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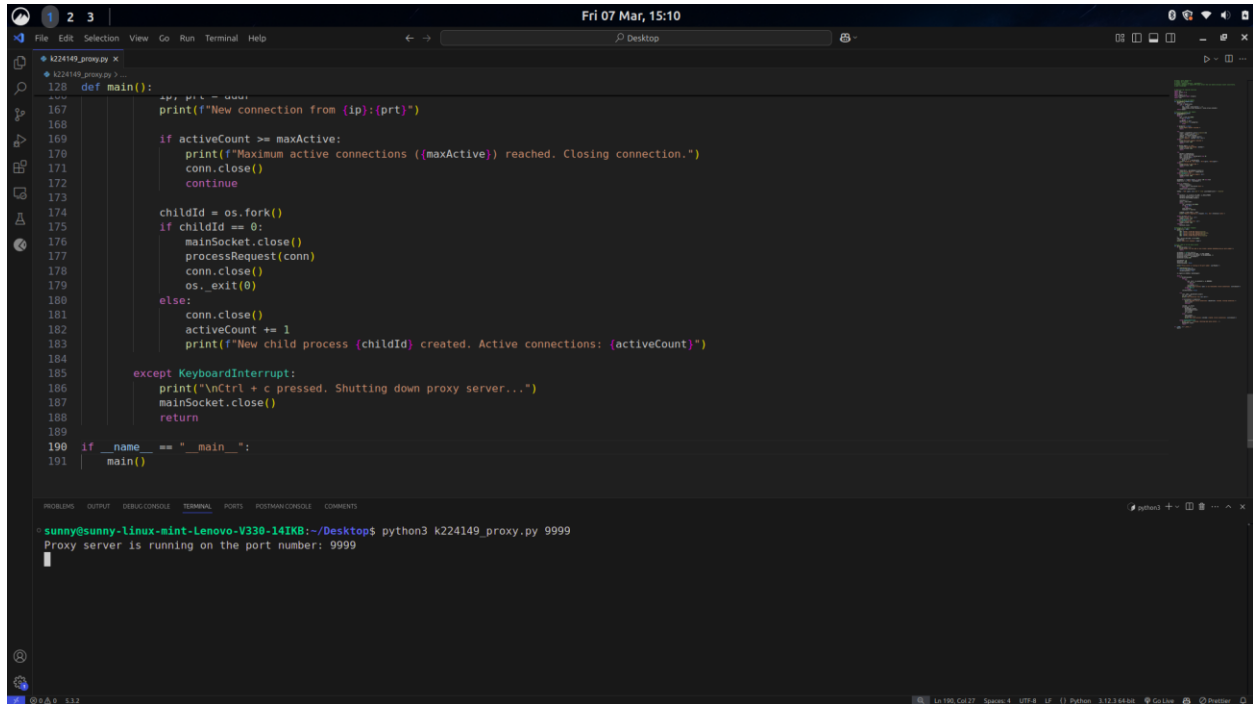
SECTION: 6J

COURSE: COMPUTER NETWORKS (THEORY)

CONTEXT: ASSIGNMENT 1

DATE SUBMITTED: March 7, 2025

Running the code:



