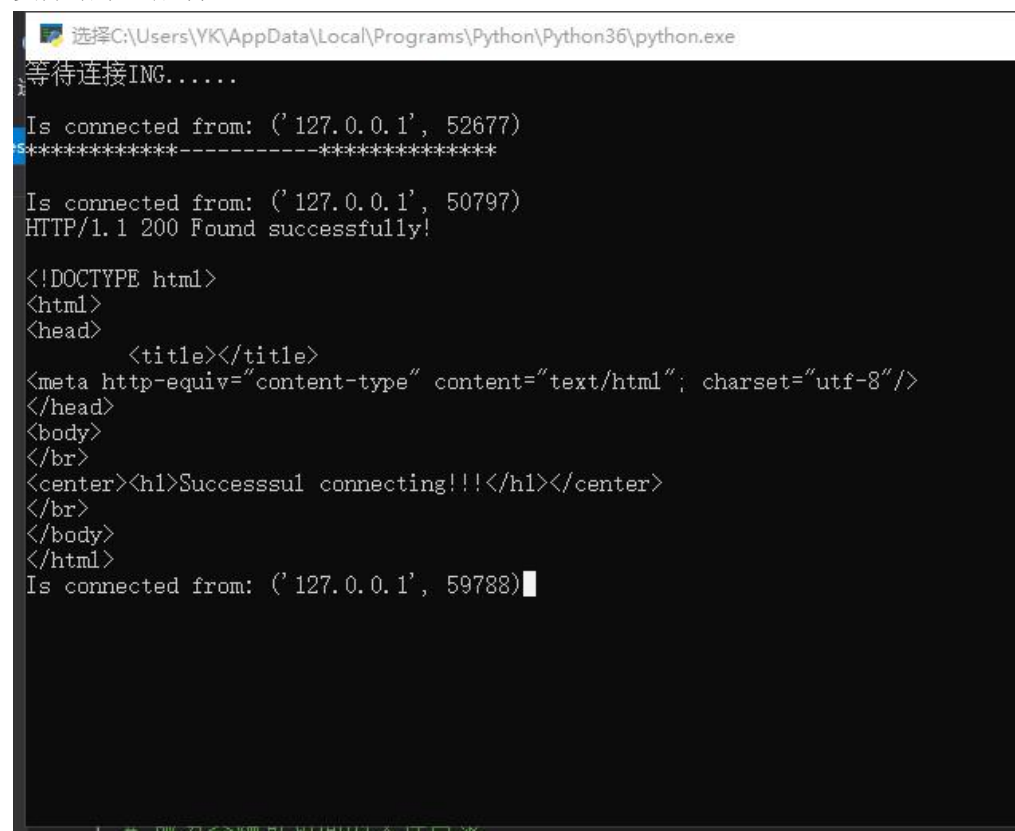
二、测试：

注：测试文档是 Achieved.html，失败页面 fail.html，都在源代码里

测试用例①：单线程访问 web server

预期结果：显示访问成功，且读取网页内容

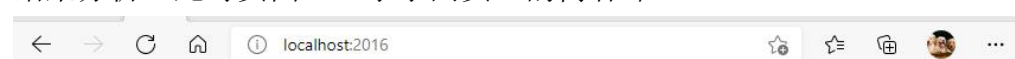
实际结果：成功



```
选择C:\Users\YK\AppData\Local\Programs\Python\Python36\python.exe
等待连接ING.....
Is connected from: ('127.0.0.1', 52677)
*****-----*****
Is connected from: ('127.0.0.1', 50797)
HTTP/1.1 200 Found successfully!

<!DOCTYPE html>
<html>
<head>
  <title></title>
<meta http-equiv="content-type" content="text/html"; charset="utf-8"/>
</head>
<body>
</br>
<center><h1>Successsul connecting!!!</h1></center>
</br>
</body>
</html>
Is connected from: ('127.0.0.1', 59788)
```

结果分析：此时页面上显示了网页上的内容即：



Successsul connecting!!!

测试用例②：多线程访问 web server

预期结果：显示两次访问成功，且显示页面内容

实际结果：在第二次访问时，浏览器显示的是成功连接，但服务器端显示的是 something lost 也就是连接失败，但实际上并没有连接失败。

```
</html>
Is connected from: ('127.0.0.1', 52799)
*****-----*****

HTTP/1.1 404 NotFound

<!DOCTYPE html>
<html>
<head>
  <title></title>
<meta http-equiv="content-type" content="text/html"; charset="utf-8"/>
</head>
<body>
</br>
<center><h1>something lost~</h1></center>
</br>
</body>
</html>
Is connected from: ('127.0.0.1', 52802)
```

结果分析：虽然连接成功，但是在读取网页页面后现实的是失败网页的内容，可能是失败的条件设置不正确。



Successssul connecting!!!

