

shm_client.c

```
/*
 * shm-client - client program to demonstrate shared memory.
 */
#include <stdlib.h>
#include <sys/types.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <stdio.h>

#define SHMSZ 27

int main() // Change made here
{
    int shmid;
    key_t key;
    char *shm, *s;

    /*
     * We need to get the segment named
     * "5678", created by the server.
     */
    key = 5678;

    /*
     * Locate the segment.
     */
    if ((shmid = shmget(key, SHMSZ, 0666)) < 0) {
        perror("shmget");
        exit(1);
    }

    /*
     * Now we attach the segment to our data space.
     */
    if ((shm = shmat(shmid, NULL, 0)) == (char *) -1) {
        perror("shmat");
        exit(1);
    }

    /*
     * Now read what the server put in the memory.
     */
    for (s = shm; *s != '\0'; s++) // Change made here
        putchar(*s);
    putchar('\n');

    /*
     * Finally, change the first character of the
     * segment to '*', indicating we have read
     * the segment.
     */
}
```

```
*/  
*shm = '*';  
exit(0);  
}
```

shm_server.c

```
#include <stdlib.h>    // For exit()
#include <unistd.h>    // For sleep()
#include <sys/types.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <stdio.h>

#define SHMSZ 27

int main() // Explicitly define the return type
{
    char c;
    int shmid;
    key_t key;
    char *shm, *s;

    /*
     * We'll name our shared memory segment
     * "5678".
     */
    key = 5678;

    /*
     * Create the segment.
     */
    if ((shmid = shmget(key, SHMSZ, IPC_CREAT | 0666)) < 0) {
        perror("shmget");
        exit(1);
    }

    /*
     * Now we attach the segment to our data space.
     */
    if ((shm = shmat(shmid, NULL, 0)) == (char *) -1) {
        perror("shmat");
        exit(1);
    }

    /*
     * Now put some things into the memory for the
     * other process to read.
     */
    s = shm;

    for (c = 'a'; c <= 'z'; c++)
        *s++ = c;
    *s = '\0'; // Use '\0' instead of NULL
}
```

```
/*
 * Finally, we wait until the other process
 * changes the first character of our memory
 * to '*', indicating that it has read what
 * we put there.
 */
while (*shm != '*')
    sleep(1);

exit(0);
}
```