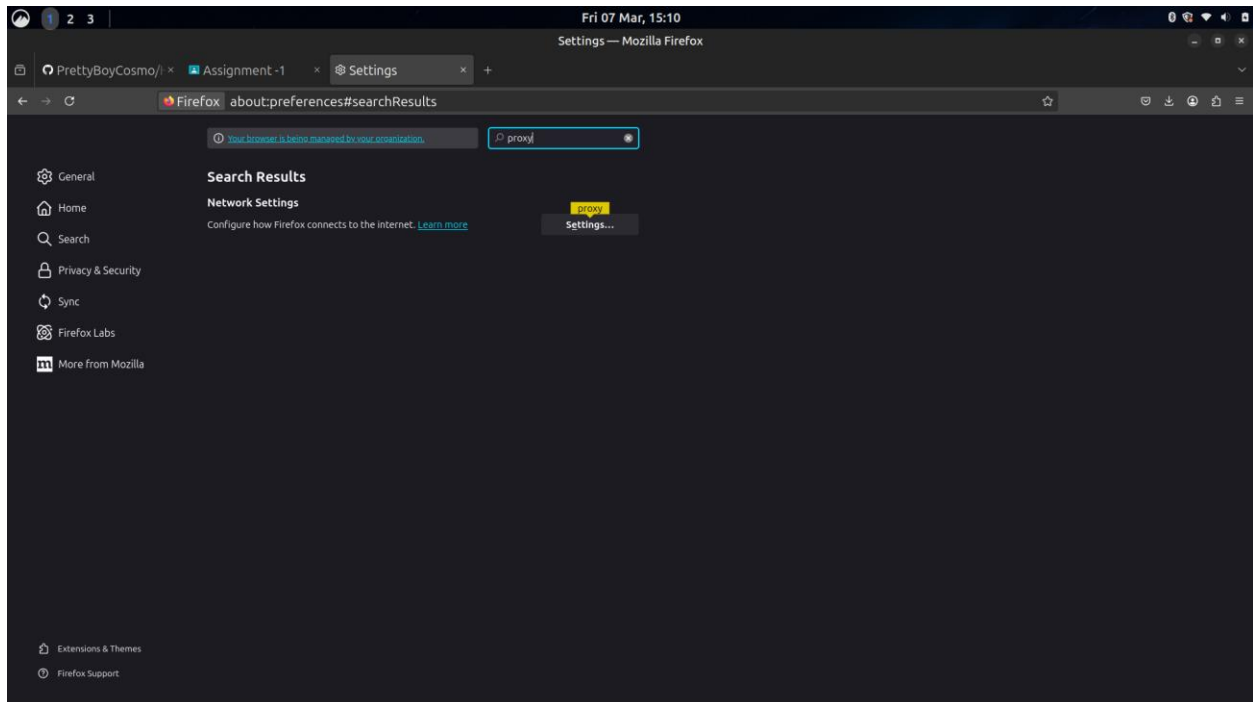
The screenshot shows a code editor with a Python script for a proxy server. The script is named `k224149_proxy.py` and is located on the Desktop. The code defines a `main` function that listens for connections on port 9999. It uses `os.fork()` to create child processes for each connection. The script includes error handling for `KeyboardInterrupt` and `KeyboardError`. The output window shows the command `python3 k224149_proxy.py 9999` being executed, and the message "Proxy server is running on the port number: 9999" is displayed.

```
128 def main():
129     s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
130     s.bind(('', 9999))
131     s.listen(5)
132     print(f'New connection from {ip}:{prt}')
133
134     if activeCount >= maxActive:
135         print(f'Maximum active connections ({maxActive}) reached. Closing connection.')
136         conn.close()
137         continue
138
139     childId = os.fork()
140     if childId == 0:
141         mainSocket.close()
142         processRequest(conn)
143         conn.close()
144         os._exit(0)
145     else:
146         conn.close()
147         activeCount += 1
148         print(f'New child process {childId} created. Active connections: {activeCount}')
149
150 except KeyboardInterrupt:
151     print('\nCtrl + c pressed. Shutting down proxy server...')
152     mainSocket.close()
153     return
154
155 if __name__ == '__main__':
156     main()
```

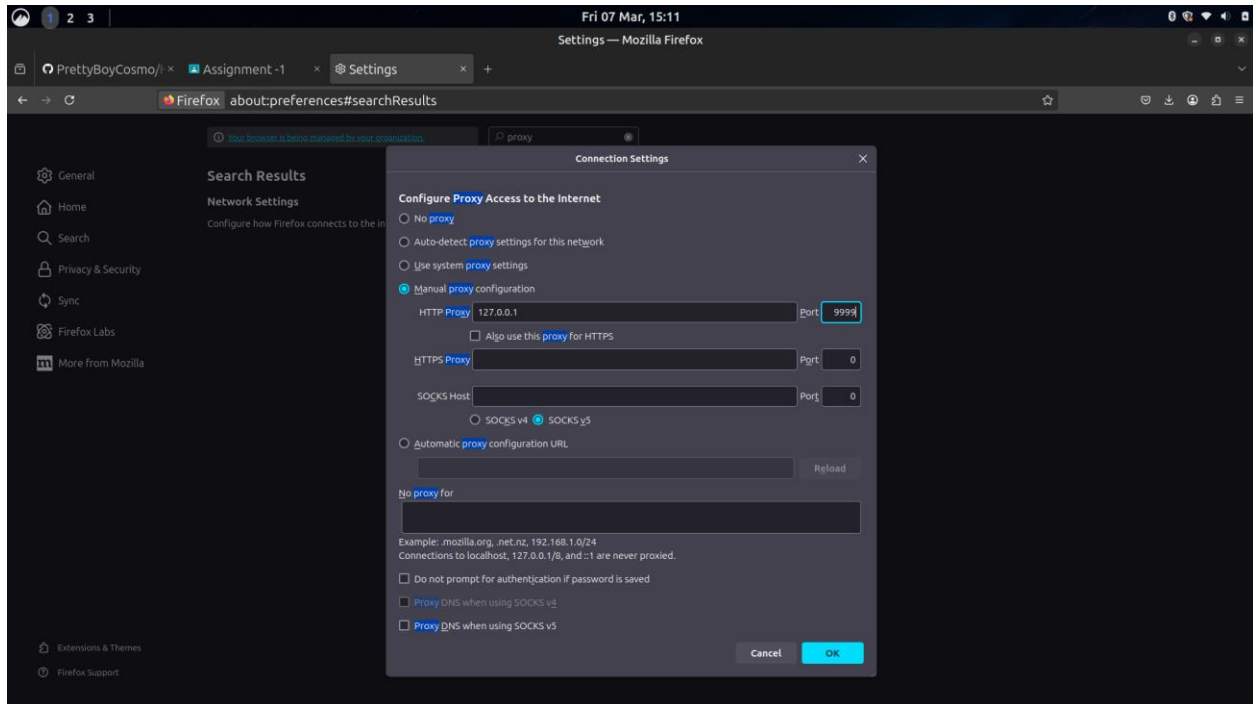
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS POSTMAN CONSOLE COMMENTS

