

Program

```
#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
#include<string.h>
#include<sys/ipc.h>
#include<sys/shm.h>
#include<sys/types.h>
#define SEGSIZE 100
int main(int argc, char *argv[ ])
{
    int shmid,cntr; key_t key;
    char *segptr;
    char buff[]="Hello";
    key=ftok(".", 's');
    if((shmid=shmget(key, SEGSIZE, IPC_CREAT | IPC_EXCL | 0666))== -1)
    {
        if((shmid=shmget(key,SEGSIZE,0))== -1)
        {
            perror("shmget");
            exit(1);
        }
    }
    else
    {
        printf("Creating a new shared memory seg \n");
        printf("SHMID:%d",shmid);
    }
    system("ipcs -m");
    if((segptr=(char*)shmat(shmid,0,0))==(char*)-1)
    {
        perror("shmat");
        exit(1);
    }
    printf("Writing data to shared memory...\n");
    strcpy(segptr,buff);
    printf("DONE\n");
    printf("Reading data from shared memory...\n");
    printf("DATA:-%s\n",segptr);
    printf("DONE\n");
    printf("Detaching\n");
    shmdt(segptr);
    printf("DONE\n");
    printf("Removing shared memory Segment...\n");
    if(shmctl(shmid,IPC_RMID,0)== -1)
    printf("Can't Remove Shared memory Segment...\n");
    else
    printf("Removed Successfully");
}
```

Output

```
csea2@sjcet-H81M-DS2:~/maria$ gcc Shared_memory.c
```

```
csea2@sjcet-H81M-DS2:~/maria$ ./a.out
```

```
Creating a new shared memory seg
```

```
----- Message Queues -----
```

key	msqid	owner	perms	used-bytes	messages
-----	-------	-------	-------	------------	----------

```
----- Shared Memory Segments -----
```

key	shmid	owner	perms	bytes	nattch	status
0x00000000	4	csea2	600	36864	2	dest
0x00000000	5	csea2	600	36864	2	dest
0x00000000	6	csea2	600	86016	2	dest
0x00000000	7	csea2	600	86016	2	dest
0x00000000	8	csea2	600	532480	2	dest
0x00000000	9	csea2	600	532480	2	dest
0x00000000	14	csea2	600	8388608	2	dest
0x00000000	15	csea2	600	4096	2	dest
0x00000000	16	csea2	600	4096	2	dest
0x00000000	18	csea2	600	61440	2	dest
0x00000000	19	csea2	600	61440	2	dest
0x730846f9	20	csea2	666	100	0	

```
----- Semaphore Arrays -----
```

key	semid	owner	perms	nsems
-----	-------	-------	-------	-------

```
SHMID:20Writing data to shared memory...
```

```
DONE
```

```
Reading data from shared memory...
```

```
DATA:-Hello
```

```
DONE
```

```
Detaching
```

```
DONE
```

```
Removing shared memory Segment...
```