

# Home Work (EXO3-TP)

Juin 2022

## La Solution:

### 1- le programme:

```
#include <stdlib.h>

char* tab;

int main()

{

    tab = malloc(16384* sizeof(char));

    Int i=0

    While (i<16384) {

        tab[i]='1';

        i++;

    }

    return 0;

}
```

### 2- Modification de programme:

```
#include <sys/types.h>

#include <unistd.h>

#include <stdio.h>

#include <stdlib.h>

#include <sys/mman.h>
```

```

#include <malloc.h>

char* tab;

char* alloc;

int pageS;

int main()

{

Int i=0;

alloc = malloc(1024L * 1024L );

tab = malloc(16384* sizeof(char));

While (i<16384) {

    tab[i]='1';

    i++;

}

pageS = sysconf(_SC_PAGE_SIZE);

printf("début tab: 0x%lx\n", (long) tab);

tab = memalign(pageS, 4 * pageS);

mprotect(tab+ pageS, 2 * pageS, PROT_WRITE); /* la mémoire peut être

accédée uniquement écriture*/

/*Pour la lecture : PROT_READ*/

printf("pageS: %d\n", pageS);


printf ("%c\n", tab[4098]);    /* Segmentation erreur*/

sprintf(alloc, "cat /proc/%d/maps", getpid());

system(alloc);

return 0;

```

}

### 3- Affichage de carte mémoire:

J'ai utilisé ce online compiler ([onlinegdb.com/online\\_c\\_compiler](http://onlinegdb.com/online_c_compiler))

début tab: 0x561591c792a0

pageS: 4096

561590e45000-561590e46000	r--p 00000000 08:01 692385	/home/a.out
561590e46000-561590e47000	r-xp 00001000 08:01 692385	/home/a.out
561590e47000-561590e48000	r--p 00002000 08:01 692385	/home/a.out
561590e48000-561590e49000	r--p 00002000 08:01 692385	/home/a.out
561590e49000-561590e4a000	rw-p 00003000 08:01 692385	/home/a.out
561591c79000-561591c7f000	rw-p 00000000 00:00 0	[heap]
561591c7f000-561591c81000	-w-p 00000000 00:00 0	[heap]
561591c81000-561591c9a000	rw-p 00000000 00:00 0	[heap]
7fd145144000-7fd145245000	rw-p 00000000 00:00 0	
7fd145245000-7fd145267000	r--p 00000000 00:1a2 776003	/usr/lib/x86_64-linux-gnu/libc-2.31.so
7fd145267000-7fd1453df000	r-xp 00022000 00:1a2 776003	/usr/lib/x86_64-linux-gnu/libc-2.31.so
7fd1453df000-7fd14542d000	r--p 0019a000 00:1a2 776003	/usr/lib/x86_64-linux-gnu/libc-2.31.so
7fd14542d000-7fd145431000	r--p 001e7000 00:1a2 776003	/usr/lib/x86_64-linux-gnu/libc-2.31.so
7fd145431000-7fd145433000	rw-p 001eb000 00:1a2 776003	/usr/lib/x86_64-linux-gnu/libc-2.31.so
7fd145433000-7fd145439000	rw-p 00000000 00:00 0	
7fd145448000-7fd145449000	r--p 00000000 00:1a2 775981	/usr/lib/x86_64-linux-gnu/ld-2.31.so
7fd145449000-7fd14546c000	r-xp 00001000 00:1a2 775981	/usr/lib/x86_64-linux-gnu/ld-2.31.so
7fd14546c000-7fd145474000	r--p 00024000 00:1a2 775981	/usr/lib/x86_64-linux-gnu/ld-2.31.so

7fd145475000-7fd145476000	r--p 0002c000 00:1a2 775981	/usr/lib/x86_64-linux-gnu/ld-2.31.so
7fd145476000-7fd145477000	rw-p 0002d000 00:1a2 775981	/usr/lib/x86_64-linux-gnu/ld-2.31.so
7fd145477000-7fd145478000	rw-p 00000000 00:00 0	
7ffc4a160000-7ffc4a181000	rw-p 00000000 00:00 0	[stack]
7ffc4a1ab000-7ffc4a1ae000	r--p 00000000 00:00 0	[vvar]
7ffc4a1ae000-7ffc4a1af000	r-xp 00000000 00:00 0	[vdso]
ffffffff600000-ffffffff601000	--xp 00000000 00:00 0	[vsyscall]