

Echoserver

Echo server and client using python socket

AIM:

To develop a simple webserver to serve html programming pages.

DESIGN STEPS:

Step 1:

Design of echo server and client using python socket

Step 2:

Implementation using Python code

Step 3:

Testing the server and client

PROGRAM:

##Sever code: import socket

HOST = "127.0.0.1" # Standard loopback interface address (localhost) PORT = 65432 # Port to listen on (non-privileged ports are > 1023)

with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s: try: s.bind((HOST, PORT)) except Exception as e: print(f"Error binding to {HOST}:{PORT}: {e}") exit()

```
s.listen()
print(f"Listening on {HOST}:{PORT}...")

try:
    conn, addr = s.accept()
except Exception as e:
    print(f"Error accepting connection: {e}")
    exit()

with conn:
    print(f"Connected by {addr}")
    while True:
        try:
            data = conn.recv(1024)
            if not data:
                break
            conn.sendall(data)
        except Exception as e:
```



```
print(f"Error receiving/sending data: {e}")
exit()
```

```
##Client code: import socket HOST = "127.0.0.1" # The server's hostname or IP address PORT = 65432 # The
port used by the server with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s: s.connect((HOST,
PORT)) s.sendall(b"Hello, world") data = s.recv(1024)
```

```
print(f"Received {data!r}")
```

OUTPUT:

##Server side:

```
server1.py x client.py
D: > Deep Learning > server1.py > ...
1 import socket
2
3 HOST = "127.0.0.1" # Standard loopback interface address (localhost)
4 PORT = 65432 # Port to listen on (non-privileged ports are > 1023)
5
6 with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:
7     try:
8         s.bind((HOST, PORT))
9     except Exception as e:
10        print(f"Error binding to {HOST}:{PORT}: {e}")
11        exit()
12
13    s.listen()
14    print(f"Listening on {HOST}:{PORT}...")
15
16    try:
17        conn, addr = s.accept()
18    except Exception as e:
19        print(f"Error accepting connection: {e}")
20        exit()
21
22    with conn:
23        print(f"Connected by {addr}")

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL Python Debug Console
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS D:\Deep Learning> C:\Users\MR.CONQUEROR\anaconda3\Scripts\activate
PS D:\Deep Learning> conda activate sumatha
PS D:\Deep Learning> & 'C:\Users\MR.CONQUEROR\anaconda3\envs\sumatha\python.exe' 'c:\Users\MR.CONQUEROR\.vscode\extensions\ms-python.python-2023.6.0\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '53188' '--' 'd:\Deep Learning\server1.py'
Listening on 127.0.0.1:65432...
```

##Client code

```
D: > Deep Learning > client.py > ...
1 import socket
2
3
4 HOST = "127.0.0.1" # The server's hostname or IP address
5 PORT = 65432 # The port used by the server
6
7
8 with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:
9     s.connect((HOST, PORT))
10    s.sendall(b"Hello, world")
11    data = s.recv(1024)
12
13
14 print(f"Received {data!r}")

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PS D:\Deep Learning> C:\Users\MR.CONQUEROR\anaconda3\Scripts\activate
PS D:\Deep Learning> conda activate sumatha
PS D:\Deep Learning> & 'C:\Users\MR.CONQUEROR\anaconda3\envs\sumatha\python.exe' 'c:\Users\MR.CONQUEROR\.vscode\extensions\ms-python.python-2023.6.0\pythonFiles\lib\python\debugpy\adapter\..\..\debugpy\launcher' '52981' '--' 'd:\Deep Learning\client.py'
Received b'Hello, world'
PS D:\Deep Learning>
```

RESULT:

Test results for the following configuration:



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