SERVICES

PREVIOUS

This document was developed with an HP ProBook 450 G7 computer:

- CPU: Intel Core i5-10210U (4 cores and 8 threads)
- GPU: UHD Graphics
- RAM: 24 GB
- OS: Ubuntu 24.04 (Noble Numbat)

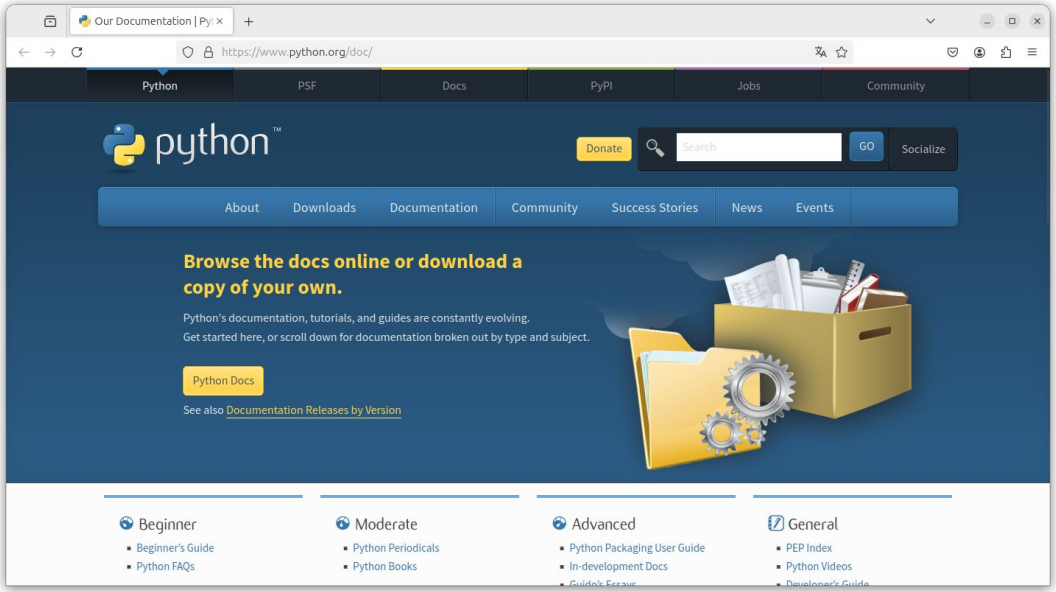
on fall 2024.

WEBBROWSER

web_browser.py

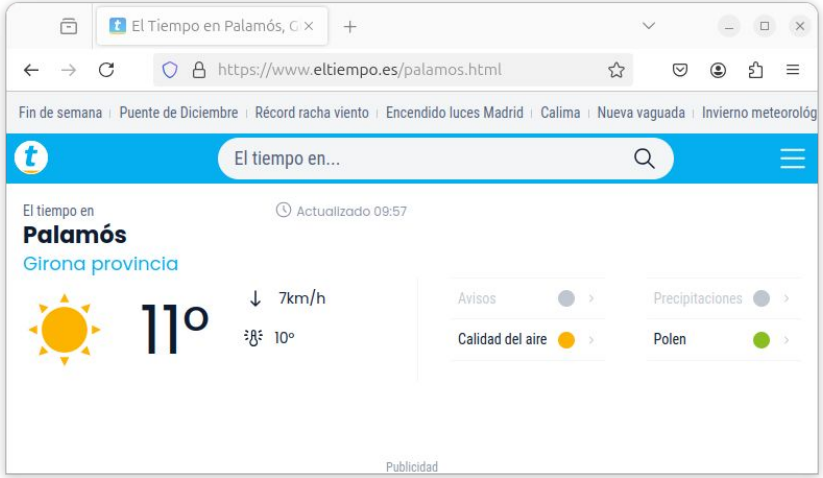
```
import webbrowser

url = 'https://www.python.org/doc/'

webbrowser.open(url)
```

