

# OPERATING SYSTEM - CS23431

## EX 7

### IPC USING SHARED MEMORY

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#### PROGRAM:

**Sender.c:** #include <stdio.h> #include <stdlib.h>

#include <unistd.h>

#include <sys/shm.h>

#include <string.h>

int main() {

int shmid;

shmid = shmget((key\_t)2345, 1024, 0666 | IPC\_CREAT); if (shmid == -1) {

perror("shmget failed"); exit(1); } printf("Key of the shared memory segment: %d\n", shmid);char

\*shmaddr = (char \*) shmat(shmid,

NULL, 0);if (shmaddr == (char \*) -1) { perror("shmat failed"); exit(1);}printf("Process is attached at address %p\n", shmaddr);sprintf(shmaddr, "Hello world!!");printf("Content written to shared memory: %s\n", shmaddr);

if (shmdt(shmaddr) == -1) { perror("shmdt failed"); exit(1);}return 0;

}

#### Receiver.c:

#include <stdio.h>

#include <stdlib.h>

#include <unistd.h>

#include <string.h>

#include <sys/shm.h>

int main() {

int shmid; char \*shmaddr;shmid = shmget((key\_t)2345, 1024, 0666);if (shmid == -1) { perror("shmget failed"); exit(1);}printf("Key of the shared memory segment: %d\n", shmid);shmaddr = (char \*)

```
shmat(shmid, NULL, 0);if (shmaddr == (char *) -1) { perror("shmat failed"); exit(1);}printf("Process  
is attached at address %p\n", shmaddr);printf("Data read from shared memory: %s\n", shmaddr);if  
(shmdt(shmaddr) == -1) { perror("shmdt failed"); exit(1);}return 0;}
```

## OUTPUT:

```
[student@localhost ~]$ vi sender.c  
[student@localhost ~]$ gcc sender.c  
[student@localhost ~]$ ./a.out  
key of the shared memory is 622605  
Process is attached at 0xb76ee000  
Content written is Hello world!!  
[student@localhost ~]$ vi receiver.c  
[student@localhost ~]$ gcc receiver.c  
[student@localhost ~]$ ./a.out  
key of shared memory segment is 622605  
process is attached at 0xb7782000  
Data read from shared memory is Hello world!!  
[student@localhost ~]$ █
```