

**EX NO:10b      Customized ping command to test the server connectivity using socket****Date:22.9.24****Aim:**

To develop a ping program to test server connectivity using socket.

**Algorithm:** Servers.py

1. Import the socket package
2. Initialize local IP address and local port
3. Create a socket
4. Bind the IP address and port number
5. Receive client message and send reply

**Clients.py**

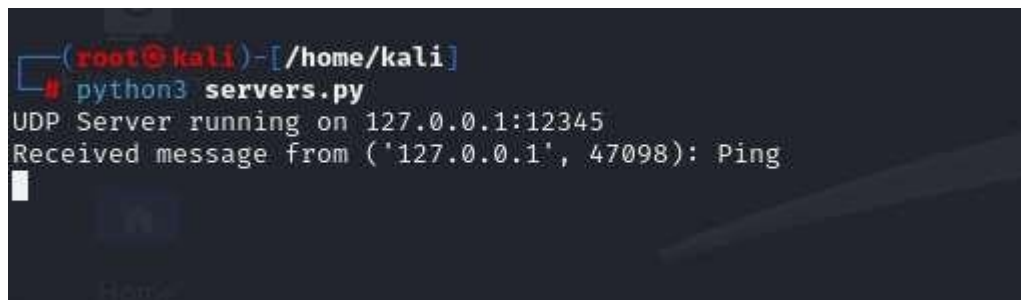
1. Import the socket package
2. Initialize server IP address and port
3. Create a socket
4. Start the timer and send message
5. Receive reply and stop timer

**Server Program:**

```
import socket
def start_server(host='127.0.0.1', port=12345):
    with socket.socket(socket.AF_INET, socket.SOCK_DGRAM) as s:
        s.bind((host, port))
        print(f"UDP Server running on {host}:{port}")
```

```
while True:
    data, addr = s.recvfrom(1024)
    print(f'Received message from {addr}: {data.decode()}')    s.sendto(b'Pong',
addr)

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

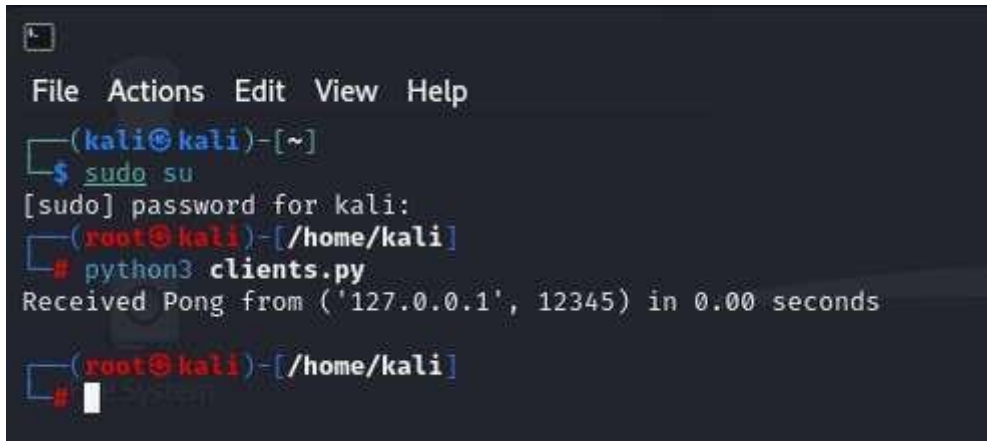
**Output:**

```
(root@kali) - [/home/kali]
# python3 servers.py
UDP Server running on 127.0.0.1:12345
Received message from ('127.0.0.1', 47098): Ping
```

**Client Program:** import socket import time

```
def ping_server(host='127.0.0.1', port=12345):
    with socket.socket(socket.AF_INET, socket.SOCK_DGRAM) as s:
        try:
            s.settimeout(2)
            start = time.time()
            s.sendto(b'Ping', (host, port))
            data, addr = s.recvfrom(1024)    end
            = time.time()
            print(f'Received {data.decode()} from {addr} in {end - start:.2f} seconds")
        except socket.timeout:
            print("Request timed out")
```

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

**Output:**A terminal window on a Kali Linux system. The prompt is (kali@kali)~. The user enters 'sudo su' and provides the password. The prompt changes to (root@kali)~/home/kali. The user enters '# python3 clients.py'. The output is 'Received Pong from ('127.0.0.1', 12345) in 0.00 seconds'. The prompt returns to (root@kali)~/home/kali. The user enters '#', and the prompt returns to (kali@kali)~.

```
(kali@kali)~  
$ sudo su  
[sudo] password for kali:  
(root@kali)~/home/kali  
# python3 clients.py  
Received Pong from ('127.0.0.1', 12345) in 0.00 seconds  
(root@kali)~/home/kali  
#  
(kali@kali)~
```

**Result:**

Ping program to test server connectivity using socket is verified.