## For static library

**ldd main result in :**

```
linux-vdso.so.1 (0x00007ffce1927000)
libc.so.6 => /lib/x86_64-linux-gnu/libc.so.6 (0x00007f3024200000)
/lib64/ld-linux-x86-64.so.2 (0x00007f30244f2000)
```

there is no dynamic library which executable needs during runtime

**file main result in :**

main: ELF 64-bit LSB executable, x86-64, version 1 (GNU/Linux), statically linked, BuildID[sha1]=aa8102d65c6ec27dab4bb303f32145c9c7a93dcf, for GNU/Linux 3.2.0, not stripped

the file is statically linked during compilation time

**objdump main result in:**

1- all symbols in the symbol table is allocated in a specific section and there is not UND in the result executable
2- there is no dynamic symbol table could be generated in this case
3- there size of disassembly is significantly large
4- also the header is large in size

**the size is : 880K**

## For dynamic library

**ldd main result in :**

```
linux-vdso.so.1 (0x00007ffeebfb8000)
******libmath.so => ./lib/libmath.so (0x00007f88847d6000)*******
libc.so.6 => /lib/x86_64-linux-gnu/libc.so.6 (0x00007f8884400000)
/lib64/ld-linux-x86-64.so.2 (0x00007f88847e2000)
```

This is the dynamic library which the main depend on

**file main result in :**

main: ELF 64-bit LSB pie executable, x86-64, version 1 (SYSV), dynamically linked, interpreter /lib64/ld-linux-x86-64.so.2, BuildID[sha1]=eab2a5b7143127ee00792c02fbe155ed01a4fe78, for GNU/Linux 3.2.0, not stripped

this shows that this executable is dynamically linked in the runtime

**objdump main result in:**

1- there is UND symbol in the result symbol tabel
2- there is dynamic symbol table
3- the size of the disassembly is significantly small
4- the header also much smaller

**the size is : 16k**