解决方案：可能是用布尔变量时判断不完全所以直接跳到了失败页面，所以换成了 if 条件语句。

解决结果：两次显示访问成功。

```
Is connected from: ('127.0.0.1', 65133)
*****-----*****

Is connected from: ('127.0.0.1', 53721)
HTTP/1.1 200 Found successfully!

<!DOCTYPE html>
<html>
<head>
  <title></title>
<meta http-equiv="content-type" content="text/html"; charset="utf-8"/>
</head>
<body>
</br>
<center><h1>Successssul connecting!!!</h1></center>
</br>
</body>
</html>
Is connected from: ('127.0.0.1', 52650)
Is connected from: ('127.0.0.1', 52798)
*****-----*****

HTTP/1.1 200 Found successfully!

<!DOCTYPE html>
<html>
<head>
  <title></title>
<meta http-equiv="content-type" content="text/html"; charset="utf-8"/>
</head>
<body>
</br>
<center><h1>Successssul connecting!!!</h1></center>
</br>
</body>
</html>
Is connected from: ('127.0.0.1', 52799)
*****-----*****
```

测试用例③：测试断开网络状态时的连接情况

预期结果：显示失败页面

实际结果：



结果分析：因为是 localhost，所以服务器端还是有显示，但是显示的是失败页面。

```
Is connected from: ('127.0.0.1', 50145)
Is connected from: ('127.0.0.1', 59420)
*****-----*****

HTTP/1.1 404 NotFound

<!DOCTYPE html>
<html>
<head>
    <title></title>
<meta http-equiv="content-type" content="text/html"; charset="utf-8"/>
</head>
<body>
</br>
<center><h1>something lost~</h1></center>
</br>
</body>
</html>
Is connected from: ('127.0.0.1', 59421)
Is connected from: ('127.0.0.1', 59422)
```

测试用例④：删除根目录下的 Achieved.html 文件

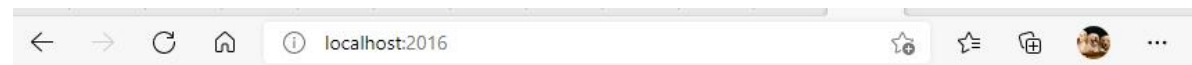
预期结果：未找到文件，显示失败页面

实际结果：成功

```
Is connected from: ('127.0.0.1', 50304)
Is connected from: ('127.0.0.1', 52074)
*****-----*****

HTTP/1.1 404 NotFound

<!DOCTYPE html>
<html>
<head>
    <title></title>
<meta http-equiv="content-type" content="text/html"; charset="utf-8"/>
</head>
<body>
</br>
<center><h1>something lost~</h1></center>
</br>
</body>
</html>
Is connected from: ('127.0.0.1', 62102)
```



something lost~

结果分析：未找到目录下的文件，所以显示 something lost~

测试用例⑤：用三个浏览器同时访问该服务器

预期结果：连接成功

实际结果：成功



The screenshot shows a web browser window with the address bar set to 'localhost:2016'. The page content is a black background with white text. The text is a mix of HTML code and plain text, indicating a successful connection. The HTML code includes a meta tag for content type, a body tag, and a center tag with an h1 element containing the text 'Successsul connecting!!!'. The plain text includes 'Is connected from: (' 127.0.0.1', 63828)', 'Is connected from: (' 127.0.0.1', 63831)', 'Is connected from: (' 127.0.0.1', 65447)', and 'HTTP/1.1 200 Found successfully!'. The browser's taskbar at the bottom shows icons for '应用' (Applications), 'Gmail', 'YouTube', and '地图' (Map).

```
<meta http-equiv="content-type" content="text/html"; charset="utf-8"/>
</head>
<body>
</br>
<center><h1>Successsul connecting!!!</h1></center>
</br>
</body>
</html>
Is connected from: (' 127.0.0.1', 63828)
Is connected from: (' 127.0.0.1', 63831)
Is connected from: (' 127.0.0.1', 65447)
*****-----*****

HTTP/1.1 200 Found successfully!

<!DOCTYPE html>
<html>
<head>
  <title></title>
<meta http-equiv="content-type" content="text/html"; charset="utf-8"/>
</head>
<body>
</br>
<center><h1>Successsul connecting!!!</h1></center>
</br>
</body>
</html>
Is connected from: (' 127.0.0.1', 63820)
Is connected from: (' 127.0.0.1', 63827)
*****-----*****

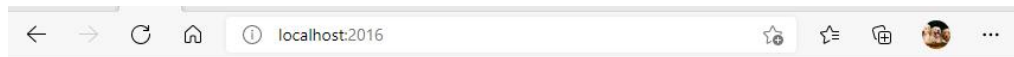
HTTP/1.1 200 Found successfully!

<!DOCTYPE html>
<html>
<head>
  <title></title>
<meta http-equiv="content-type" content="text/html"; charset="utf-8"/>
</head>
<body>
</br>
<center><h1>Successsul connecting!!!</h1></center>
</br>
</body>
</html>
Is connected from: (' 127.0.0.1', 63828)
Is connected from: (' 127.0.0.1', 63831)
Is connected from: (' 127.0.0.1', 65447)
*****-----*****

HTTP/1.1 200 Found successfully!

<!DOCTYPE html>
<html>
<head>
  <title></title>
<meta http-equiv="content-type" content="text/html"; charset="utf-8"/>
</head>
<body>
</br>
<center><h1>Successsul connecting!!!</h1></center>
</br>
</body>
</html>
Is connected from: (' 127.0.0.1', 65071)
*****-----*****
```

Successsul connecting!!!



Successsul connecting!!!

localhost:2016



Successsul connecting!!!