

ACN Programming Assignment-2

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Part 1) Web Client:

The client supports both ‘Direct’ as well as ‘Indirect’ connection.

a) Direct connection:

In ‘direct connection’, the client establishes TCP connection with the server. (Client -> Server)

Through this TCP connection, the client sends HTTP GET request to the web server and receives the response from the web server.

After receiving the response from the web server, the client parses the HTML file for presence of references to other objects. If found, the client fetches them one-by-one using non-persistent HTTP GET requests.

To run the client in direct connection mode, follow below command:

```
python3 Client.py <serverIP> <serverPort> <resource_url>
```

We can see working of client (in direct mode) in below screenshot:

Here, we are fetching a base html file named ‘HelloWorld.html’, which refers to 4 images.

```
mayuresh@mayuresh-HP-Laptop: ~/Desktop/final_acn... python3 Client.py 127.0.0.1 12800 HelloWorld.html
Usage: python3 Client.py <serverIP> <serverPort> <resource_url> OR python3 Client.py <serverIP> <serverPort> <proxyIP> <proxPort> <resource_url>
Fetching from webserver...
Index page fetched:
HTTP/1.0 200 OK

<!DOCTYPE html>
<html lang="en">

<head>
    <title>Pizza House</title>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <style>
        * {
            box-sizing: border-box;
        }
        header {
            background-color: #666;
            padding: 30px;
            text-align: center;
            font-size: 35px;
            color: white;
        }
        body {
            background-color: lightgray;
        }
    </style>
</head>
<body>
    <h1 style="text-align: center;">Pizza House</h1>
    <table width="100%" style="border-collapse:separate; border-spacing: 0 1em;">
        <tr>
            <td align="center"></td>
            <td align="center"></td>
        </tr>
        <tr>
            <td align="center">Margherita</td>
            <td align="center">Pepperoni Pizza</td>
        </tr>
        <tr>
            <td align="center"></td>
            <td align="center"></td>
        </tr>
    </table>
</body>
```

We can observe in the below screenshot that, the 4 pizza images referred in the base html file are fetched at client's end using non-persistent HTTP connections.

The screenshot shows two terminal windows side-by-side. The left window displays the command `python3 Server.py` being run, which starts a TCP Web Server on port 12000. The right window shows the generated HTML code for a pizza menu page. The HTML includes styles for a header and body, and a table with four rows, each containing an image tag for a different pizza type: Margherita Pizza, Pepperoni Pizza, Margherita, and Pepperoni. A status bar at the bottom of the right window indicates that all objects referred in the page have been loaded.

```
mayuresh@mayuresh-HP-Laptop: ~/Desktop/final_acn$ python3 Server.py
mayuresh@mayuresh-HP-Laptop: ~/Desktop/final_acn$ python3 Server.py
*****
TCP Web Server *****
TCP Server having IP 127.0.0.1 is listening on port 12000.....
=====
Established connection with client 127.0.0.1 : 51274
Received URL: http://127.0.0.1:12000/Helloworld.html
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: HelloWorld.html
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 51280
Received URL: http://127.0.0.1:12000/pizza1.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizza1.jpeg
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 51290
Received URL: http://127.0.0.1:12000/pizza2.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizza2.jpeg
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 51302
Received URL: http://127.0.0.1:12000/pizza3.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizza3.jpeg
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 51394
Received URL: http://127.0.0.1:12000/pizza4.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizza4.jpeg
Closed the connection with client: 127.0.0.1
=====
```

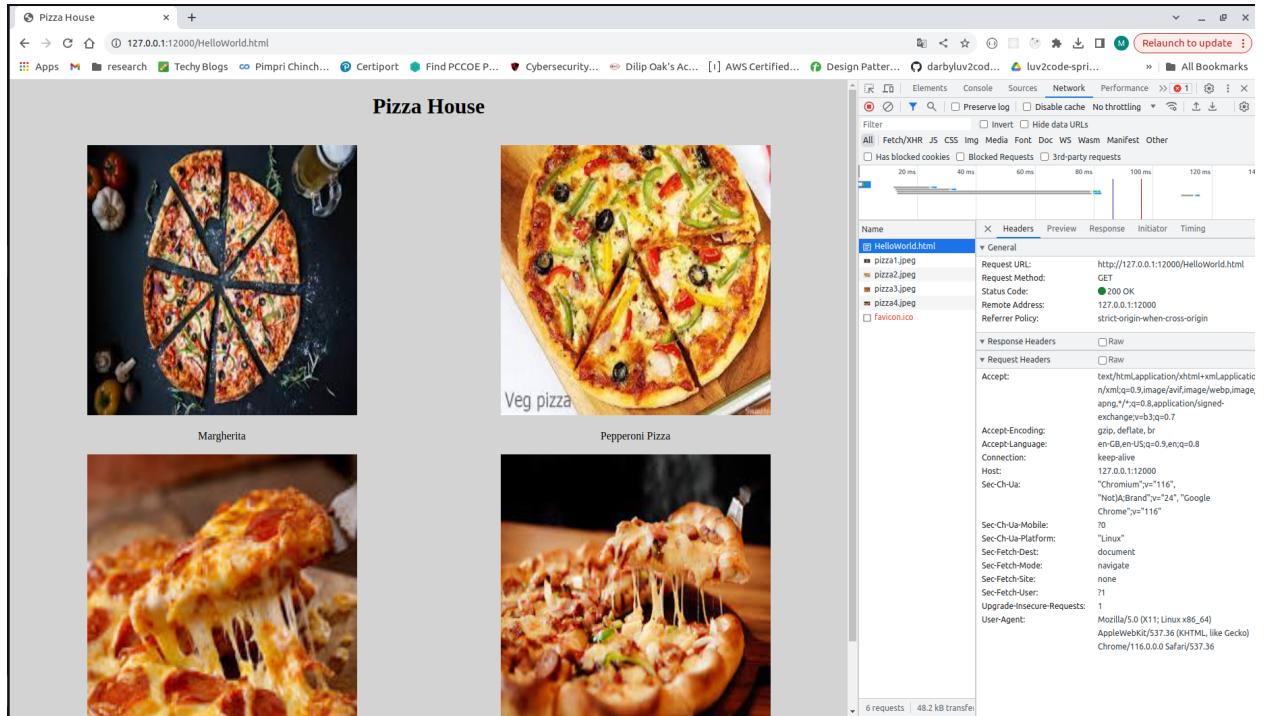
```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Pizza House</title>
<meta charset="utf-8"/>
<meta content="width=device-width, initial-scale=1" name="viewport"/>
<style>
* {
    box-sizing: border-box;
}
header {
    background-color: #666;
    padding: '30px';
    text-align: center;
    font-size: '35px';
    color: white;
}
body {
    background-color: lightgray;
}
</style>
</head>
<body>
<h1 style="text-align: center;">>Pizza House</h1>
<table style="border-collapse:separate; border-spacing: 0 1em;" width="100%">
<tr>
<td align="center">
![Margherita Pizza](pizza1.jpeg)
</td>
<td align="center">
![Pepperoni Pizza](pizza2.jpeg)
</td>
<tr>
<td align="center">Margherita</td>
<td align="center">Pepperoni Pizza</td>
</tr>
<tr>
<td align="center">
![Cheezy Pizza](pizza3.jpeg)
</td>
<td align="center">
![Farmhouse Pizza](pizza4.jpeg)
</td>
</tr>
<tr>
<td align="center">Cheesy Pizza</td>
<td align="center">Farm House</td>
</tr>
</table>
<br/>
<br/>
</body>
</html>
```

All the objects referred in this HTML page: ['pizza1.jpeg', 'pizza2.jpeg', 'pizza3.jpeg', 'pizza4.jpeg']

```
mayuresh@mayuresh-HP-Laptop: ~/Desktop/final_acn$ [ ]
```

Now, instead of requesting the HTML file from WebClient, we are requesting it from the browser.

Browser View:



Server View:

```
mayuresh@mayuresh-HP-Laptop:~/Desktop/final_acn/server/web_root$ python3 Server.py
*****
TCP Web Server *****
TCP Server having IP 127.0.0.1 is listening on port 12000.....
=====
Established connection with client 127.0.0.1 : 38192
Received URL: /HelloWorld.html
HttpScheme:
DomainName:
Resource URL: HelloWorld.html
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 38202
Established connection with client 127.0.0.1 : 38212
Received URL: /pizza1.jpeg
HttpScheme:
DomainName:
Resource URL: pizza1.jpeg
Closed the connection with client: 127.0.0.1
=====
Received URL: /pizza2.jpeg
HttpScheme:
DomainName:
Resource URL: pizza2.jpeg
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 38216
Established connection with client 127.0.0.1 : 38222
Received URL: /pizza3.jpeg
HttpScheme:
Received URL: /pizza4.jpeg
HttpScheme:
DomainName:
Resource URL: pizza4.jpeg
Resource URL: pizza3.jpeg
Closed the connection with client: 127.0.0.1
=====
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 38230
Received URL: /favicon.ico
HttpScheme:
DomainName:
Resource URL: favicon.ico
Closed the connection with client: 127.0.0.1
=====
```

b) Indirect Connection:

In the indirect connection, the client establishes a TCP connection with the web proxy, and sends HTTP GET request to the proxy through this TCP connection. Client also sends the ‘Host’ in the header along with request, which is used by proxy to identify the web server.

