TI DSP, MCU 및 Xilinx Zynq FPGA 프로그래밍 전문가 과정

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구조체 넘기기

<ch_serv.c>

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <unistd.h>
#include <pthread.h>
#include <sys/epoll.h>
#include <arpa/inet.h>
#include <sys/socket.h>

typedef struct sockaddr_in si;
typedef struct sockaddr * sap;

void err_handler(char *msg){

        fputs(msg,stderr);
        fputc('\n',stderr);
        exit(1);

}

struct __h{ //구조체 생성

int a;
float b;

};
typedef struct __h H;

int main(int argc,char **argv){

        int serv_sock,len;
        int clnt_sock;

        si serv_addr;
        si clnt_addr;
        socklen_t clnt_addr_size;
        char buf[1024];

        H *HH;

        char msg[] = "Hello Network Programming";

        if(argc !=2){

                printf("use : %s <port>\n",argv[0]);
                exit(1);
        }
```

```
	serv_sock =socket(PF_INET, SOCK_STREAM,0);

	if(serv_sock == -1)
		err_handler("socket() error");

	memset(&serv_addr,0,sizeof(serv_addr));
	serv_addr.sin_family = AF_INET;
	serv_addr.sin_addr.s_addr = htonl(INADDR_ANY);
	serv_addr.sin_port = htons(atoi(argv[1]));

	if(bind(serv_sock, (sap)&serv_addr, sizeof(serv_addr)) == -1)
		err_handler("bind() error");

	if(listen(serv_sock,5)==-1)
		err_handler("listen() error");

	clnt_addr_size = sizeof(clnt_addr);
	clnt_sock = accept(serv_sock, (struct sockaddr *)&clnt_addr,&clnt_addr_size);
	if(clnt_sock == -1)
		err_handler("accept() error");

	write(clnt_sock,(H *)&HH,sizeof(buf)); //구조체 전달

	close(clnt_sock);
	close(serv_sock);

	return 0;

}
```

<ch_clnt.c>

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <unistd.h>
#include <arpa/inet.h>
#include <sys/socket.h>

typedef struct sockaddr_in si;
typedef struct sockaddr * sap;

void err_handler(char *msg){

	fputs(msg,stderr);
	fputc('\n',stderr);
	exit(1);

}

struct __h{ //구조체

int a;
```

```
float b;

};

typedef struct __h *H;

int main(int argc,char **argv){

	int sock;
	int str_len;
	si serv_addr;
	char msg[32];
//	char buf[32];
	H *buf;


//	typedef struct h *H;

	if(argc != 3){

		printf("use: %s <ip> <port>\n",argv[0]);
		exit(1);

	}

	sock = socket(PF_INET, SOCK_STREAM, 0);

	if(sock == -1)
		err_handler("socket() error");

	memset(&serv_addr,0,sizeof(serv_addr));
	serv_addr.sin_family = AF_INET;
	serv_addr.sin_addr.s_addr = inet_addr(argv[1]);
	serv_addr.sin_port = htons(atoi(argv[2]));

	if(connect(sock, (sap)&serv_addr,sizeof(serv_addr)) == -1)
		err_handler("connect() error");

	if(str_len == -1)
		err_handler("read() error!");

	(*buf)->a = 3;
	(*buf)->b = 3.14;

	printf("%d\n",(*buf)->a);
	printf("%lf\n",(*buf)->b);

	close(sock);

	return 0;

}
```

```
mhn@mhn-Z20NH-AS51B5U: ~/linux/31
mhn@mhn-Z20NH-AS51B5U:~/linux/31$ ./ch_cl 127.0.0.1 7777
Segmentation fault (core dumped)
```

```
mhn@mhn-Z20NH-AS51B5U: ~/linux/31
(gdb) n
56              if(connect(sock, (sap)&serv_addr,sizeof(serv_addr)) == -1)
(gdb) n
57                      err_handler("connect() error");
(gdb) bt
#0  main (argc=3, argv=0x7fffffffde68) at ch_clnt.c:57
(gdb) c
Continuing.
connect() error
[Inferior 1 (process 29140) exited with code 01]
(gdb) r 127.0.0.1 7777
Starting program: /home/mhn/linux/31/ch_cl 127.0.0.1 7777

Breakpoint 1, main (argc=3, argv=0x7fffffffde68) at ch_clnt.c:28
28      int main(int argc,char **argv){
(gdb) c
Continuing.
connect() error
[Inferior 1 (process 29152) exited with code 01]
(gdb) bt
No stack.
(gdb) r 127.0.0.1 7777
Starting program: /home/mhn/linux/31/ch_cl 127.0.0.1 7777

Breakpoint 1, main (argc=3, argv=0x7fffffffde68) at ch_clnt.c:28
28      int main(int argc,char **argv){
(gdb) bt
#0  main (argc=3, argv=0x7fffffffde68) at ch_clnt.c:28
(gdb) n
39              if(argc != 3){
(gdb) n
46              sock = socket(PF_INET, SOCK_STREAM, 0);
(gdb) n
48              if(sock == -1)
(gdb) n
51              memset(&serv_addr,0,sizeof(serv_addr));
(gdb) n
52              serv_addr.sin_family = AF_INET;
(gdb) r 127.0.0.1 7777
The program being debugged has been started already.
Start it from the beginning? (y or n) y
Starting program: /home/mhn/linux/31/ch_cl 127.0.0.1 7777

Breakpoint 1, main (argc=3, argv=0x7fffffffde68) at ch_clnt.c:28
28      int main(int argc,char **argv){
(gdb) c
Continuing.

Program received signal SIGSEGV, Segmentation fault.
0x00000000004009e0 in main (argc=3, argv=0x7fffffffde68) at ch_clnt.c:70
70              (*buf)->a = 3;
(gdb) q
A debugging session is active.

        Inferior 1 [process 29158] will be killed.

Quit anyway? (y or n) y
mhn@mhn-Z20NH-AS51B5U:~/linux/31$ vi ch_clnt.c
mhn@mhn-Z20NH-AS51B5U:~/linux/31$
```

구조체를 헤더파일 없이 넘겨보려고 했는데 segmentation fault 에러가 발생했다.
그래서 gdb 로 분석하여 어디가 잘못되었는지 알아내긴 했지만 어떻게 고쳐야 할지 더 고민해봐야할 것 같다.