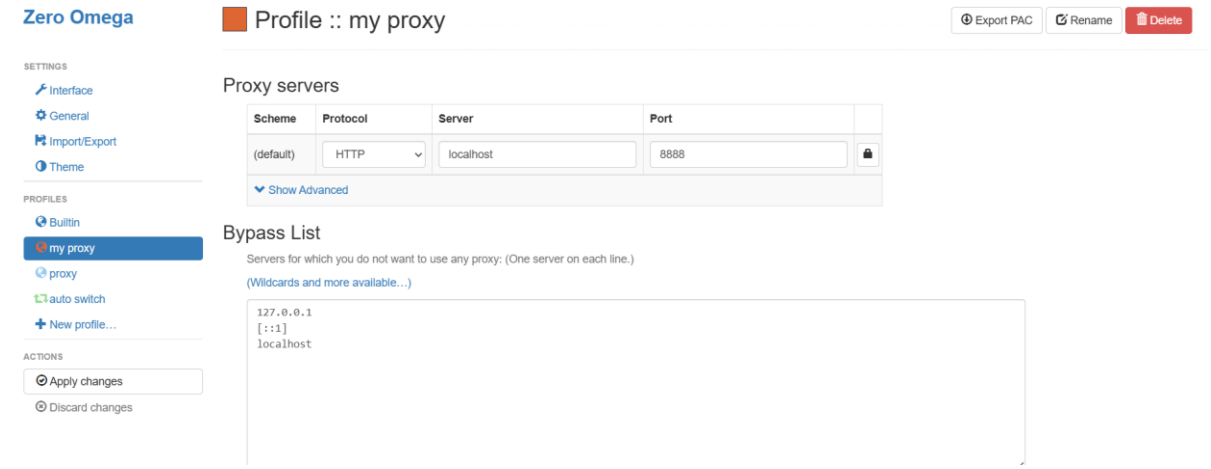
CN ASSIGNMENT 1

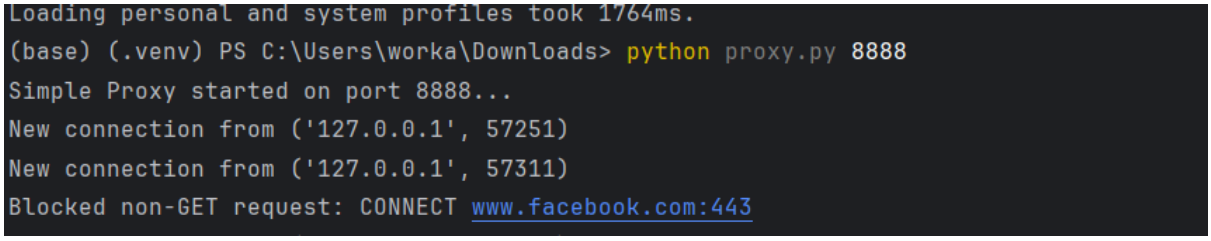
SUBMITTED TO: SIR USMAN

Arham Khan

22K-4080 BAI-6B

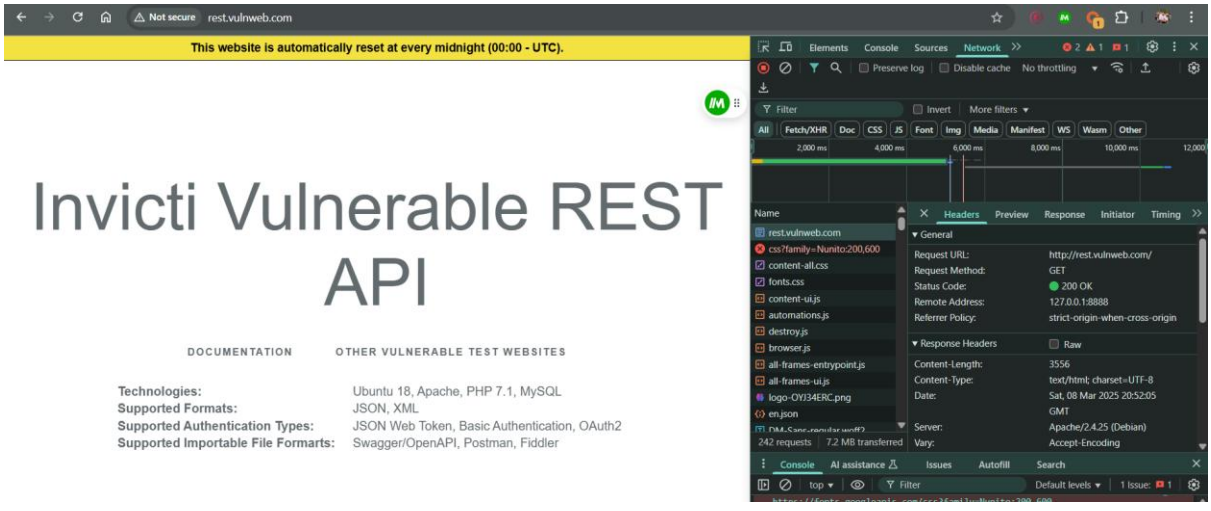
Proxy Server Setup (ZeroOmega Extension):