After receiving the response from web-proxy, client parses the HTML file for presence of reference to other objects. If found, the client fetches them one-by-one using non-persistent HTTP GET requests from web-proxy.

To run the client in indirect connection mode, follow below command:
python3 Client.py <serverIP> <serverPort> <proxyIP> <proxPort> <resource_url>

We can see working of client (in indirect mode) in below screenshot:

```
mayuresh@mayuresh-HP-Laptop: ~/Desktop/final_acn/server/web_root$ python3 Server.py
*****
TCP Web Server *****
TCP Server having IP 127.0.0.1 is listening on port 12000...
=====
Established connection with client 127.0.0.1 : 53122
Received URL: http://127.0.0.1:12000/Helloworld.html
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: Helloworld.html
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 53134
Received URL: http://127.0.0.1:12000/pizza1.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizza1.jpeg
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 53150
Received URL: http://127.0.0.1:12000/pizza2.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizza2.jpeg
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 53160
Received URL: http://127.0.0.1:12000/pizza3.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizza3.jpeg
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 53164
Received URL: http://127.0.0.1:12000/pizza4.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizza4.jpeg
Closed the connection with client: 127.0.0.1
=====
```

```
mayuresh@mayuresh-HP-Laptop: ~/Desktop/final_acn$ python3 Proxy.py
*****
TCP Web Proxy *****
TCP Web Proxy having IP 127.0.0.1 is listening on port 13000....
Proxy has established connection with client 127.0.0.1 : 45404
Received request from client/browser: GET http://127.0.0.1:12000/Helloworld.html
HTTP/1.0
Host: 127.0.0.1:12000

Proxy has established connection with webserver
Proxy has closed connection with webserver
Closed client-proxy socket
Proxy has closed connection with client: 127.0.0.1 : 45404
=====
Proxy has established connection with client 127.0.0.1 : 45418
Received request from client/browser: GET http://127.0.0.1:12000/pizza1.jpeg HTT
P/1.0
Host: 127.0.0.1:12000

Proxy has established connection with webserver
Proxy has closed the connection with webserver
Closed client-proxy socket
Proxy has closed connection with client: 127.0.0.1 : 45418
=====
Proxy has established connection with client 127.0.0.1 : 45420
Received request from client/browser: GET http://127.0.0.1:12000/pizza2.jpeg HTT
P/1.0
Host: 127.0.0.1:12000

Proxy has established connection with webserver
Proxy has closed the connection with webserver
Closed client-proxy socket
Proxy has closed connection with client: 127.0.0.1 : 45420
=====
Proxy has established connection with client 127.0.0.1 : 45428
Received request from client/browser: GET http://127.0.0.1:12000/pizza3.jpeg HTT
P/1.0
Host: 127.0.0.1:12000

Proxy has established connection with webserver
Proxy has closed the connection with webserver
Closed client-proxy socket
Proxy has closed connection with client: 127.0.0.1 : 45428
=====
Proxy has established connection with client 127.0.0.1 : 45440
Received request from client/browser: GET http://127.0.0.1:12000/pizza4.jpeg HTT
P/1.0
Host: 127.0.0.1:12000

Proxy has established connection with webserver
Proxy has closed the connection with webserver
Closed client-proxy socket
Proxy has closed connection with client: 127.0.0.1 : 45440
=====
```

```
mayuresh@mayuresh-HP-Laptop: ~/Desktop/final_acn$ python3 Client.py 127.0.0.1:13000 127.0.0.1:12000 HelloWorld.html
Usage: Client.py <serverIP> <serverPort> <resource_url> OR python3
Client.py <serverIP> <serverPort> <proxyIP> <proxPort> <resource_url>
Fetching from webProxy...
Response Proxy -> Client: HTTP/1.0 200 OK

<!DOCTYPE html>
<html lang="en">

<head>
<title>Pizza House</title>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<style>
<!--
    * {
        box-sizing: border-box;
    }

    header {
        background-color: #666;
        padding: 10px;
        text-align: center;
        font-size: 15px;
        color: white;
    }

    body {
        background-color: lightgray;
    }
-->
</style>
</head>
<body>

<h1 style="text-align: center;">Pizza House</h1>
<table width="100%" style="border-collapse:separate; border-spacing: 0 1em;">
    <tr>
        <td align="center">
            
        </td>
        <td align="center">
            
        </td>
    </tr>
    <tr>
        <td align="center">Margherita</td>
        <td align="center">Pepperoni Pizza</td>
    </tr>
    <tr>
        <td align="center">
            
        </td>
    </tr>
</table>
</body>
</html>
```

```

mayuresh@mayuresh-HP-Laptop:~/Desktop/final_acn/server/web_root$ python3 Server.py
*****
TCP Web Server *****
TCP Server having IP 127.0.0.1 is listening on port 12000...
=====
Established connection with client 127.0.0.1 : 53122
Received URL: http://127.0.0.1:12000/Helloworld.html
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: HelloWorld.html
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 53134
Received URL: http://127.0.0.1:12000/pizzal.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizzal.jpeg
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 53150
Received URL: http://127.0.0.1:12000/pizza2.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizza2.jpeg
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 53160
Received URL: http://127.0.0.1:12000/pizza3.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizza3.jpeg
Closed the connection with client: 127.0.0.1
=====
Established connection with client 127.0.0.1 : 53164
Received URL: http://127.0.0.1:12000/pizza4.jpeg
HttpScheme: http
DomainName: 127.0.0.1:12000
Resource URL: pizza4.jpeg
Closed the connection with client: 127.0.0.1
=====

mayuresh@mayuresh-HP-Laptop:~/Desktop/final_acn$ python3 proxy.py
*****
TCP Web Proxy *****
TCP Web Proxy having IP 127.0.0.1 is listening on port 13000...
Proxy has established connection with client 127.0.0.1 : 45404
Received request from client/browser: GET http://127.0.0.1:12000/Helloworld.html
HTTP/1.0
Host: 127.0.0.1:12000

Proxy has established connection with webserver
Proxy has closed the connection with webserver
closed client-proxy socket
Proxy has closed connection with client: 127.0.0.1 : 45404
=====
Proxy has established connection with client 127.0.0.1 : 45418
Received request from client/browser: GET http://127.0.0.1:12000/pizzal.jpeg HTTP/1.0
Host: 127.0.0.1:12000

Proxy has established connection with webserver
Proxy has closed the connection with webserver
closed client-proxy socket
Proxy has closed connection with client: 127.0.0.1 : 45418
=====
Proxy has established connection with client 127.0.0.1 : 45420
Received request from client/browser: GET http://127.0.0.1:12000/pizza2.jpeg HTTP/1.0
Host: 127.0.0.1:12000

Proxy has established connection with client 127.0.0.1 : 45428
Received request from client/browser: GET http://127.0.0.1:12000/pizza3.jpeg HTTP/1.0
Host: 127.0.0.1:12000

Proxy has established connection with client 127.0.0.1 : 45440
Received request from client/browser: GET http://127.0.0.1:12000/pizza4.jpeg HTTP/1.0
Host: 127.0.0.1:12000

Proxy has established connection with webserver
Proxy has closed the connection with webserver
closed client-proxy socket
Proxy has closed connection with client: 127.0.0.1 : 45440
Proxy has closed connection with client: 127.0.0.1 : 45444
=====
All the objects referred in this HTML page: ['pizzal.jpeg', 'pizza2.jpeg', 'pizza3.jpeg', 'pizza4.jpeg']
mayuresh@mayuresh-HP-Laptop:~/Desktop/final_acn$ 

```

Part 2) Web Proxy:

The web-proxy performs the function of proxying only. It is implemented for handling HTTP GET requests.

If the HTTP request received by proxy is not as per standard HTTP format, it returns “400 Bad Request” error, instead of forwarding the bad requests to the server. This reduces traffic at the web server.

The proxy also handles the responses like 200 OK, 404 Not Found, etc. The proxy does not handle HTTPS requests, because the sockets are not ssl enabled.

The web proxy handles each client connection request using a separate thread. The web proxy can be accessed from a web browser as well as ‘Web Client’.

To run the server, use below command:

```
python3 Proxy.py
```

We can see working of web proxy from Web browser in below screenshot:

1. Using Firefox browser:

A. Browser output without using proxy:

The screenshot shows the Firefox Network Monitor interface. At the top, there's a status bar with 'Nov 5 12:32'. Below it is the browser toolbar with tabs for 'Settings' and 'Example Domain'. The main window displays a 'www.example.com' page titled 'Example Domain'. On the right side of the screen, the Network tab is selected in the monitor, showing two requests: a 200 GET for the main page and a 200 GET for the favicon. The details panel shows the full request and response headers for the first 200 OK response.