`sunny@sunny-linux-mint-Lenovo-V330-14IK8:~/Desktop$ python3 k224149_proxy.py 9999`
Proxy server is running on the port number: 9999

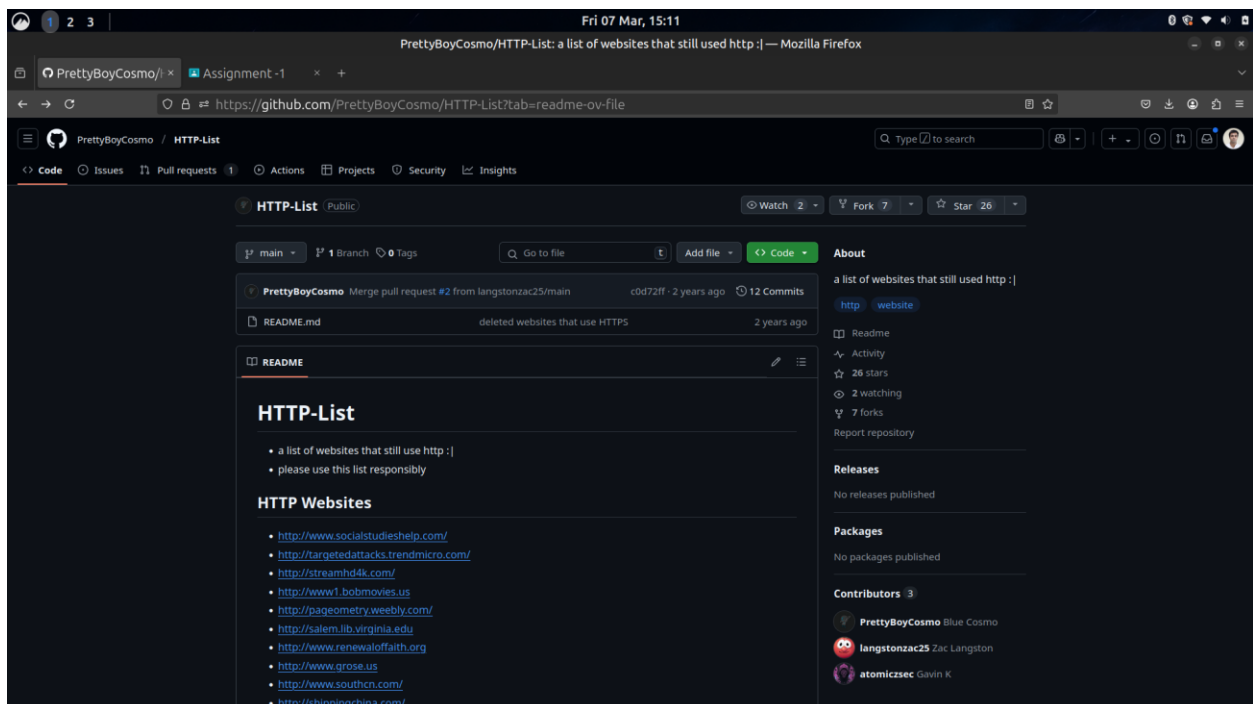
Searching for proxy settings on Firefox:



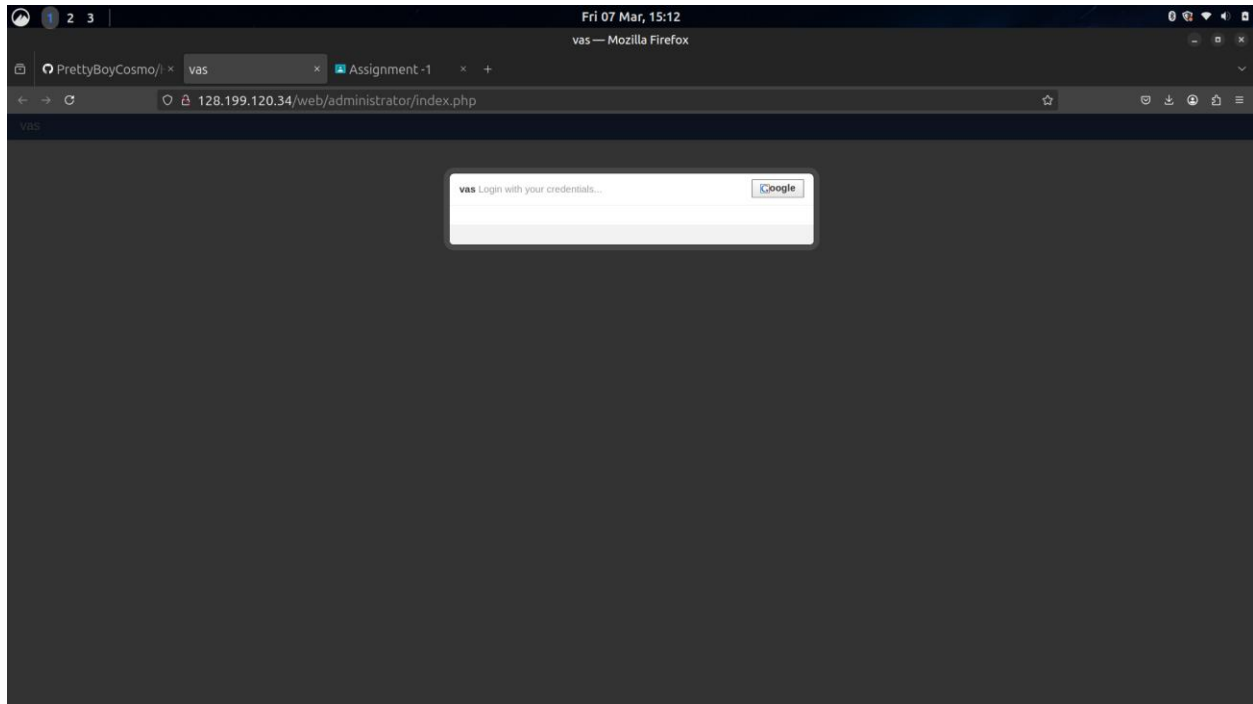
Configuring proxy settings on Firefox:



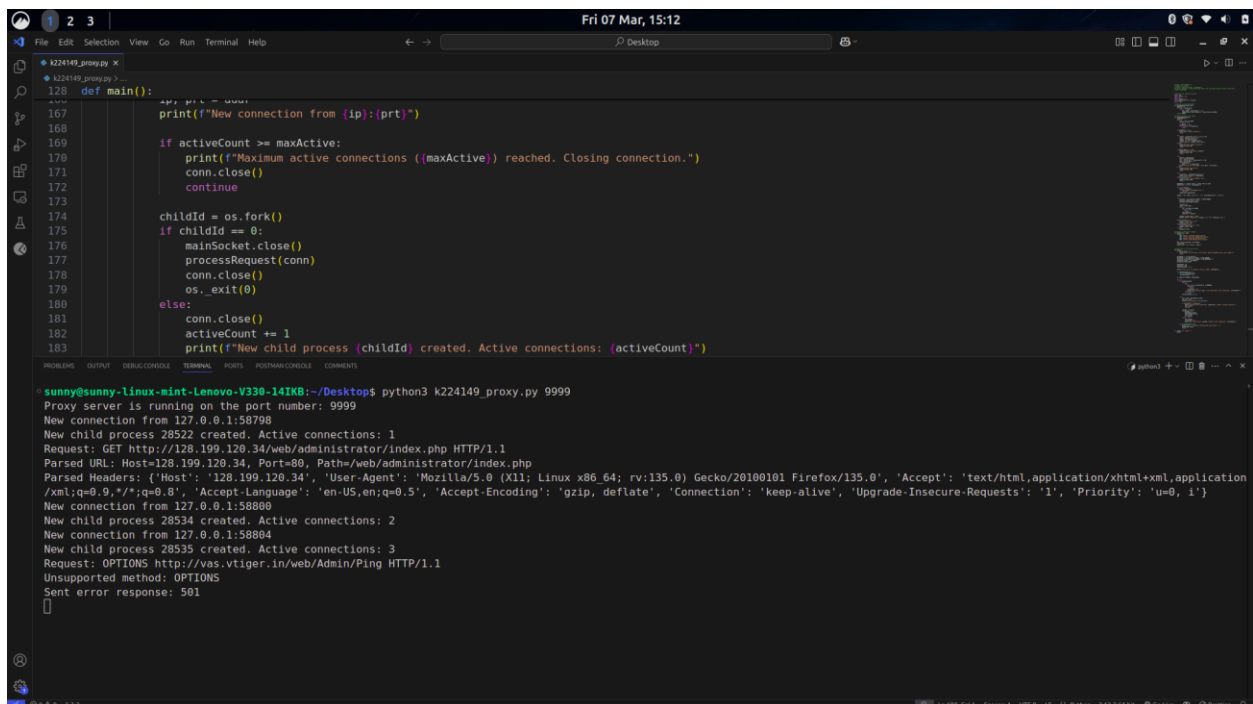
Finding list of HTTP websites to test the HTTP proxy implementation on:



Accessing an HTTP website on Firefox:

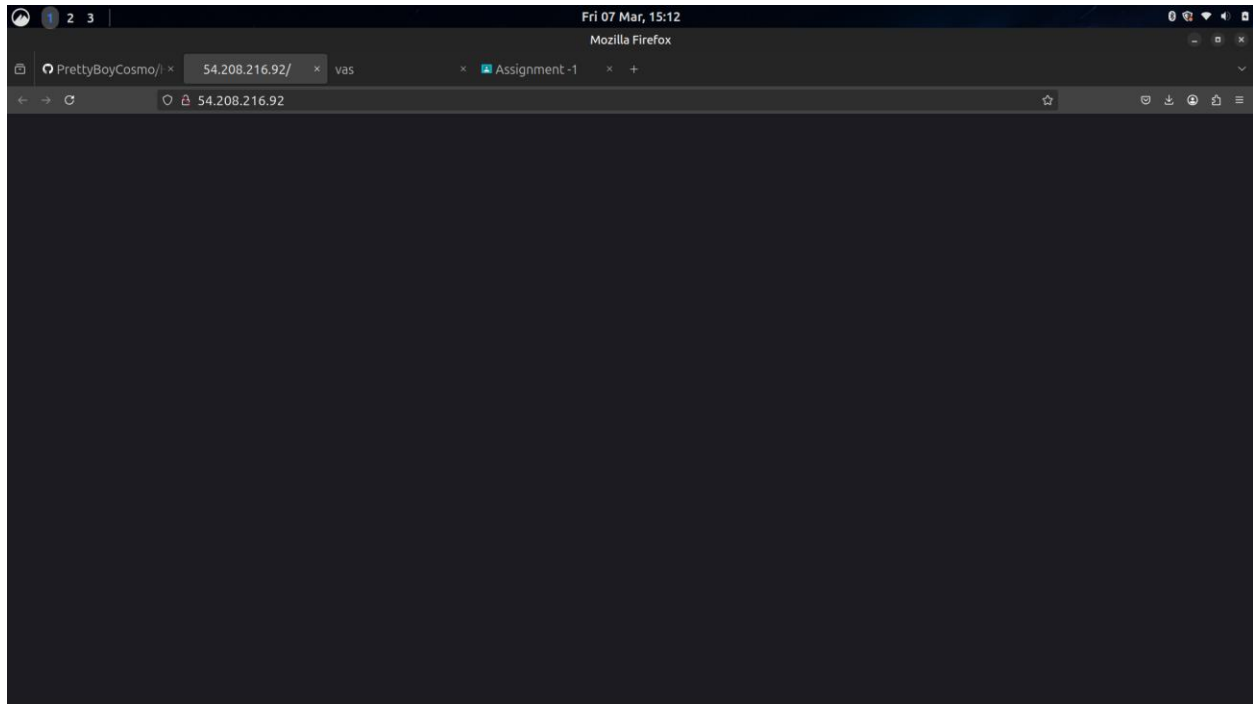


Viewing connection log on the terminal to verify if proxy works:

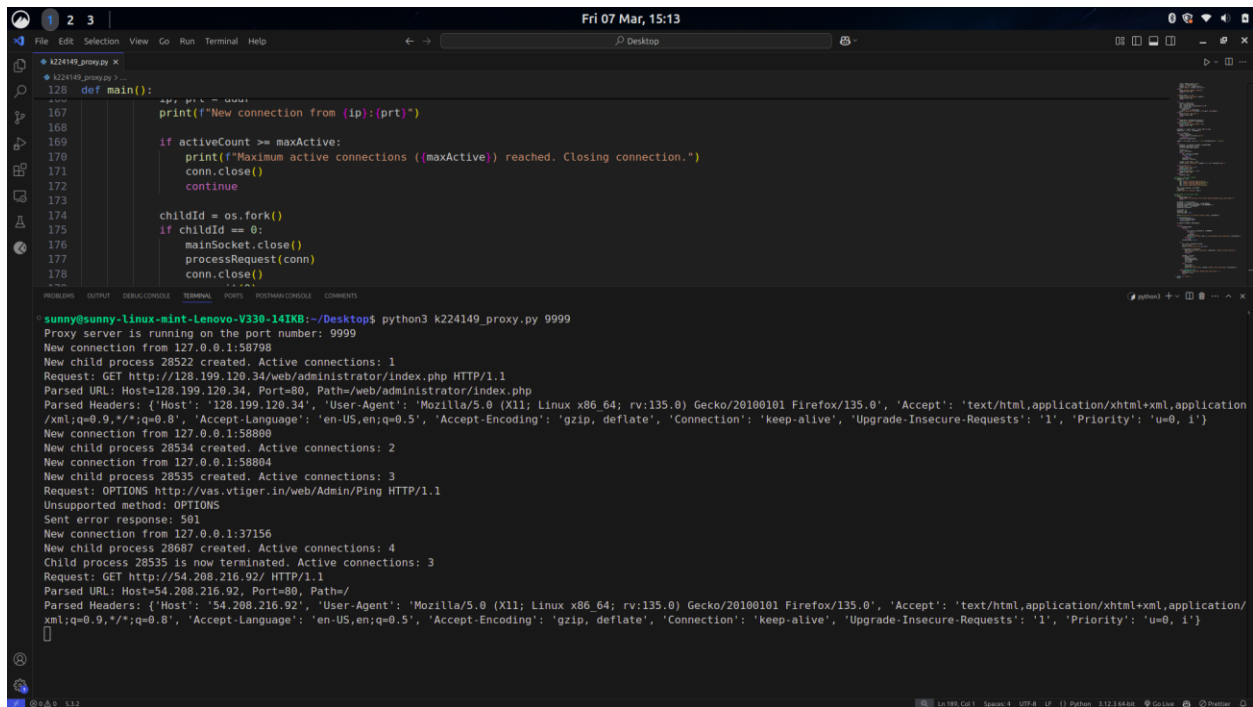


Working as intended

Accessing another HTTP website on Firefox:

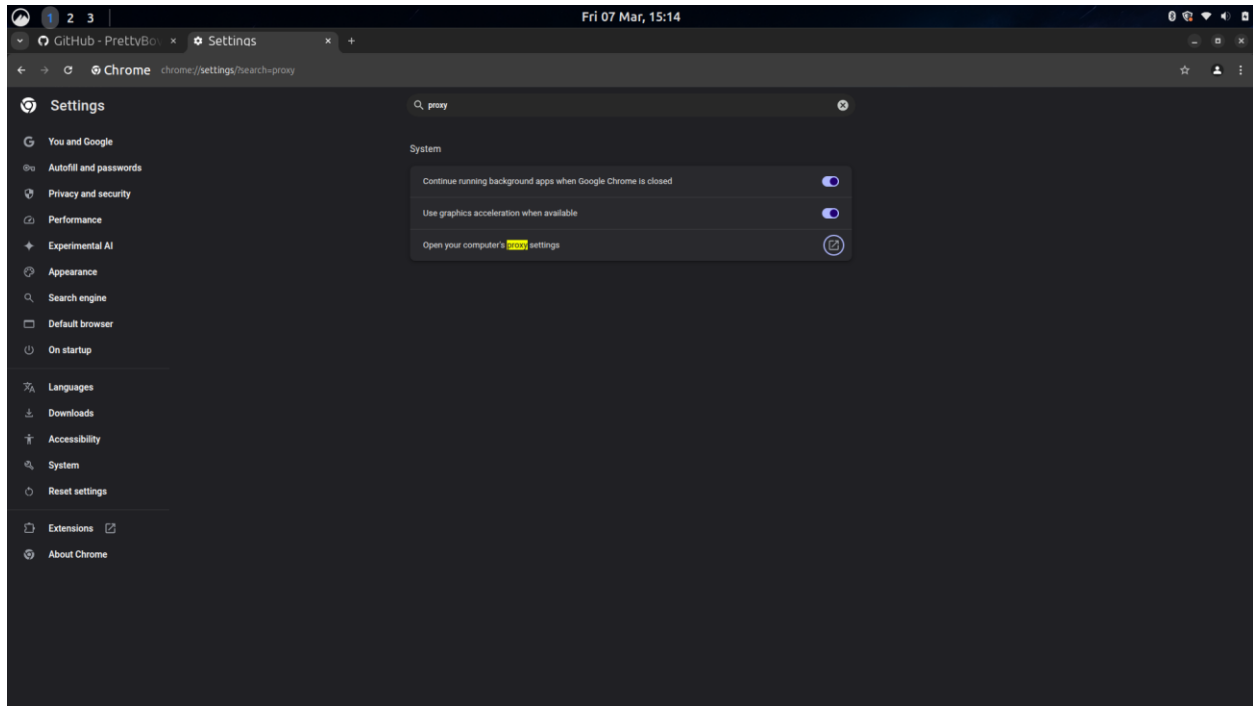


Viewing connection log on the terminal:

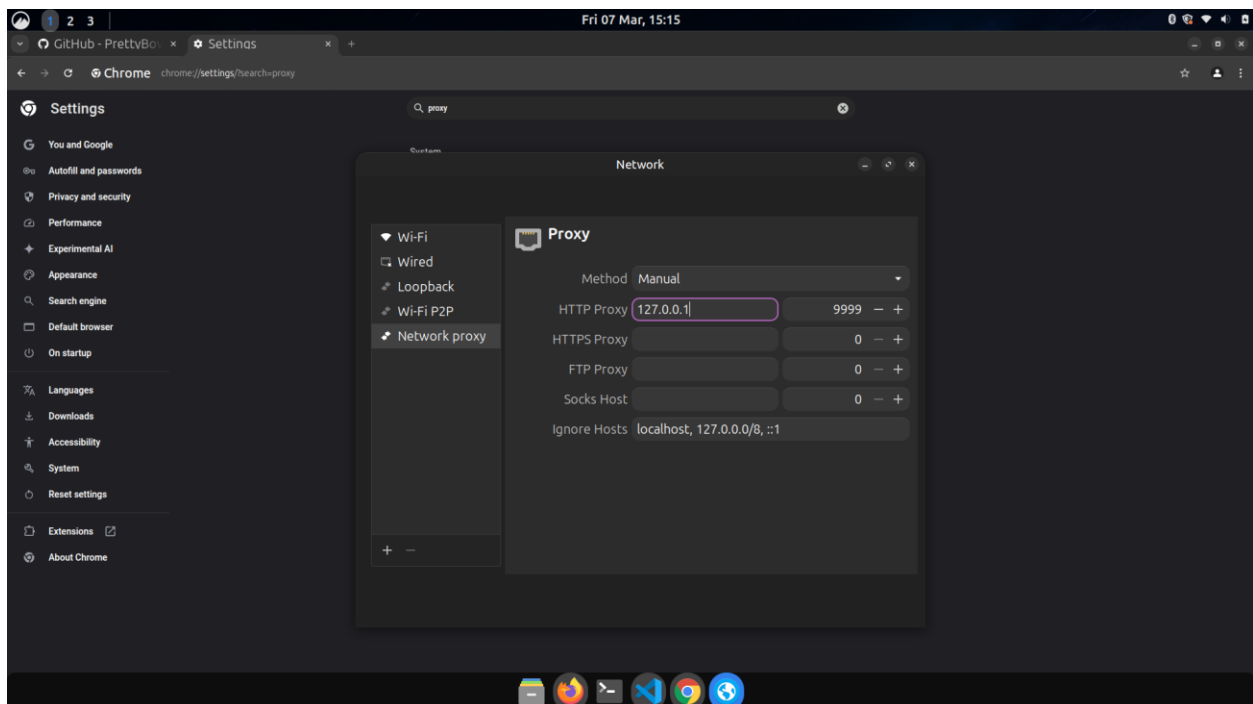


Working as intended

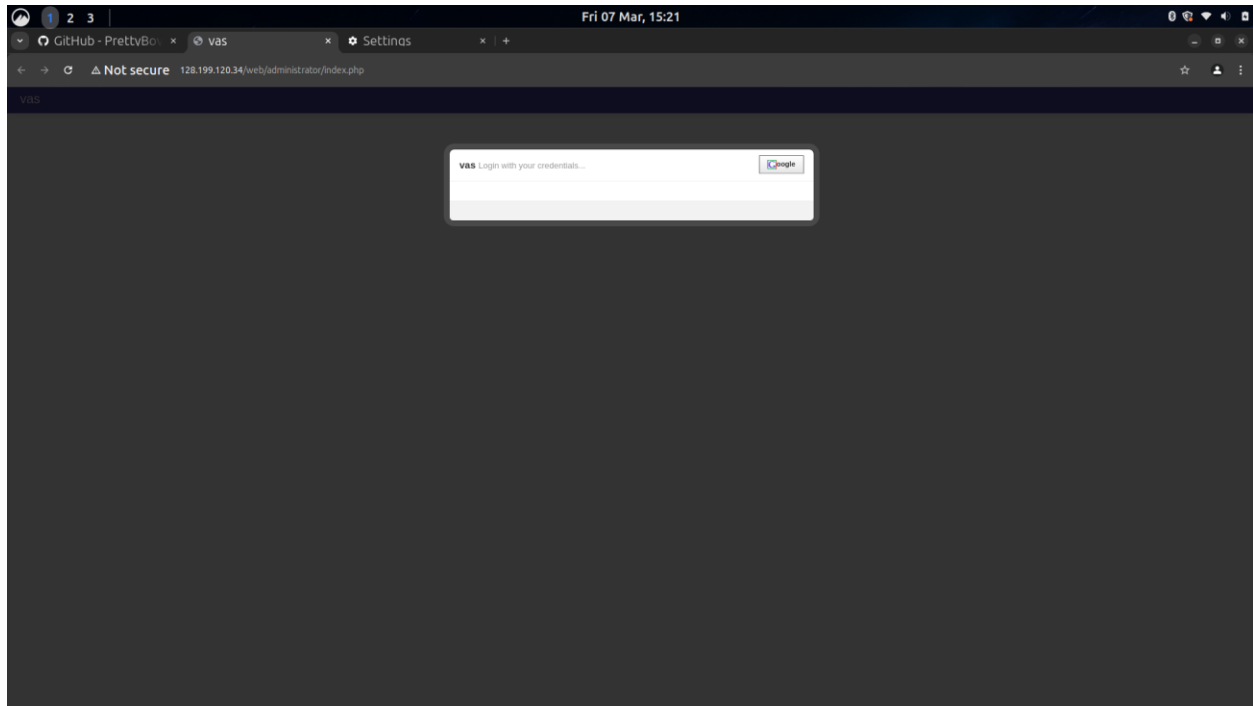
Searching for proxy settings on Google Chrome:



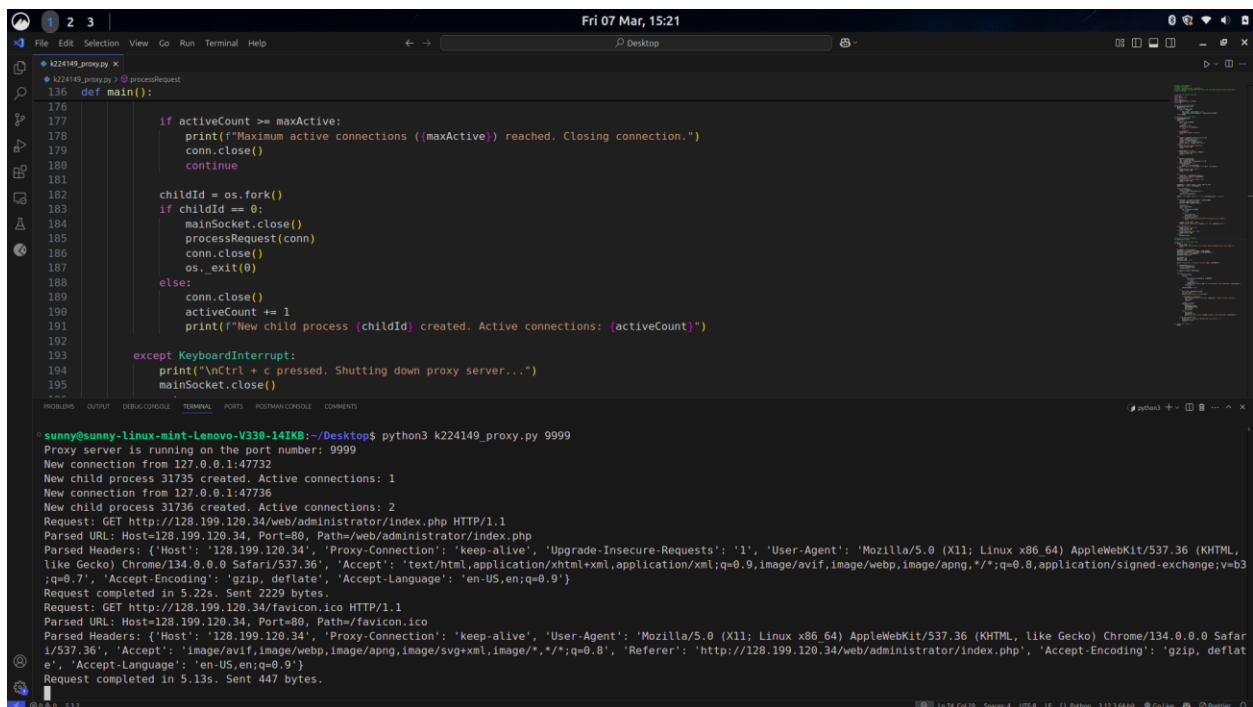
Configuring proxy settings on Google Chrome:



Accessing an HTTP website on Google Chrome:



Viewing connection log on the terminal:



Working as intended