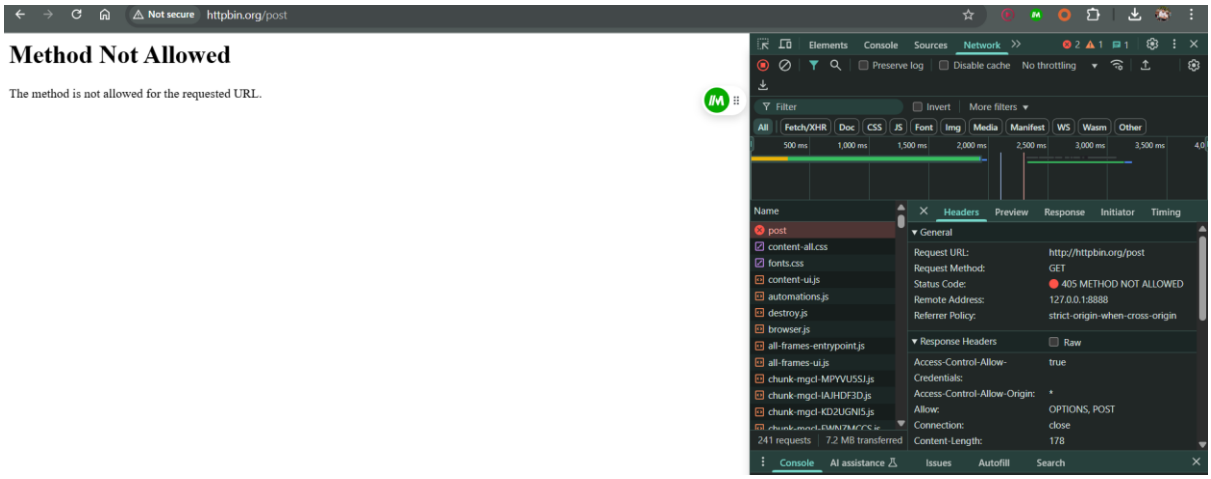


Port 8080 was busy.

HTTP GET Request working perfectly:



HTTP Request other than GET Method (Not working):




```
Blocked non-GET request: CONNECT ssl.gstatic.com:443
```

Testing using Curl:

```
(base) (.venv) PS C:\Users\worka\Downloads> curl.exe -x http://localhost:8888 http://example.com
<!doctype html>
<html>
<head>
    <title>Example Domain</title>

    <meta charset="utf-8" />
    <meta http-equiv="Content-type" content="text/html; charset=utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
```

```
(base) (.venv) PS C:\Users\worka\Downloads> curl.exe -X POST -x http://localhost:8888 http://ptsv3.com/t/your-test-id/post
(base) (.venv) PS C:\Users\worka\Downloads> curl.exe -X POST -x http://localhost:8888 http://jsonplaceholder.typicode.com/posts
(base) (.venv) PS C:\Users\worka\Downloads>
```

Code:

```
import sys
import socket as sk
import threading


def http_client(client_socket):
    request = client_socket.recv(1024) #receiving data in small chunks
    if not request:
        client_socket.close()
        return

    # Split request into lines
```

```
  headers = request.decode().split('\r\n')
  if not headers:
    client_socket.send(b'HTTP/1.0 400 Bad Request\r\n\r\n')
    client_socket.close()
    return

  first_line = headers[0].split()
  if len(first_line) < 3:
    client_socket.send(b'HTTP/1.0 400 Bad Request\r\n\r\n')
    client_socket.close()
    return

  method, full_url, _ = first_line
  if method != 'GET':
    print(f"Blocked non-GET request: {method} {full_url}")
    client_socket.send(b'HTTP/1.0 501 Not Implemented\r\n\r\n')
    client_socket.close()
    return

  # splitting url
  if not full_url.startswith('http://'):
    client_socket.send(b'HTTP/1.0 400 Bad Request\r\n\r\n')
    client_socket.close()
    return

  clean_url = full_url[7:]
  server_part = clean_url.split('/', 1)
  host_port = server_part[0].split(':', 1)
  target_host = host_port[0]
  target_port = int(host_port[1]) if len(host_port) > 1 else 80
  path = '/' + server_part[1] if len(server_part) > 1 else '/'

  # Connecting to target server
  server_socket = sk.socket()
  if server_socket.connect_ex((target_host, target_port)) != 0:
    client_socket.send(b'HTTP/1.0 502 Bad Gateway\r\n\r\n')
    client_socket.close()
    return

  # Forward request
  server_socket.send(f"GET {path} HTTP/1.0\r\nHost:
```

```
{target_host}\r\n\r\n".encode())

    # Relay response
    response = server_socket.recv(4096)
    while response:
        client_socket.send(response)
        response = server_socket.recv(4096)

    # Cleanup
    server_socket.close()
    client_socket.close()


def myproxy_server(port):
    server = sk.socket(sk.AF_INET, sk.SOCK_STREAM)
    server.setsockopt(sk.SOL_SOCKET, sk.SO_REUSEADDR, 1)
    server.bind(('', port))
    server.listen(10)
    print(f"Simple Proxy started on port {port}...")

    while True:
        client_socket, addr = server.accept()
        threading.Thread(target=http_client, args=(client_socket,)).start()


if __name__ == "__main__":
    if len(sys.argv) != 2:
        print("Usage: python proxy.py <PORT>")
        sys.exit()
    myproxy_server(int(sys.argv[1]))
```