IPC USING SHARED MEMORY

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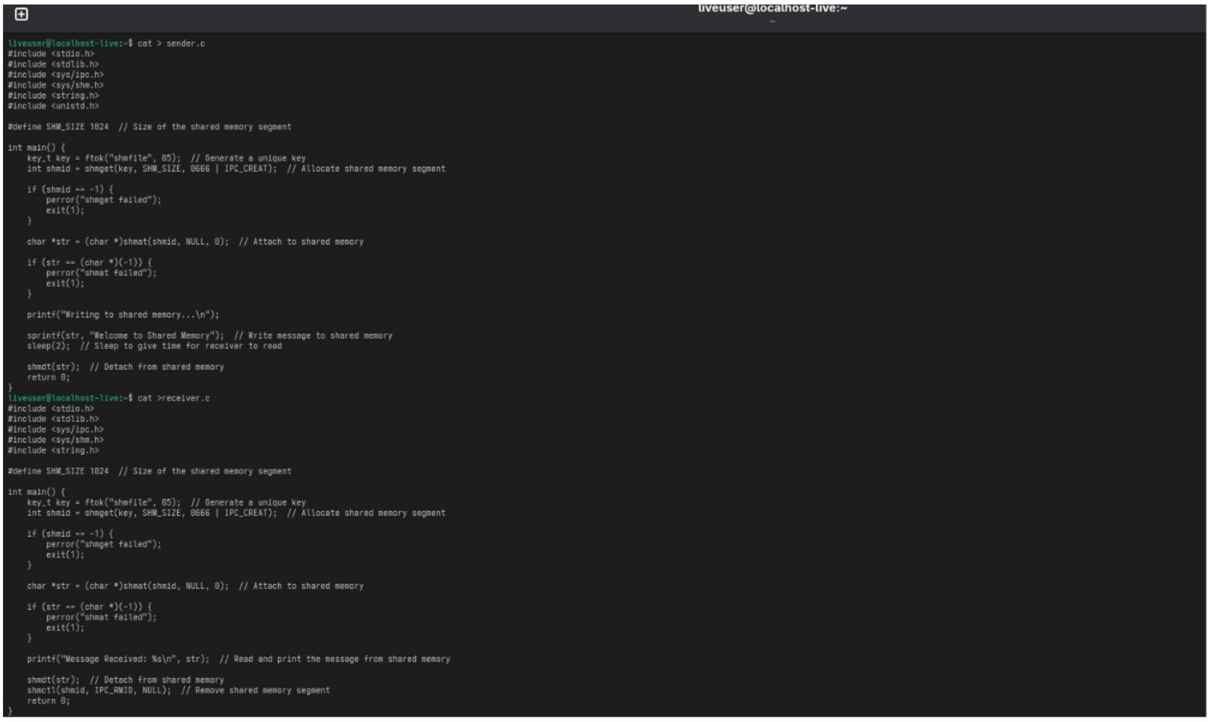
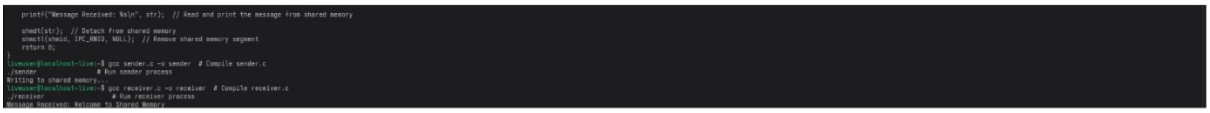


```
liveuser@localhost-live:~$ cat > sender.c
#include <stdio.h>
#include <stdlib.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <string.h>
#include <unistd.h>

#define SHM_SIZE 1024  // Size of the shared memory segment

int main() {
    key_t key = ftok("shmfile", 65);  // Generate a unique key
    int shmid = shmget(key, SHM_SIZE, 0666 | IPC_CREAT);  // Allocate shared memory segment

    if (shmid == -1) {
        perror("shmget failed");
        exit(1);
    }

    char *str = (char *)shmat(shmid, NULL, 0);  // Attach to shared memory

    if (str == (char *)(-1)) {
        perror("shmat failed");
        exit(1);
    }

    printf("Writing to shared memory...\n");

    sprintf(str, "Welcome to Shared Memory");  // Write message to shared memory
    sleep(2);  // Sleep to give time for receiver to read

    shmdt(str);  // Detach from shared memory
    return 0;
}
liveuser@localhost-live:~$ cat >receiver.c
#include <stdio.h>
#include <stdlib.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <string.h>

#define SHM_SIZE 1024  // Size of the shared memory segment

int main() {
    key_t key = ftok("shmfile", 65);  // Generate a unique key
    int shmid = shmget(key, SHM_SIZE, 0666 | IPC_CREAT);  // Allocate shared memory segment

    if (shmid == -1) {
        perror("shmget failed");
        exit(1);
    }

    char *str = (char *)shmat(shmid, NULL, 0);  // Attach to shared memory

    if (str == (char *)(-1)) {
        perror("shmat failed");
        exit(1);
    }

    printf("Message Received: %s\n", str);  // Read and print the message from shared memory

    shmdt(str);  // Detach from shared memory
    shmctl(shmid, IPC_RMID, NULL);  // Remove shared memory segment
    return 0;
}
```



```
    printf("Message Received: %s\n", str);  // Read and print the message from shared memory

    shmdt(str);  // Detach from shared memory
    shmctl(shmid, IPC_RMID, NULL);  // Remove shared memory segment
    return 0;
}
liveuser@localhost-live:~$ gcc sender.c -o sender  # Compile sender.c
./sender              # Run sender process
Writing to shared memory...
liveuser@localhost-live:~$ gcc receiver.c -o receiver  # Compile receiver.c
./receiver                # Run receiver process
Message Received: Welcome to Shared Memory
```