B. Browser output using proxy:

Setting HTTP proxy in browser:

The screenshot shows the Firefox preferences window for 'about:preferences#general'. In the center, a 'Connection Settings' dialog box is open, titled 'Configure Proxy Access to the Internet'. It shows the 'Manual proxy configuration' section selected. Under 'HTTP Proxy', the address is set to '127.0.0.1' and the port is '13000'. There are checkboxes for 'Also use this proxy for HTTPS' and 'SOCKS Host'. A note at the bottom says 'Example: .mozilla.org, .net.nz, 192.168.1.0/24'. At the bottom of the dialog are 'Cancel' and 'OK' buttons. The background of the main window shows various browser settings like 'General', 'Performance', and 'Browsing'.

mayuresh@mayuresh-HP-Laptop: ~/Desktop/final_acn\$ python3 Proxy.py

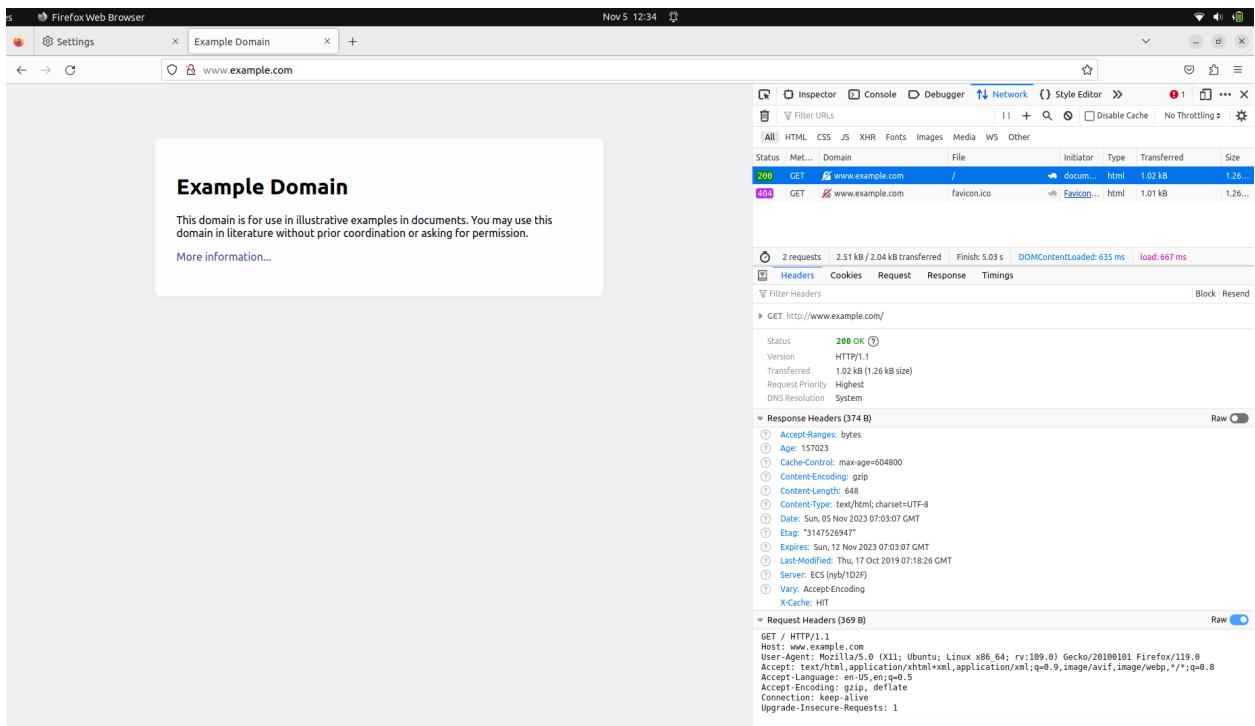
***** TCP Web Proxy *****

TCP Web Proxy having IP 127.0.0.1 is listening on port 13000....

```

Proxy has established connection with client 127.0.0.1 : 59184
Received request from client/browser: GET http://www.example.com/ HTTP/1.1
Proxy has established connection with client 127.0.0.1 : 59198
Proxy has successfully connected with webserver: 93.184.216.34 : 80
Proxy Successfully received data from server
Proxy has closed the connection with webserver: 93.184.216.34 : 80
Proxy has closed connection with client: 127.0.0.1 : 59184
=====
Received request from client/browser: GET http://www.example.com/favicon.ico HTTP/1.1
Proxy has established connection with webserver: 93.184.216.34 : 80
Proxy Successfully received data from server
Proxy has closed the connection with webserver: 93.184.216.34 : 80
Proxy has closed connection with client: 127.0.0.1 : 59198
=====
```

Relaunch to update



2. Using Google Chrome:

A. Browser output without using proxy:

The screenshot shows a Google Chrome window with the JADAVPUR UNIVERSITY website loaded. The page displays various sections like VC's Desk, Admissions, Research, etc. On the right, the Network tab of the developer tools is open, showing a successful GET request to `http://www.jaduniv.edu.in/` with a status code of 200 OK. The response headers include `Content-Type: text/html; charset=UTF-8` and `Date: Sun, 05 Nov 2023 07:06:42 GMT`.

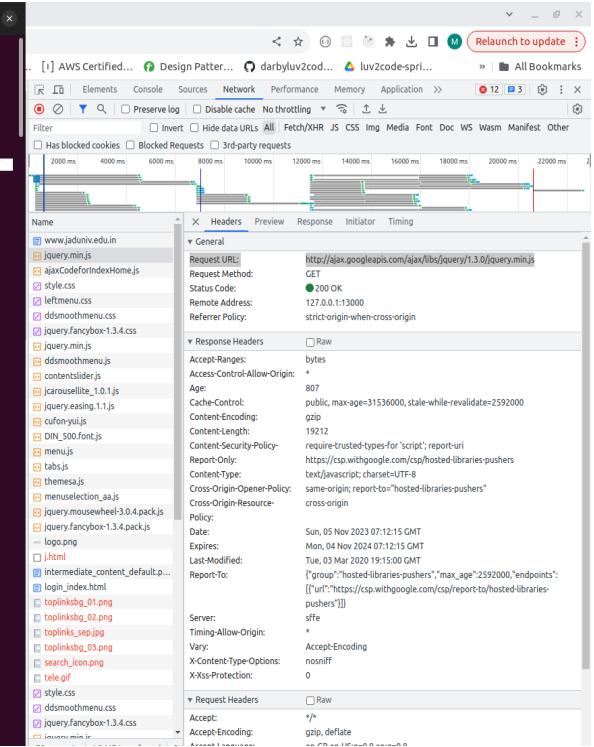
B. Browser output using Proxy:

The screenshot shows the Linux system settings under the Network tab. It displays a 'Wired' connection status as 'Cable unplugged'. A 'Network Proxy' dialog box is open, showing the 'Manual' proxy configuration. The 'HTTP Proxy' field is set to `127.0.0.1` and `13000`. Other proxy fields (HTTPS, FTP, Socks Host) and an 'Ignore Hosts' field are also present.

```
mayuresh@mayuresh-HP-Laptop: ~/Desktop/Desktop_final_acn
```

```
mayuresh@mayuresh-HP-Laptop: ~/Desktop/Desktop_final_acn$ python3 Proxy.py
```

```
***** TCP Web Proxy *****  
TCP Web Proxy having IP 127.0.0.1 is listening on port 13000....  
  
Proxy has established connection with client 127.0.0.1 : 36472  
Proxy has established connection with client 127.0.0.1 : 36478  
Proxy has established connection with client 127.0.0.1 : 36494  
Received request from client/browser: GET http://www.jaduniv.edu.in/ HTTP/1.1  
Proxy has established connection with webserver: 136.232.79.162 : 80  
Received request from client/browser: GET http://ajax.googleapis.com/ajax/libs/jquery/1.3.0/jquery.min.js HTTP/1.1  
Proxy has established connection with client 127.0.0.1 : 36510  
Received request from client/browser: GET http://www.jaduniv.edu.in/requiredfiles/leftmenu.css HTTP/1.1  
Proxy has established connection with client 127.0.0.1 : 36524  
Proxy has established connection with client 127.0.0.1 : 36530  
Proxy has established connection with client 127.0.0.1 : 36546  
Received request from client/browser: GET http://www.jaduniv.edu.in/requiredfiles/dsmonthmenu.css HTTP/1.1  
Received request from client/browser: GET http://www.jaduniv.edu.in/requiredfiles/fancybox-1.3.4.css HTTP/1.1  
Received request from client/browser: GET http://www.jaduniv.edu.in/requiredfiles/ajaxCodeForIndexHome.js HTTP/1.1  
Proxy has established connection with webserver: 142.250.182.42 : 80  
Proxy has established connection with webserver: 136.232.79.162 : 80  
Proxy has established connection with webserver: 136.232.79.162 : 80  
Proxy has established connection with webserver: 136.232.79.162 : 80  
Proxy has closed connection with webserver: 136.232.79.162 : 80  
Proxy Successfully received data from server  
Proxy has closed the connection with webserver: 136.232.79.162 : 80  
Proxy has closed connection with client: 127.0.0.1 : 36472  
=====  
Proxy has established connection with client 127.0.0.1 : 36556  
Received request from client/browser: GET http://www.jaduniv.edu.in/requiredfiles/style.css HTTP/1.1  
Proxy has established connection with webserver: 136.232.79.162 : 80  
Proxy has closed connection with webserver: 136.232.79.162 : 80  
Proxy has closed the connection with webserver: 136.232.79.162 : 80  
Proxy Successfully received data from server  
Proxy has closed connection with client: 127.0.0.1 : 36530  
=====  
Proxy has closed the connection with webserver: 136.232.79.162 : 80  
Proxy has closed connection with client: 127.0.0.1 : 36478  
=====  
Proxy has established connection with client 127.0.0.1 : 36558  
Received request from client/browser: GET http://www.jaduniv.edu.in/requiredfiles/menu.js HTTP/1.1  
Received request from client/browser: GET http://www.jaduniv.edu.in/requiredfiles/tabs.js HTTP/1.1  
Proxy Successfully received data from server  
Proxy has closed the connection with webserver: 136.232.79.162 : 80  
Proxy has closed connection with client: 127.0.0.1 : 36524  
=====  
Proxy has established connection with client 127.0.0.1 : 36580  
Received request from client/browser: GET http://www.jaduniv.edu.in/requiredfiles/themes.js HTTP/1.1  
Proxy has closed the connection with webserver: 142.250.182.42 : 80  
Proxy has closed connection with client: 127.0.0.1 : 36494  
=====  
Proxy Successfully received data from server  
[ ShowApplications ] connection with client: 127.0.0.1 : 36510
```



