De TABBAKH Mohamed Amine MIAGE-IF Rendu 1

Make :

```
aminetabbakh20@instance-1:~/lib_partageable_2023$ make
cd main && make install
make[1]: Entering directory '/home/aminetabbakh20/lib_partageable_2023/main'
mkdir ../bin
for component in Composant1 Composant2; do \
        cd ../$component; \
        make install;  \
done
make[2]: Entering directory '/home/aminetabbakh20/lib_partageable_2023/Composant1'
mkdir -p ../lib
g++ -fPIC -I../interfaces -c Composant1.cpp -o Composant1.o
gcc -o libComposant1.so -shared  Composant1.o
cp libComposant1.so ../lib/libComposant1.so
make[2]: Leaving directory '/home/aminetabbakh20/lib_partageable_2023/Composant1'
make[2]: Entering directory '/home/aminetabbakh20/lib_partageable_2023/Composant2'
g++ -fPIC -I../interfaces -c Composant2.cpp -o Composant2.o
gcc -o libComposant2.so -shared  Composant2.o
cp libComposant2.so ../lib/libComposant2.so
make[2]: Leaving directory '/home/aminetabbakh20/lib_partageable_2023/Composant2'
g++ -fPIC -I../interfaces -c main.cpp -o main.o
g++ main.o -L ../lib -lComposant1 -lComposant2 -o main
cp main ../bin; \
cp ../lib/libComposant1.so ../lib/libComposant2.so ../bin
make[1]: Leaving directory '/home/aminetabbakh20/lib_partageable_2023/main'
cd bin; \
LD_LIBRARY_PATH=. ./main
Composant 1 version 1.2.2.0
valeur 1 :8 valeur 2 :15
```

objdump -T main :

```
aminetabbakh20@instance-1:~/lib_partageable_2023/main$ objdump -C -T main

main:     file format elf64-x86-64

DYNAMIC SYMBOL TABLE:
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::basic_ostream<char, std::char_traits<char> >
& std::endl<char, std::char_traits<char> >(std::basic_ostream<char, std::char_traits<char> >&)
0000000000000000      DF *UND*  0000000000000000              composant2(int, int)
0000000000000000      DF *UND*  0000000000000000              composant1(int, int)
0000000000000000      DF *UND*  0000000000000000              getComposant1Version()
0000000000000000      DF *UND*  0000000000000000  GLIBC_2.2.5 __cxa_atexit
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::basic_ostream<char, std::char_traits<char> >
& std::operator<< <std::char_traits<char> >(std::basic_ostream<char, std::char_traits<char> >&, char const*)
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::ostream::operator<<(std::ostream& (*)(std::o
stream&))
0000000000000000      DO *UND*  0000000000000000  GLIBCXX_3.4 std::cout
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::ios_base::Init::Init()
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::ostream::operator<<(int)
0000000000000000  w   D  *UND*  0000000000000000              _ITM_deregisterTMCloneTable
0000000000000000      DF *UND*  0000000000000000  GLIBC_2.2.5 __libc_start_main
0000000000000000  w   D  *UND*  0000000000000000              __gmon_start__
0000000000000000  w   D  *UND*  0000000000000000              _ITM_registerTMCloneTable
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::ios_base::Init::~Init()
0000000000000000  w   DF *UND*  0000000000000000  GLIBC_2.2.5 __cxa_finalize
```

objdump -T libComposant1.o :

```
aminetabbakh20@instance-1:~/lib_partageable_2023/Composant1$ objdump -T libComposant1.so

libComposant1.so:     file format elf64-x86-64

DYNAMIC SYMBOL TABLE:
0000000000000000  w   D  *UND*  0000000000000000 __cxa_finalize
0000000000000000  w   D  *UND*  0000000000000000 _ITM_registerTMCloneTable
0000000000000000  w   D  *UND*  0000000000000000 _ITM_deregisterTMCloneTable
0000000000000000  w   D  *UND*  0000000000000000 __gmon_start__
0000000000001138 g    DF .text  000000000000000d _Z20getComposant1Versionv
0000000000001124 g    DF .text  0000000000000014 _Z16addition_interneii
0000000000001105 g    DF .text  000000000000001f _Z10composant1ii
```

