

# 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:

```
##Server 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}")

```

Windows PowerShell  
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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:

File    New    Open    Save    Save As    Print    Exit



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