WhatsApp | ACN_Proxy_Report-Good | Welcome to the official w | +

Not secure | jadavpuruniversity.in

Apps research Techy Blogs Pimpri Chinch... Certiport Find PCCOE P... Cybersecurity... Dilip Oak

NEW WEBSITE- <https://jadavpuruniversity.in> Our Vision & Mission Campus Map Site Map Link

NIRF India Ranking 2023-4th in 'University', 10th in Engineering, 19th in 'Research', 18th in 'Pharmacy', 13th in 'Overall' category

Placement & Training Results/Transcript Notice & Circular Announcements Recruitment Fellowships Admissions Tenders FAIR e-Services User Logins Webmail Digital Library Beyond Campus JUMS Life Certificate (Pensioners)

VC's Desk Achievements Collaborations Special Programmes > Exchange Programme UGC-Human Resource Development Centre Quality Assurance Cell Special Facilities > 90.8 RadioJU J.U. Press RTI National Institutional Ranking Framework (NIRF) Message from Hon'ble Chief Minister, WB Message from Hon'ble MIC Higher Edn., WB

Admission Fellowship Events Circular Recruitment Tender

Provisional Merit Lists for admission to M.L.I.Sc and M.L.I.Sc (Digital Library) courses: 2023-24
Provisional Admission List for Post Graduate Diploma Yoga (PGDY 2023-2024)
Exam schedule of the written examination (WRET) for the admission to Ph.D. programme, Arts, 2023

NEW WEBSITE- [HTTPS://JADAVPURUNIVERSITY.IN](https://JADAVPURUNIVERSITY.IN)

JU CAS PORTAL

NOTIFICATION FOR ADMISSION TO PG DEGREE PROGRAMME FOR M. ARCH. (URBAN DESIGN) UNDER FACULTY OF ENGINEERING & TECHNOLOGY (FET) FOR THE SESSION 2023-24

Provisional Selection List - NOTIFICATION FOR ADMISSION TO U.G. ENGINEERING / TECHNOLOGY / PHARMACY COURSES UNDER SPORTS QUOTA (2023-24 Session)

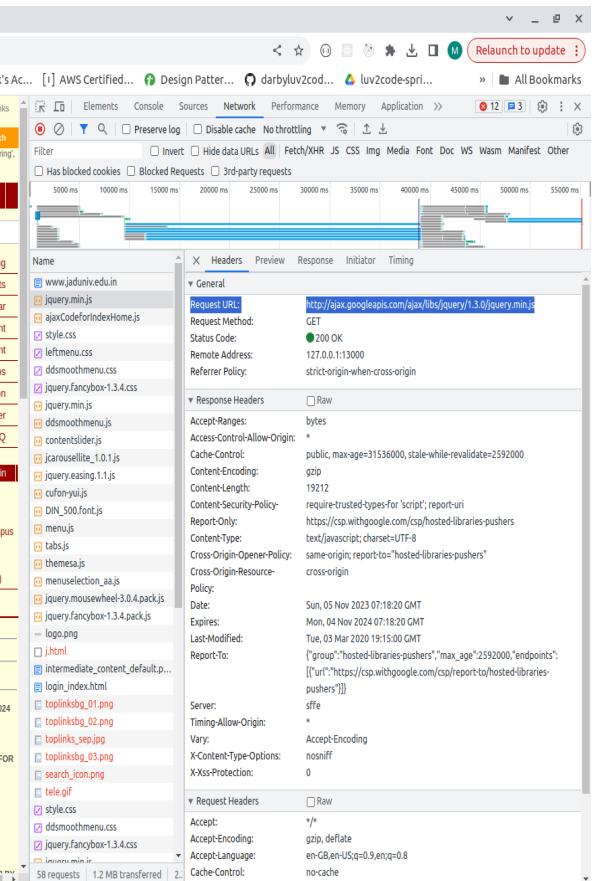
Class Start Notice for FIVE YEAR PROGRAMMES: BACHELOR OF ENGG. (CIVIL ENGG.), BACHELOR OF ENGG. (ELECTRICAL ENGG.) & BACHELOR OF ENGG. (MECHANICAL ENGG.) WORKING PROFESSIONALS (SESSION 2023-24)

Class Start Notice for MASTER OF COMPUTER APPLICATION (MCA) COURSE (SESSION 2023-24)

NOTICE : RESCHEDULE OF DEPARTMENTAL INDUCTION PROGRAMME FOR UNDER-GRADUATE ENGG./TECH. PROGRAMMES SESSION: 2023 - 2024

NOTIFICATION FOR 1ST ROUND ADMISSION IN MASTER OF COMPUTER APPLICATION (MCA) COURSE THROUGH JECA - 2023 BY WBJEEB FOR THE SESSION 2023 - 2024

THE JADAVPUR UNIVERSITY REPORT CARD FOR ALL AMERICAN STUDENTS OF THE UNIVERSITY THROUGH ONLINE SOURCE



Part 3) Web Server:

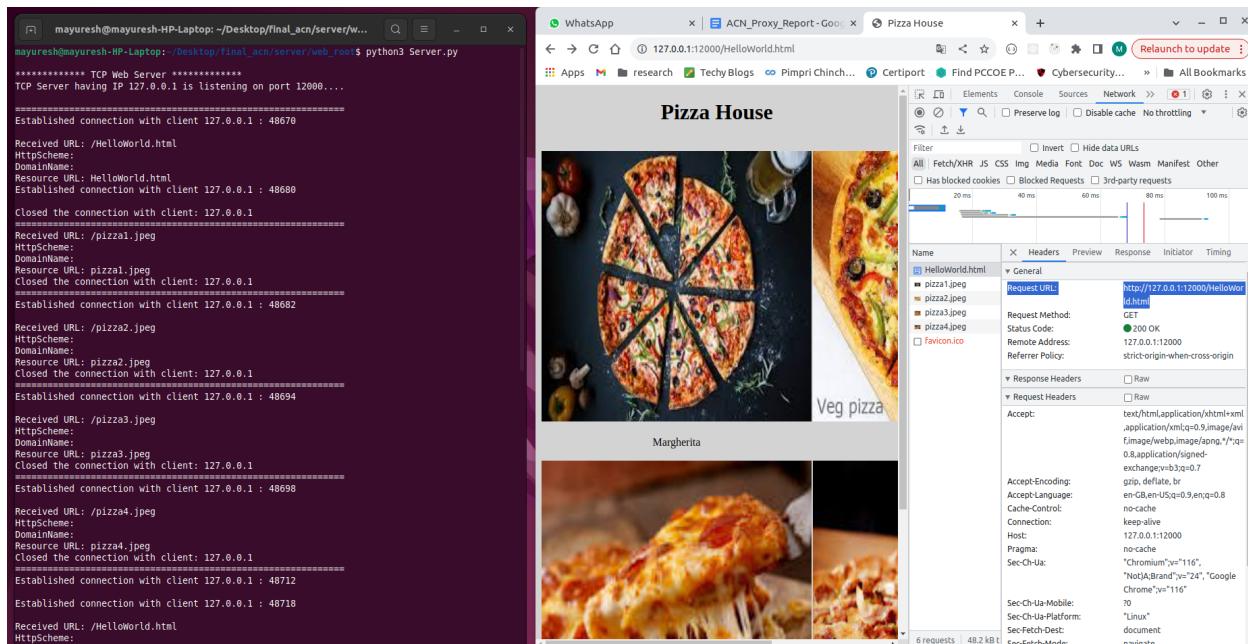
The TCP web server spawns a new thread to handle each HTTP request. The web server can handle requests from web browser, web client and web proxy. If the requested file is present at the server, then it returns it as otherwise, server returns a 404 Not Found response to the client.

