네트워크 프로그래밍 Lab. #02

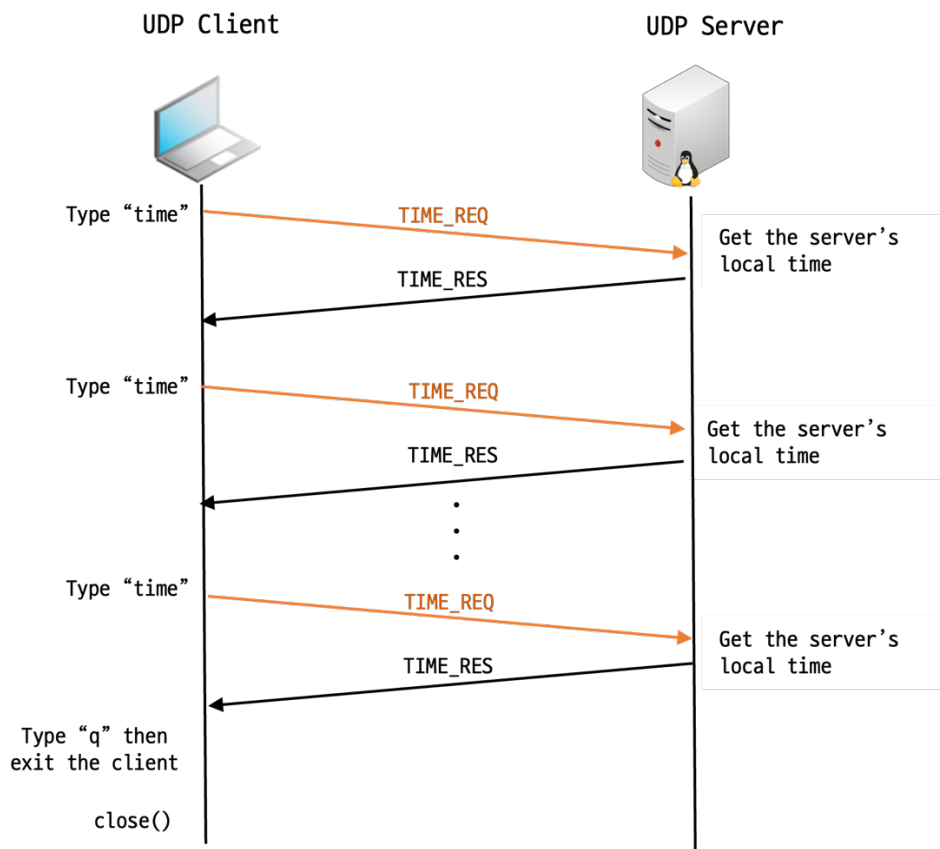**1. TCP 시간 전송 프로그램**

제출 파일명: **time_server.c time_client.c**

■ 패킷 구조 및 메시지 전송

```c
#define BUF_SIZE 100
#define TIME_REQ 0 // Request from client to server
#define TIME_RES 1 // Response from server to client


// Packet structure for communication
typedef struct
{
    int cmd; // TIME_REQ or TIME_RES
    char time_msg[BUF_SIZE];
} PACKET;
```

■ 샘플 코드

```c
#include <stdlib.h>
#include <time.h>
. . .
// example code
time_t t;
time(&t);

struct tm *p;
p = localtime(&t);
char res[50];
// Year-Month-Day Hour:Minute:Second
sprintf(res, "%d-%d-%d  %d:%d:%d",
        1900 + p->tm_year, 1 + p->tm_mon, p->tm_mday,
        p->tm_hour, p->tm_min, p->tm_sec);
```

[실행 결과]

서버	클라이언트
$ gcc time_server.c -o server $ ./server 9190 Connected client 1, client_sock: 4 [Server] Rx TIME_REQ [Server] Tx time: 2024-4-4 17:9:14 [Server] Rx TIME_REQ [Server] Tx time: 2024-4-4 17:9:20 [Server] Rx TIME_REQ [Server] Tx time: 2024-4-4 17:9:24	$ gcc time_client.c -o client $ ./client 127.0.0.1 9190 Connected.......... Type a message(time or q): time [Client] Tx TIME_REQ [Client] Rx TIME_RES: 2024-4-4 17:9:14 Type a message(time or q): aaa Wrong message. Type a message(time or q): time [Client] Tx TIME_REQ [Client] Rx TIME_RES: 2024-4-4 17:9:20 Type a message(time or q): time [Client] Tx TIME_REQ [Client] Rx TIME_RES: 2024-4-4 17:9:24 Type a message(time or q): q Exit client