objdump -C -T main :

```
aminetabbakh20@instance-1:~/lib_partageable_2023/main$ objdump -C -T main

main:     file format elf64-x86-64

DYNAMIC SYMBOL TABLE:
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::basic_ostream<char, std::char_traits<char> >
& std::endl<char, std::char_traits<char> >(std::basic_ostream<char, std::char_traits<char> >&)
0000000000000000      DF *UND*  0000000000000000                    composant2(int, int)
0000000000000000      DF *UND*  0000000000000000                    composant1(int, int)
0000000000000000      DF *UND*  0000000000000000                    getComposant1Version()
0000000000000000      DF *UND*  0000000000000000  GLIBC_2.2.5 __cxa_atexit
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::basic_ostream<char, std::char_traits<char> >
& std::operator<< <std::char_traits<char> >(std::basic_ostream<char, std::char_traits<char> >&, char const*)
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::ostream::operator<<(std::o
stream&))
0000000000000000      DO *UND*  0000000000000000  GLIBCXX_3.4 std::cout
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::ios_base::Init::Init()
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::ostream::operator<<(int)
0000000000000000  w   D  *UND*  0000000000000000  _ITM_deregisterTMCloneTable
0000000000000000      DF *UND*  0000000000000000  GLIBC_2.2.5 __libc_start_main
0000000000000000  w   D  *UND*  0000000000000000  __gmon_start__
0000000000000000  w   D  *UND*  0000000000000000  _ITM_registerTMCloneTable
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 std::ios_base::Init::~Init()
0000000000000000  w   DF *UND*  0000000000000000  GLIBC_2.2.5 __cxa_finalize
```

objdump -C -T libComposant1.o :

```
aminetabbakh20@instance-1:~/lib_partageable_2023/Composant1$ objdump -C -T libComposant1.so

libComposant1.so:     file format elf64-x86-64

DYNAMIC SYMBOL TABLE:
0000000000000000  w   D  *UND*  0000000000000000  __cxa_finalize
0000000000000000  w   D  *UND*  0000000000000000  _ITM_registerTMCloneTable
0000000000000000  w   D  *UND*  0000000000000000  _ITM_deregisterTMCloneTable
0000000000000000  w   D  *UND*  0000000000000000  __gmon_start__
0000000000001138  g   DF .text  000000000000000d  getComposant1Version()
0000000000001124  g   DF .text  0000000000000014  addition_interne(int, int)
0000000000001105  g   DF .text  000000000000001f  composant1(int, int)
```

Après avoir décommenter les lignes extern "C" :

```
1    #ifndef COMPOSANT1_H
2    #define COMPOSANT1_H
3
4    extern "C"
5    int composant1(int p1, int p2);
6
7    const char * getComposant1Version(void);
8
9    #endif
```

objdump -T main :

```
aminetabbakh20@instance-1:~/lib_partageable_2023/main$ objdump -T main

main:     file format elf64-x86-64

DYNAMIC SYMBOL TABLE:
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 _ZSt4endlIcSt11char_traitsIcEERSt13basic_ostreamI
T_T0_ES6_
0000000000000000      DF *UND*  0000000000000000              _Z10composant2ii
0000000000000000      DF *UND*  0000000000000000              _Z10composant1ii
0000000000000000      DF *UND*  0000000000000000              _Z20getComposant1Versionv
0000000000000000      DF *UND*  0000000000000000  GLIBC_2.2.5 __cxa_atexit
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 _ZStlsISt11char_traitsIcEERSt13basic_ostreamIcT_E
S5_PKc
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 _ZNSolsEPFRSoS_E
0000000000000000      DO *UND*  0000000000000000  GLIBCXX_3.4 _ZSt4cout
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 _ZNSt8ios_base4InitClEv
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 _ZNSolsEi
0000000000000000  w   D  *UND*  0000000000000000              _ITM_deregisterTMCloneTable
0000000000000000      DF *UND*  0000000000000000  GLIBC_2.2.5 __libc_start_main
0000000000000000  w   D  *UND*  0000000000000000              __gmon_start__
0000000000000000  w   D  *UND*  0000000000000000              _ITM_registerTMCloneTable
0000000000000000      DF *UND*  0000000000000000  GLIBCXX_3.4 _ZNSt8ios_base4InitD1Ev
0000000000000000  w   DF *UND*  0000000000000000  GLIBC_2.2.5 __cxa_finalize
```