To run the web server, use below command:

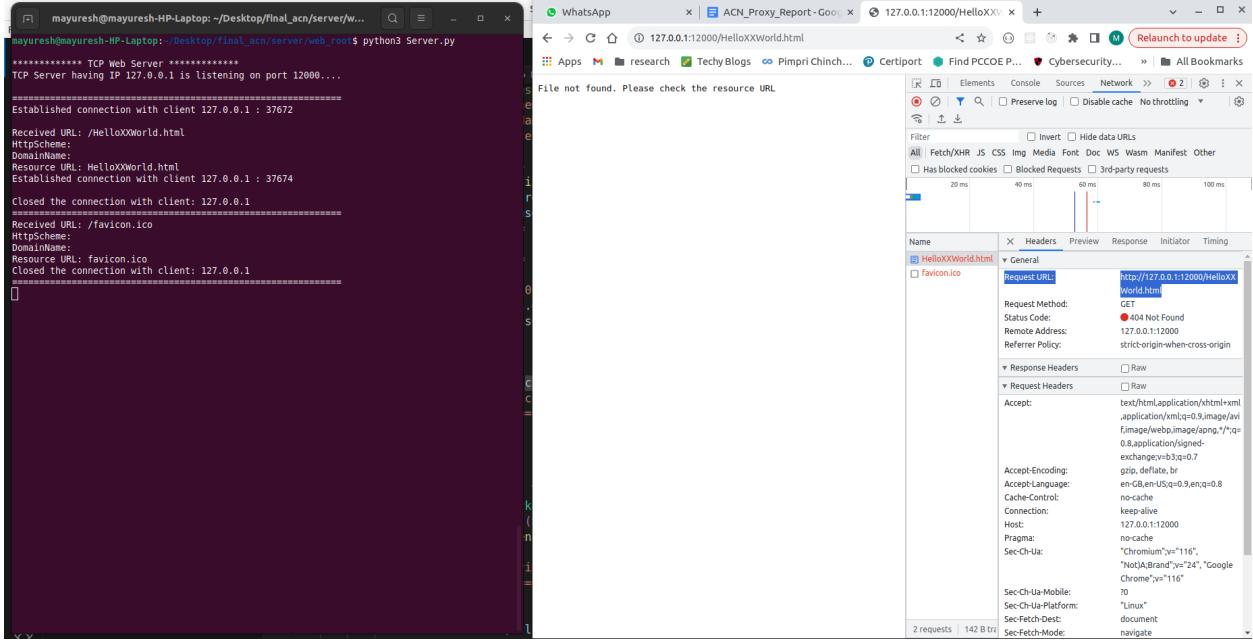
```
python3 Server.py
```

Our server handles both valid as well as invalid HTTP requests. Here we first request to server from browser using

<http://127.0.0.1/12000>HelloWorld.html> which is valid request and file “HelloWorld.html” exists, hence server returns 200 OK response.



Now we request a server from browser with url <http://127.0.0.1/12000>HelloXXWorld.html>. The file ‘HelloXXWorld.html’ does not exist at server, hence it responds with 404 Not Found.



The screenshot displays two windows side-by-side. On the left is a terminal window titled 'mayuresh@mayuresh-HP-Laptop: ~/Desktop/final_acn/server/w...'. It shows the output of a Python script named 'Server.py' which runs a TCP web server on port 12000. The server handles requests for '/HelloXXWorld.html' and '/favicon.ico', both of which result in a 'File not found. Please check the resource URL' message. On the right is a browser window titled 'WhatsApp' with the address '127.0.0.1:12000>HelloXXWorld.html'. The Network tab of the developer tools shows a single request for 'HelloXXWorld.html' with a status of '404 Not Found'. The request details show the URL, method (GET), status code, remote address (127.0.0.1:12000), and various headers including Accept, User-Agent (Chrome/116.0.5845.116), and Sec-Fetch-Mode (navigate).

```
mayuresh@mayuresh-HP-Laptop: ~/Desktop/final_acn/server/w...
mayuresh@mayuresh-HP-Laptop: ~/Desktop/final_acn/server/web$ root$ python3 Server.py
*****
TCP Web Server *****
TCP Server having IP 127.0.0.1 is listening on port 12000...
=====
Established connection with client 127.0.0.1 : 37672
Received URL: /HelloXXWorld.html
HttpScheme:
DomainName:
Resource URL: HelloXXWorld.html
Established connection with client 127.0.0.1 : 37672
Closed the connection with client: 127.0.0.1
=====
Received URL: /favicon.ico
HttpScheme:
DomainName:
Resource URL: favicon.ico
Closed the connection with client: 127.0.0.1
=====

20 ms 40 ms 60 ms 80 ms 100 ms
```

Name	Headers	Preview	Response	Initiator	Timing
HelloXXWorld.html	Request URL: http://127.0.0.1:12000/HelloXXWorld.html Request Method: GET Status Code: 404 Not Found Remote Address: 127.0.0.1:12000 Referrer Policy: strict-origin-when-cross-origin				
Favicon.ico					

Request URL: http://127.0.0.1:12000/HelloXXWorld.html
Request Method: GET
Status Code: 404 Not Found
Remote Address: 127.0.0.1:12000
Referrer Policy: strict-origin-when-cross-origin

Request Headers:

- Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/jpg,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
- Accept-Encoding: gzip, deflate, br
- Accept-Language: en-GB,en-US;q=0.9,en;q=0.8
- Cache-Control: no-cache
- Connection: keep-alive
- Host: 127.0.0.1:12000
- Pragma: no-cache
- Sec-Ch-Ua: "Chromium";v="116", "NotABrand";v="24", "Google Chrome";v="116"
- Sec-Ch-Ua-Mobile: ?0
- Sec-Ch-Ua-Platform: "Linux"
- Sec-Fetch-Dest: document
- Sec-Fetch-Mode: navigate

2 requests 142 B tri

Part 4) Extended proxy:

Extension 3: URL and Content Filtering at web proxy and web usage stats at web proxy

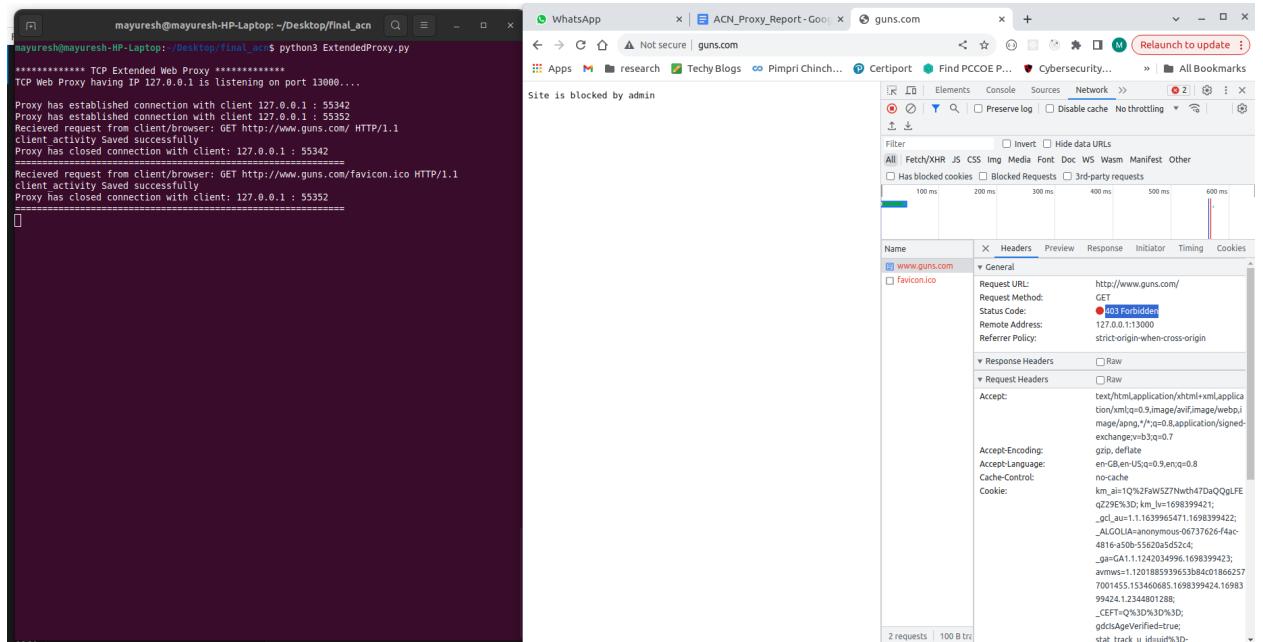
To run the ExtendedProxy, use below command:

```
python3 ExtendedProxy.py
```

Extended Proxy performs 2 types of filtering:

1. **URL filtering:** The websites are filtered (blocked / unblocked) based on their URL. Whenever a user access a blacklisted website, extended web proxy returns “403 Forbidden: Site is blocked by admin” response to the user.