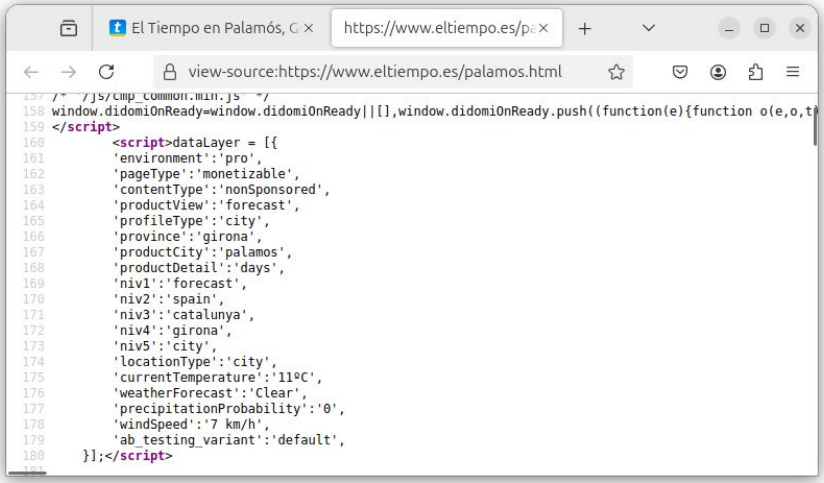
```
ricard@HP-ProBook:~$ python3 web_browser.py
```



https://docs.python.org/3.11/library/webbrowser.html

URLLIB





temps_palamos.py

```
import urllib.request

url = 'https://www.eltiempo.es/palamos.html'
data = urllib.request.urlopen(url)
charset = data.headers.get_content_charset()
html = data.read().decode(charset)

initial_position = html.find('dataLayer = [{')
final position = html.find(';', initial position)
print(html[initial_position:final_position])
```

```
ricard@HP-ProBook:~$ python3 temps_palamos.py
dataLayer = [{
                'environment':'pro',
                'pageType':'monetizable',
                'contentType':'nonSponsored',
                'productView':'forecast',
                'profileType':'city',
                'province':'girona',
                'productCity':'palamos',
                'productDetail':'days',
                'niv1':'forecast',
                'niv2':'spain',
                'niv3':'catalunya',
                'niv4':'girona',
                'niv5':'city',
                'locationType':'city',
                'currentTemperature':'11°C',
                'weatherForecast':'Clear',
                'precipitationProbability':'0',
                'windSpeed':'8 km/h',
                'ab_testing_variant':'default',
        }]
ricard@HP-ProBook:~$
```

https://docs.python.org/3.11/library/urllib.html

SOCKETSERVER

server.py

```
import datetime
import socketserver

class MyTCPSocketHandler(socketserver.BaseRequestHandler):
    def handle(self):
        self.data = self.request.recv(1024).strip()
        moment = datetime.datetime.now().strftime('%H:%M:%S.%f')
        print(f"{moment} client from {self.client_address[0]} has sent {self.data}")
        self.request.sendall(self.data.upper())

if __name__ == "__main__":
    print(f"{datetime.datetime.now().strftime('%H:%M:%S.%f')} waiting ...")
    address = ("localhost", 9999)
    server = socketserver.TCPServer(address, MyTCPSocketHandler)

    try:
        server.serve_forever()
    except KeyboardInterrupt:
        print(f"{datetime.datetime.now().strftime('%H:%M:%S.%f')} Interrupted!")
        server.server_close()
```

client.py

```
import datetime
import socket
import sys

data = ' '.join(sys.argv[1:])

address = ('localhost', 9999)
sock = socket.socket(socket.AF_INET, socket.SOCK_STREAM)

try:
    sock.connect(address)
    message = bytes(data + '\n', 'utf-8')
    moment = datetime.datetime.now().strftime('%H:%M:%S.%f')
    print(f"{moment} client will send: {message}")
    sock.sendall(message)
    received = str(sock.recv(1024), 'utf-8')
    moment = datetime.datetime.now().strftime('%H:%M:%S.%f')
    print(f"{moment} client has received: {received}")
finally:
    sock.close()
```

```
ricard@HP-ProBook:~$ python3 server.py
10:42:55.392017 waiting ...
10:43:02.141978 client from 127.0.0.1 has sent b'abcde'
10:43:10.113924 client from 127.0.0.1 has sent b'FGHIJ'
10:43:13.529314 client from 127.0.0.1 has sent b'12345'
```

```
ricard@HP-ProBook:~$ python3 client.py abcde
10:43:02.141844 client will send: b'abcde\n'
10:43:02.142625 client has received: ABCDE
ricard@HP-ProBook:~$ python3 client.py FGHIJ
10:43:10.113690 client will send: b'FGHIJ\n'
10:43:10.114147 client has received: FGHIJ
ricard@HP-ProBook:~$ python3 client.py 12345
10:43:13.529090 client will send: b'12345\n'
10:43:13.529536 client has received: 12345
ricard@HP-ProBook:~$
```

