

# Concurrent Time Server application using UDP

## Aim

To implement Concurrent Time Server application using UDP to execute the program at remote server. Client sends a time request to the server, server sends its system time back to the client. Client displays the result.

## Theory

**UDP (User Datagram Protocol)** is primarily for establishing low-latency and loss-tolerating connections between applications on the internet. **UDP** sends messages, called datagrams, and is considered a best-effort mode of communications. It is considered a connectionless protocol because it doesn't require a virtual circuit to be established before any data transfer occurs.

**Server**- The server here waits for the client's time request. When a request is received, the present system time of the server is sent to the client.

**Client**- The client sends the server a time request. The response from the server is received and provided as the output

## Code

### udptimeerver.py

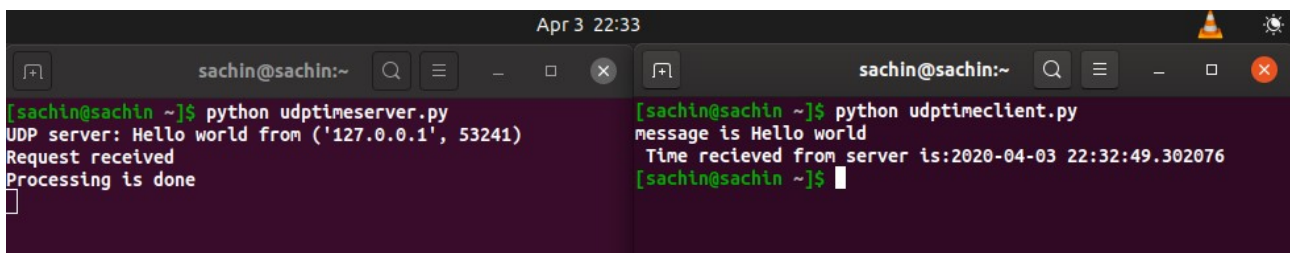
```
from socket import *
from os import fork
import sys
import datetime
myHost = ""
myPort = 5000
s=socket(AF_INET, SOCK_DGRAM)
s.bind((myHost, myPort))
while True:
    data, address = s.recvfrom(1024)
    print "UDP server:", data, "from", address
    if data:
        print "Request received"
        print "Processing is done "
        s.sendto("message is " + data + "\n Time recieved from server is:" +
str(datetime.datetime.now()), address)
    else:
```

```
break
```

### udptimeclient.py

```
import sys, time
from socket import *
serverHost = "localhost"
serverPort = 5000
s=socket(AF_INET, SOCK_DGRAM)
s.connect((serverHost, serverPort))
s.send("Hello world")
data = s.recv(1024)
print data
```

### Output



The screenshot shows two terminal windows side-by-side. The left window shows the execution of a UDP server script, and the right window shows the execution of a UDP client script. Both windows are titled 'sachin@sachin:~' and show the output of the respective scripts.

```
Apr 3 22:33

[sachin@sachin ~]$ python udptimeserver.py
UDP server: Hello world from ('127.0.0.1', 53241)
Request received
Processing is done

[sachin@sachin ~]$ python udptimeclient.py
message is Hello world
Time recieved from server is:2020-04-03 22:32:49.302076
[sachin@sachin ~]$
```