In the below screenshot, we can see that the website [“www.guns.com”](http://www.guns.com) is blocked by admins, hence extended proxy is responding with 403 Forbidden error.



2. Content Filtering: The content of the website is filtered for occurrence of some keywords. In this case, the extended web proxy replaces these keywords by 'XXXX'.

We can see few words are padded by XXXX in below

<http://www.gtu.ac.in> website:

mayuresh@mayuresh-HP-Laptop: ~/Desktop/Final_acn

```
***** TCP Web Proxy having IP 127.0.0.1 is listening on port 13000.....
Proxy has established connection with client 127.0.0.1 : 46248
Proxy has established connection with client 127.0.0.1 : 46264
Received request from client/browser: GET http://gtu.ac.in/HTTP/1.1
client activity saved successfully
Proxy has established connection with webserver: 13.233.15.244 : 80
Proxy has closed the connection with webserver
6
Proxy has closed connection with client: 127.0.0.1 : 46248
=====
Received request from client/browser: GET http://gtu.ac.in/assets/css/responsive.css HTTP/1.1
Proxy has established connection with client 127.0.0.1 : 46270
Proxy has established connection with client 127.0.0.1 : 46282
Proxy has established connection with client 127.0.0.1 : 46286
Received request from client/browser: GET http://gtu.ac.in/assets/css/odometer-theme-default.css HTTP/1.1
client activity Saved successfully
Received request from client/browser: GET http://gtu.ac.in/assets/vendor/font-awesome/css/fontawesome-all.min.css HTTP/1.1
Received request from client/browser: GET http://gtu.ac.in/assets/vendor/themify-icons/css/themify-icons.css HTTP/1.1
Proxy has established connection with client 127.0.0.1 : 46298
Proxy has established connection with client 127.0.0.1 : 46314
Received request from client/browser: GET http://gtu.ac.in/assets/vendor/animate/animate.min.css HTTP/1.1
Received request from client/browser: GET http://gtu.ac.in/assets/vendor/fancybox/css/jquery.fancybox-buttons.css HTTP/1.1
client activity Saved successfully
Proxy has established connection with webserver: 52.66.87.57 : 80
Proxy has established connection with webserver: 52.66.87.57 : 80
Proxy has established connection with webserver: 52.66.87.57 : 80
Proxy has established connection with webserver: 52.66.87.57 : 80
Proxy has established connection with webserver: 52.66.87.57 : 80
Proxy has established connection with webserver: 52.66.87.57 : 80
Proxy has closed the connection with webserver
6
Proxy has closed connection with client: 127.0.0.1 : 46264
=====
Proxy has established connection with client 127.0.0.1 : 46324
Received request from client/browser: GET http://gtu.ac.in/assets/vendor/owlcarousel/css/owl.carousel.min.css HTTP/1.1
Proxy has closed the connection with webserver
6
Proxy has closed connection with client: 127.0.0.1 : 46270
=====
Proxy has established connection with client 127.0.0.1 : 46324
Received request from client/browser: GET http://gtu.ac.in/assets/vendor/owlcarousel/css/owl.carousel.min.css HTTP/1.1
Proxy has closed the connection with webserver
6
Proxy has closed connection with client: 127.0.0.1 : 46270
=====
```

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"Hon'ble Prime Minister Shri Narendra Modi had visualized the idea of Gujarat Technological XXXXXXXXXXX (GTU) and inaugurated university in the year 2007 when he was the Chief Minister of Gujarat."

[READ MORE](#)

Circular of The Day

Week Month Year By Category

No data found.

Upcoming XXXXXX

We can see few words are padded by XXXX in below
<http://www.unipune.ac.in> website:

***** TCP Extended Web Proxy *****
TCP Web Proxy having IP 127.0.0.1 is listening on port 13000....
Proxy has established connection with client 127.0.0.1 : 60146
Proxy has established connection with client 127.0.0.1 : 60152
Received request from client/browser: GET http://unipune.ac.in/ HTTP/1.1
client activity Saved successfully
Proxy has established connection with webserver: 121.241.73.109 : 80
Proxy has closed the connection with webserver: 6
Proxy has closed connection with client: 127.0.0.1 : 60146
Proxy has established connection with client 127.0.0.1 : 60164
Received request from client/browser: GET http://unipune.ac.in/uop_files/css/scroller.css HTTP/1.1
client activity Saved successfully
Proxy has established connection with client 127.0.0.1 : 60178
Proxy has established connection with client 127.0.0.1 : 60184
Proxy has established connection with client 127.0.0.1 : 60194
Proxy has established connection with client 127.0.0.1 : 60202
Received request from client/browser: GET http://unipune.ac.in/uop_files/css/main.css HTTP/1.1
Received request from client/browser: GET http://unipune.ac.in/uop_files/js/jQuery.js?ver=1.3.2 HTTP/1.1
Received request from client/browser: GET http://unipune.ac.in/uop_files/css/tabled_styles.css HTTP/1.1
Received request from client/browser: GET http://unipune.ac.in/uop_files/js/stscode.js HTTP/1.1
client activity Saved successfully
Received request from client/browser: GET http://unipune.ac.in/uop_files/css/style.css HTTP/1.1
client activity Saved successfully
client activity Saved successfully
client activity Saved successfully
client activity Saved successfully
Proxy has established connection with webserver: 121.241.73.109 : 80
Proxy has established connection with webserver: 121.241.73.109 : 80
Proxy has established connection with webserver: 121.241.73.109 : 80
Proxy has established connection with webserver: 121.241.73.109 : 80
Proxy has established connection with webserver: 121.241.73.109 : 80
Proxy has closed the connection with webserver: 6
Proxy has closed connection with client: 127.0.0.1 : 60152
Proxy has established connection with client 127.0.0.1 : 60216
Received request from client/browser: GET http://unipune.ac.in/uop_files/jquery.min.js?ver=1.3.2 HTTP/1.1
Client activity Saved successfully

Savitribai Phule Pune University
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SAVITRIBAI PHULE PUNE UNIVERSITY
The Savitribai Phule Pune University has been diligently pursuing the mission of the XXXXXXXXX. The Governor plays a very constructive role in the administration of the Universities. The Chancellor being the Governor can help to insulate the Universities from unnecessary governmental interference and safeguard their autonomy.
More>>

2011- Onwards)

Departments

- Centre for Performing Arts
- Economics
- Education & Extension

FROM CHANCELLOR's DESK

The Governor as Chancellor plays a very constructive role in the administration of the Universities. The Chancellor being the Governor can help to insulate the Universities from unnecessary governmental interference and safeguard their autonomy.

FROM VC's DESK

The Savitribai Phule Pune University has been diligently pursuing the mission of the XXXXXXXXX. The Governor plays a very constructive role in the administration of the Universities. The Chancellor being the Governor can help to insulate the Universities from unnecessary governmental interference and safeguard their autonomy.