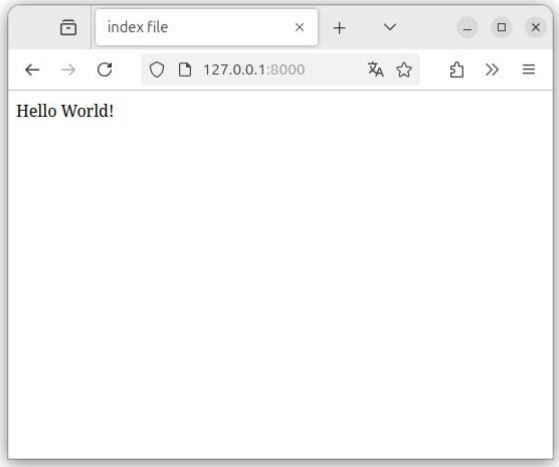
https://docs.python.org/3.11/library/socketserver.html

HTTP.SERVER

server.py

```
import http.server
import socketserver

address = ('127.0.0.1', 8000)
handler = http.server.SimpleHTTPRequestHandler

httpd = socketserver.TCPServer(address, handler)

print(f"serving on port {address[1]}")

try:
    httpd.serve_forever()
except KeyboardInterrupt:
    print("Interrupted!")
    httpd.server_close()
```

```
ricard@HP-ProBook:~$ ls
index.html  server.py
ricard@HP-ProBook:~$ cat index.html
<html>
  <head>
    <title>
      index file
    </title>
  </head>
  <body>
    Hello World!
  </body>
</html>
ricard@HP-ProBook:~$ python3 server.py
serving on port 8000
127.0.0.1 - - [29/Nov/2024 11:02:04] "GET / HTTP/1.1" 200 -
```

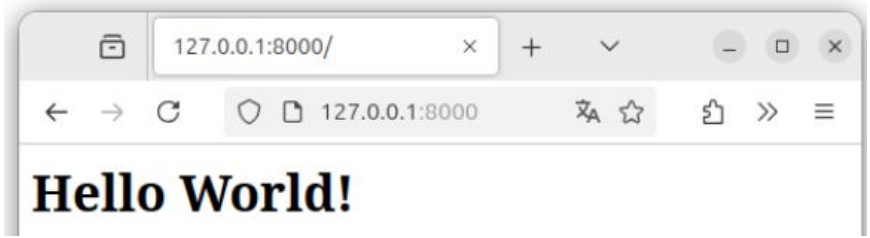


https://docs.python.org/3.11/library/http.server.html

server.py

```
from http.server import HTTPServer, BaseHTTPRequestHandler

class HttpHandler(BaseHTTPRequestHandler):
    def do GET(self):
        self.send_response(200)

        self.send header('Content-type', 'text/HTML; charset=utf-8')
        self.end_headers()

        self.wfile.write('<h1>Hello World!</h1>'.encode())

if   name   == "  main  ":
    address = ('127.0.0.1', 8000)
    httpd = HTTPServer(address, HttpHandler)
    try:
        httpd.serve forever()
    except KeyboardInterrupt:
        print("Interrupted!")
        httpd.server_close()
```

```
ricard@HP-ProBook:~$ python3 server.py
127.0.0.1 - - [29/Nov/2024 11:05:23] "GET / HTTP/1.1" 200 -
```



FTPLIB

ftp.py

```
import ftplib

host = 'cygwin.mirror.rafal.ca'

ftp = ftplib.FTP(host)
ftp.login()
#ftp.retrlines('LIST')
ftp.cwd('debian')
#ftp.retrlines('LIST')

file name = 'README'
with open(file name, 'wb') as f:
    ftp.retrbinary(f'RETR {file_name}', f.write)

ftp.quit()
```

```
ricard@HP-ProBook:~$ ls
ftp.py
ricard@HP-ProBook:~$ python3 ftp.py
ricard@HP-ProBook:~$ ls
ftp.py  README
ricard@HP-ProBook:~$ head README
See http://www.debian.org/ for information about Debian
GNU/Linux.
Four Debian releases are available on the main site:

Debian 10.13, or buster.  Access this release through
dists/oldoldstable
Debian 10.13 was released Saturday, 10th September 2022.

Debian 11.11, or bullseye.  Access this release through
dists/oldstable
Debian 11.11 was released Saturday, 31st August 2024.

Debian 12.8, or bookworm.  Access this release through
dists/stable
ricard@HP-ProBook:~$
```

https://docs.python.org/3.11/library/ftplib.html
https://www.sftp.net/public-online-ftp-servers