objdump -T libComposant1.o :

```
aminetabbakh20@instance-1:~/lib_partageable_2023/Composant1$ objdump -T libComposant1.so

libComposant1.so:     file format elf64-x86-64

DYNAMIC SYMBOL TABLE:
0000000000000000  w   D  *UND*  0000000000000000 __cxa_finalize
0000000000000000  w   D  *UND*  0000000000000000 _ITM_registerTMCloneTable
0000000000000000  w   D  *UND*  0000000000000000 _ITM_deregisterTMCloneTable
0000000000000000  w   D  *UND*  0000000000000000 __gmon_start__
0000000000001138 g     DF .text  000000000000000d _Z20getComposant1Versionv
0000000000001124 g     DF .text  0000000000000014 _Z16addition_interneii
0000000000001105 g     DF .text  000000000000001f _Z10composant1ii
```

objdump -C -T main :

```
aminetabbakh20@instance-1:~/lib_partageable_2023/main$ objdump -C -T  main

main:     file format elf64-x86-64

DYNAMIC SYMBOL TABLE:
0000000000000000         DF *UND*  0000000000000000  GLIBCXX_3.4 std::basic_ostream<char, std::char_traits<char> >
& std::endl<char, std::char_traits<char> >(std::basic_ostream<char, std::char_traits<char> >&)
0000000000000000         DF *UND*  0000000000000000                  composant2(int, int)
0000000000000000         DF *UND*  0000000000000000                  composant1(int, int)
0000000000000000         DF *UND*  0000000000000000                  getComposant1Version()
0000000000000000         DF *UND*  0000000000000000  GLIBC_2.2.5 __cxa_atexit
0000000000000000         DF *UND*  0000000000000000  GLIBCXX_3.4 std::basic_ostream<char, std::char_traits<char> >
& std::operator<< <std::char_traits<char> >(std::basic_ostream<char, std::char_traits<char> >&, char const*)
0000000000000000         DF *UND*  0000000000000000  GLIBCXX_3.4 std::ostream::operator<<(std::ostream& (*)(std::o
stream&))
0000000000000000         DO *UND*  0000000000000000  GLIBCXX_3.4 std::cout
0000000000000000         DF *UND*  0000000000000000  GLIBCXX_3.4 std::ios_base::Init::Init()
0000000000000000         DF *UND*  0000000000000000  GLIBCXX_3.4 std::ostream::operator<<(int)
0000000000000000  w   D  *UND*  0000000000000000                  _ITM_deregisterTMCloneTable
0000000000000000         DF *UND*  0000000000000000  GLIBC_2.2.5 __libc_start_main
0000000000000000  w   D  *UND*  0000000000000000                  __gmon_start__
0000000000000000  w   D  *UND*  0000000000000000                  _ITM_registerTMCloneTable
0000000000000000         DF *UND*  0000000000000000  GLIBCXX_3.4 std::ios_base::Init::~Init()
0000000000000000  w     DF *UND*  0000000000000000  GLIBC_2.2.5 __cxa_finalize
```

objdump -C -T libComposant1.o :

```
aminetabbakh20@instance-1:~/lib_partageable_2023/Composant1$ objdump -C -T libComposant1.so

libComposant1.so:     file format elf64-x86-64

DYNAMIC SYMBOL TABLE:
0000000000000000  w   D  *UND*  0000000000000000 __cxa_finalize
0000000000000000  w   D  *UND*  0000000000000000 _ITM_registerTMCloneTable
0000000000000000  w   D  *UND*  0000000000000000 _ITM_deregisterTMCloneTable
0000000000000000  w   D  *UND*  0000000000000000 __gmon_start__
0000000000001138 g     DF .text  000000000000000d getComposant1Version()
0000000000001124 g     DF .text  0000000000000014 addition_interne(int, int)
0000000000001105 g     DF .text  000000000000001f composant1(int, int)
```