PR

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Advertise

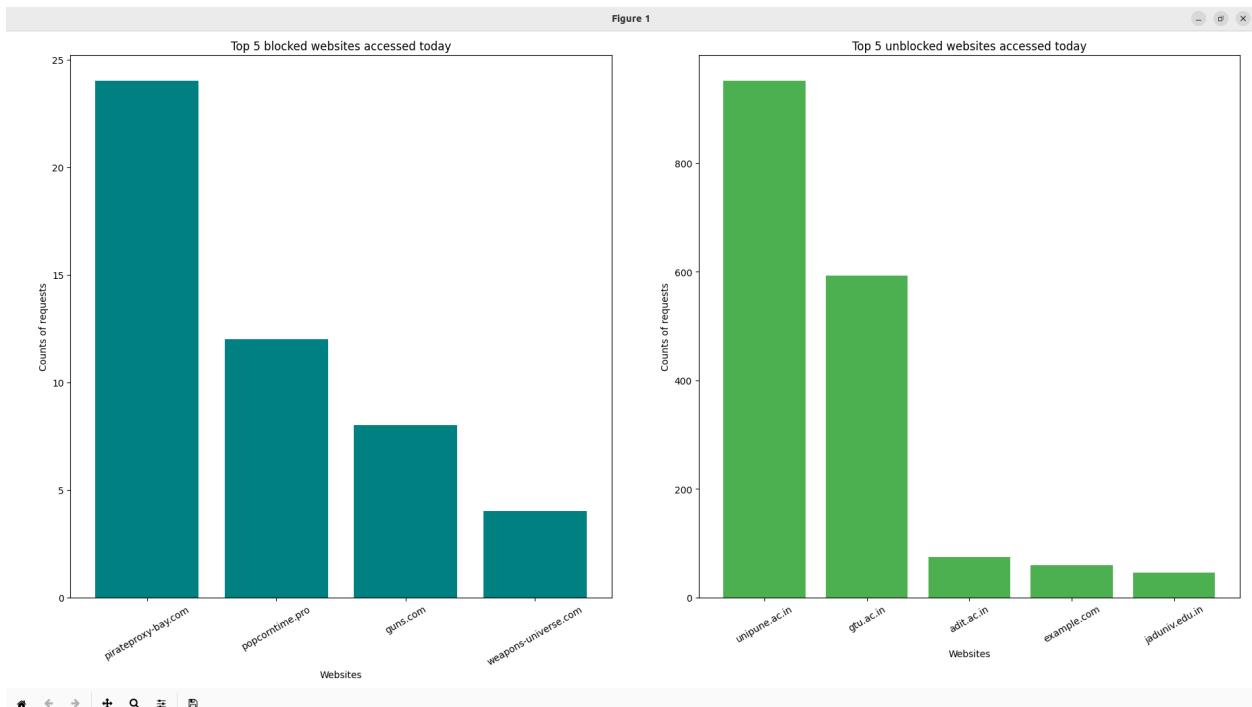
संशोधन केंद्र

Web usage Statistics:

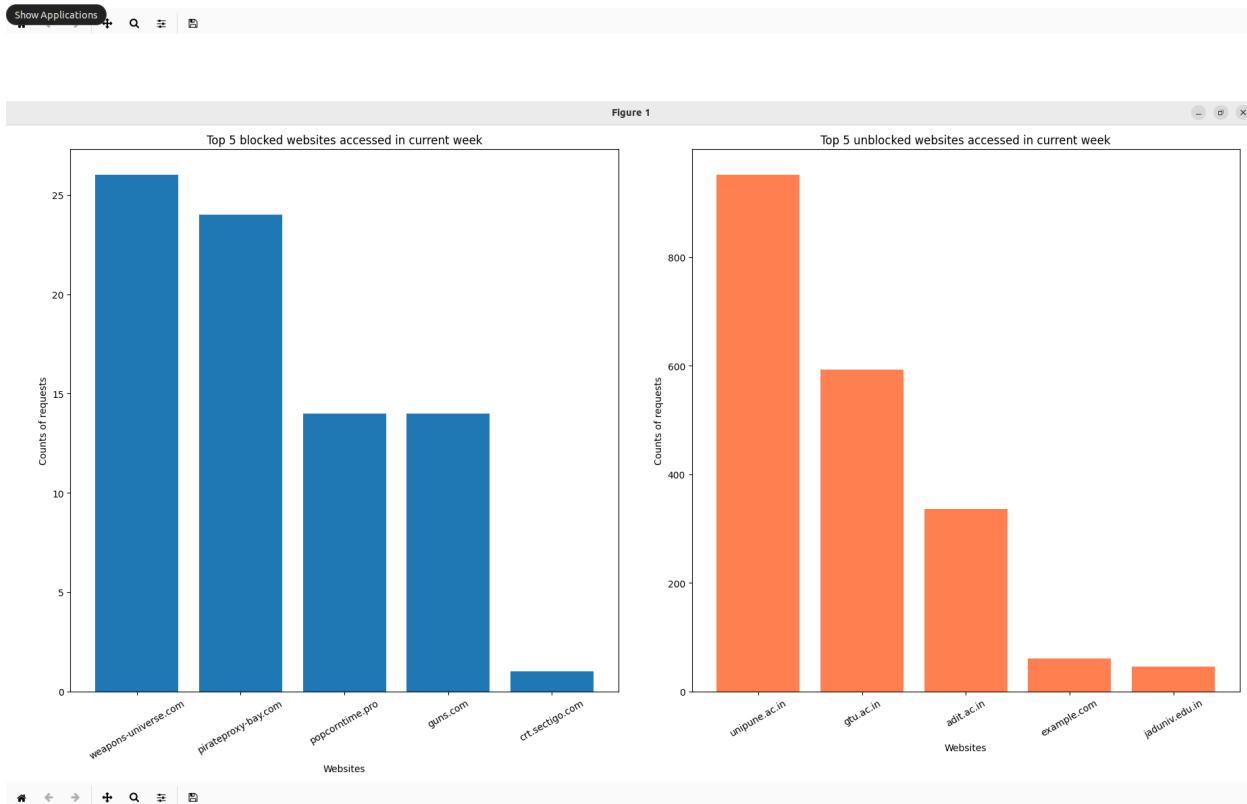
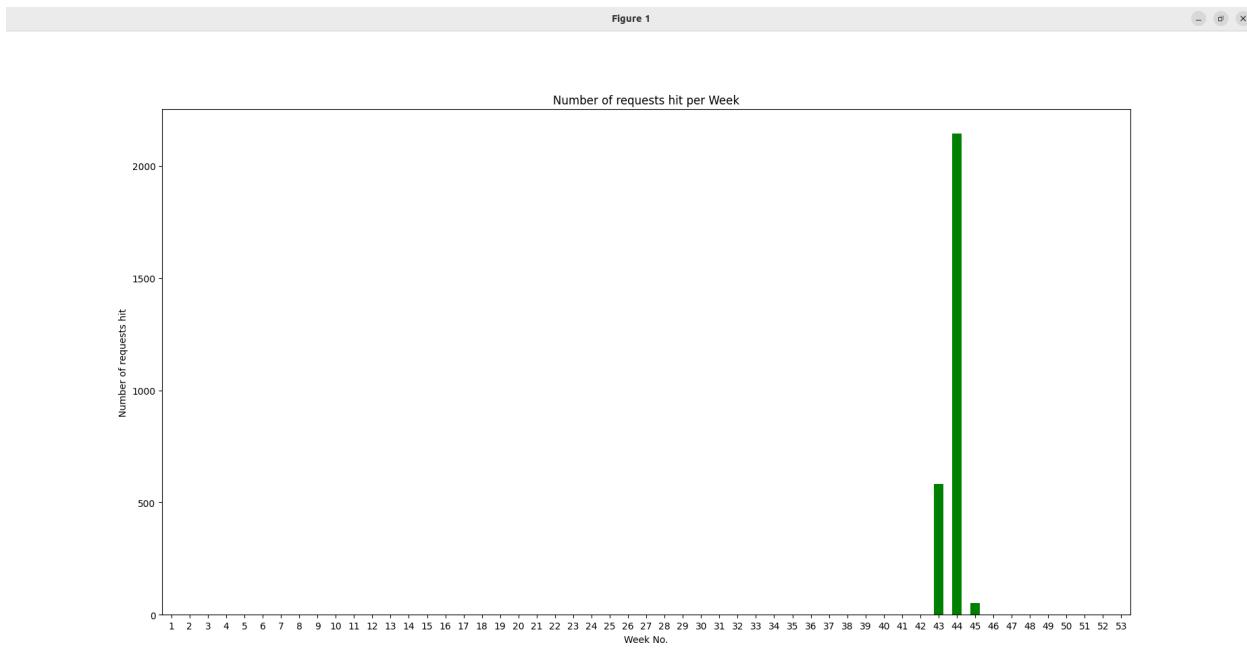
The extended web proxy also performs the task of user's web surfing activity monitoring. We can see user activity statistics, in the form of bar charts and pie charts. In order to see these stats, we need to run the 'Show_browsing_activities.py' file at the same place where the ExtendedProxy is running.

```
mayuresh@mayuresh-HP-Laptop:~/Desktop/final_acn$ python3 Show_browsing_activities.py
#####
Showing user statistics #####
[
```

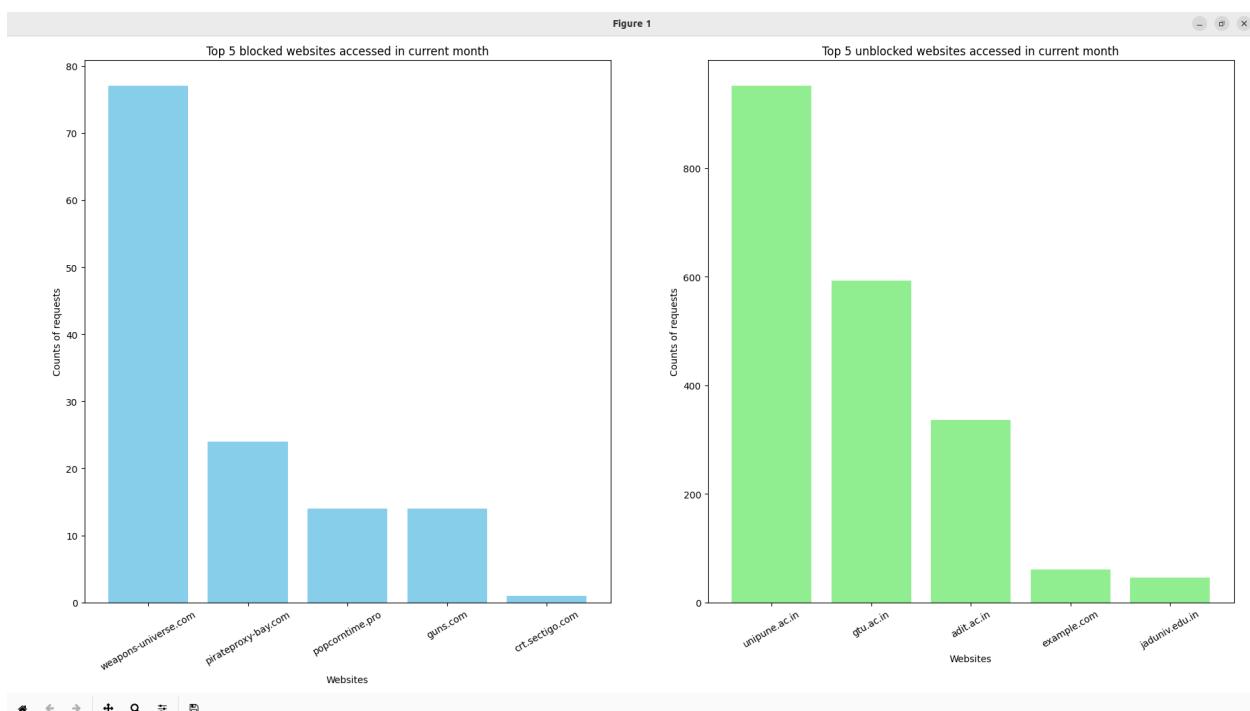
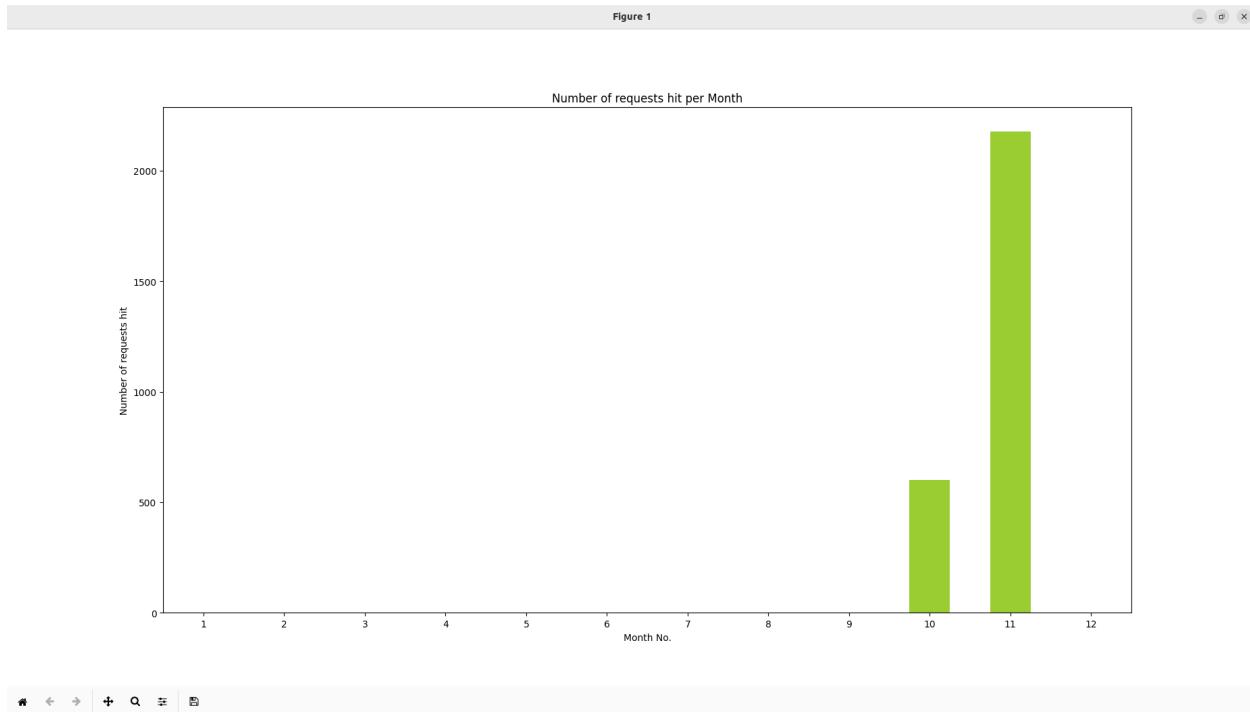
Graph for Today's activity:



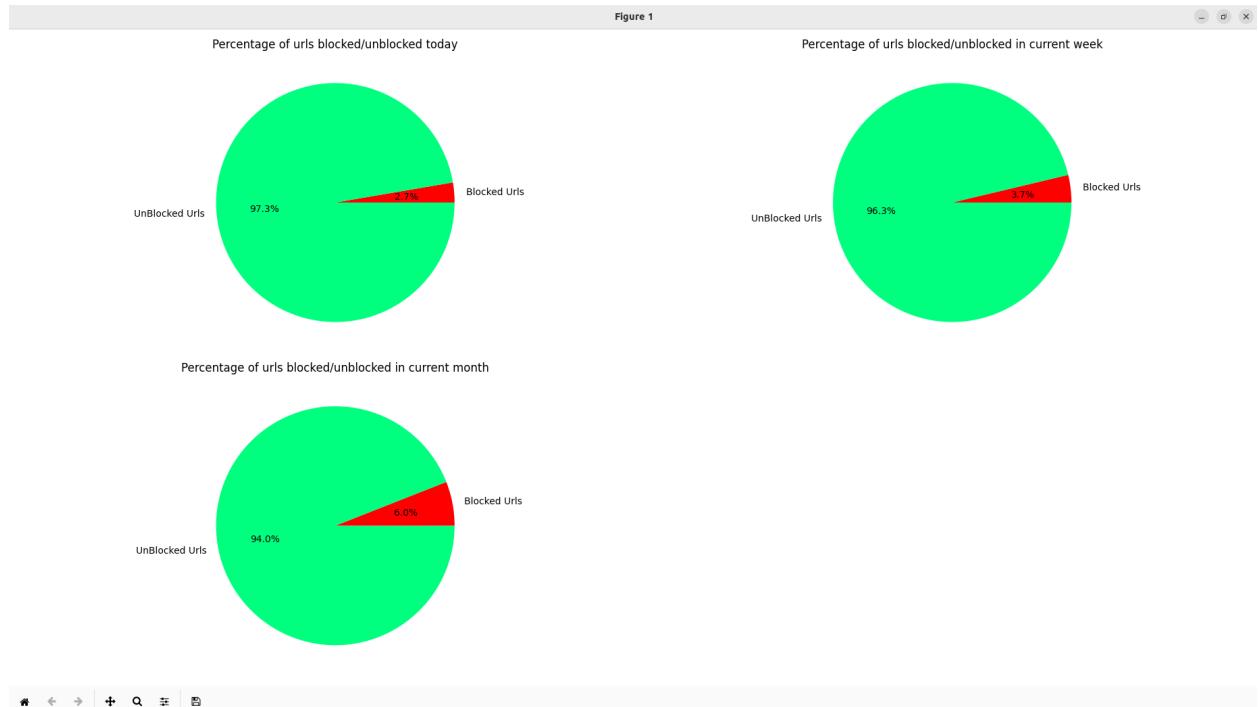
Graph for Current Week's activity:



Graph for Current Month's activity:



Pie charts:



ANTI-PLAGIARISM Statement

We certify that this assignment/report is our own work, based on our personal study and/or research and that we have acknowledged all material and sources used in its preparation, whether they be books, articles, packages, datasets, reports, lecture notes, and any other kind of document, electronic or personal communication. We also certify that this assignment/report has not previously been submitted for assessment/project in any other course lab, except where specific permission has been granted from all course instructors involved, or at any other time in this course, and that we have not copied in part or whole or otherwise plagiarized the work of other students and/or persons. Additionally, we acknowledge that we may have used AI tools, such as language models (e.g., ChatGPT, Bard), for assistance in generating and refining my assignment, and we have made all reasonable efforts to ensure that such usage complies with the academic integrity policies set for the course. I pledge to uphold the principles of honesty and responsibility at CSE@IITH. In addition, we understand our responsibility to report honour violations by other students if we become aware of it.

Name: Mayuresh Rajesh Dindorkar

Roll No: CS23MTECH14007

Date: 05 Nov 2023

Signatures: MRD

Name: Popat Raj Rameshkumar

Roll No: CS23MTECH14009

Date: 05 Nov 2023

Signatures: PRR

Name: Trishita Saha

Roll No : CS23MTECH14016

Date: 05 Nov 2023

Signatures: TS