

Московский Авиационный Институт
(Национальный Исследовательский Университет)
Факультет информационных технологий и прикладной математики
Кафедра вычислительной математики и программирования

**Лабораторная работа №1 по курсу
«Операционные системы»**

Диагностика программного обеспечения

Студент: Косогоров Владислав Валерьевич
Группа: М80 – 206Б-18
Вариант: 1
Преподаватель: Соколов Андрей Алексеевич
Оценка: _____
Дата: _____
Подпись: _____

Москва, 2019

Постановка задачи

Цель работы — приобретение практических навыков диагностики работы программного обеспечения.

Strace

Strace показывает все системные вызовы программы, которые она отправляет к системе во время выполнения, а также их параметры и результат выполнения.

Общий метод и алгоритм решения

Проведём диагностику лабораторных работ.

Демонстрация работы программы

ЛР 2

```
execve("./a.out", ["/a.out", "echo", "test"], 0x7ffcdf3fdb10 /* 74 vars */) = 0
```

```
brk(NULL) = 0x558411260000
```

```
access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)
```

```
access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
```

```
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
```

```
fstat(3, {st_mode=S_IFREG|0644, st_size=129774, ...}) = 0
```

```
mmap(NULL, 129774, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f8aac37f000
```

```
close(3) = 0
```

```
access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)
```

```
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC) = 3
```

```
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\260\34\2\0\0\0\0\0"..., 832) = 832
```

```
fstat(3, {st_mode=S_IFREG|0755, st_size=2030544, ...}) = 0
```

```
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f8aac37d000
```

```
mmap(NULL, 4131552, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f8aabd87000
```

```
mprotect(0x7f8aabbf6e000, 2097152, PROT_NONE) = 0
```

mmap(0x7f8aac16e000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x1e7000) = 0x7f8aac16e000

mmap(0x7f8aac174000, 15072, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f8aac174000

close(3) = 0

arch_prctl(ARCH_SET_FS, 0x7f8aac37e4c0) = 0

mprotect(0x7f8aac16e000, 16384, PROT_READ) = 0

mprotect(0x558410541000, 4096, PROT_READ) = 0

mprotect(0x7f8aac39f000, 4096, PROT_READ) = 0

munmap(0x7f8aac37f000, 129774) = 0

pipe([3, 4]) = 0

clone(child_stack=NULL, flags=CLONE_CHILD_CLEARTID|
CLONE_CHILD_SETTID|SIGCHLD, child_tidptr=0x7f8aac37e790) = 11250

wait4(11250, [{WIFEXITED(s) && WEXITSTATUS(s) == 0}], 0, NULL) =
11250

--- SIGCHLD {si_signo=SIGCHLD, si_code=CLD_EXITED, si_pid=11250,
si_uid=1000, si_status=0, si_utime=0, si_stime=0} ---

close(4) = 0

read(3, "t", 1) = 1

write(1, "T", 1T) = 1

read(3, "e", 1) = 1

write(1, "E", 1E) = 1

read(3, "s", 1) = 1

write(1, "S", 1S) = 1

read(3, "t", 1) = 1

write(1, "T", 1T) = 1

read(3, "\n", 1) = 1

write(1, "\n", 1
) = 1

read(3, "", 1) = 0

exit_group(0) = ?

+++ exited with 0 +++

JIP 3

execve("./a.out", ["/a.out", "4"], 0x7ffd253cb9a8 /* 74 vars */) = 0

brk(NULL) = 0x55d1020b5000

access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)

access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3

fstat(3, {st_mode=S_IFREG|0644, st_size=129774, ...}) = 0

mmap(NULL, 129774, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f0d5550b000

close(3) = 0

access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libpthread.so.0", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0000b\0\0\0\0\0\0"..., 832) = 832

fstat(3, {st_mode=S_IFREG|0755, st_size=144976, ...}) = 0

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f0d55509000

mmap(NULL, 2221184, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f0d550e5000

mprotect(0x7f0d550ff000, 2093056, PROT_NONE) = 0

mmap(0x7f0d552fe000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x19000) = 0x7f0d552fe000

mmap(0x7f0d55300000, 13440, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f0d55300000

close(3) = 0

access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|O_CLOEXEC) = 3

```

read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\260\34\2\0\0\0\0\0"...,
832) = 832

fstat(3, {st_mode=S_IFREG|0755, st_size=2030544, ...}) = 0

mmap(NULL, 4131552, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f0d54cf4000

mprotect(0x7f0d54edb000, 2097152, PROT_NONE) = 0

mmap(0x7f0d550db000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x1e7000) = 0x7f0d550db000

mmap(0x7f0d550e1000, 15072, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f0d550e1000

close(3) = 0

mmap(NULL, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_ANONYMOUS, -1, 0) = 0x7f0d55506000

arch_prctl(ARCH_SET_FS, 0x7f0d55506740) = 0

mprotect(0x7f0d550db000, 16384, PROT_READ) = 0

mprotect(0x7f0d552fe000, 4096, PROT_READ) = 0

mprotect(0x55d100639000, 4096, PROT_READ) = 0

mprotect(0x7f0d5552b000, 4096, PROT_READ) = 0

munmap(0x7f0d5550b000, 129774) = 0

set_tid_address(0x7f0d55506a10) = 11761

set_robust_list(0x7f0d55506a20, 24) = 0

rt_sigaction(SIGRTMIN, {sa_handler=0x7f0d550eacb0, sa_mask=[],
sa_flags=SA_RESTORER|SA_SIGINFO, sa_restorer=0x7f0d550f78a0}, NULL,
8) = 0

rt_sigaction(SIGRT_1, {sa_handler=0x7f0d550ead50, sa_mask=[],
sa_flags=SA_RESTORER|SA_RESTART|SA_SIGINFO,
sa_restorer=0x7f0d550f78a0}, NULL, 8) = 0

rt_sigprocmask(SIG_UNBLOCK, [RTMIN RT_1], NULL, 8) = 0

prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024,
rlim_max=RLIM64_INFINITY}) = 0

fstat(1, {st_mode=S_IFCHR|0620, st_rdev=makedev(136, 1), ...}) = 0

brk(NULL) = 0x55d1020b5000

```

```

brk(0x55d1020d6000)          = 0x55d1020d6000
write(1, "Enter the field:\n", 17Enter the field:
)    = 17
fstat(0, {st_mode=S_IFCHR|0620, st_rdev=makedev(136, 1), ...}) = 0
read(0, xox
"oxox\n", 1024)              = 4
read(0, oxo
"oxo\n", 1024)              = 4
read(0, ____
"____\n", 1024)             = 4
read(0, x
"x\n", 1024)                = 2
mmap(NULL, 8392704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|
MAP_STACK, -1, 0) = 0x7f0d544f3000
mprotect(0x7f0d544f4000, 8388608, PROT_READ|PROT_WRITE) = 0
clone(child_stack=0x7f0d54cf2fb0, flags=CLONE_VM|CLONE_FS|
CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|
CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
parent_tidptr=0x7f0d54cf39d0, tls=0x7f0d54cf3700,
child_tidptr=0x7f0d54cf39d0) = 11762
mmap(NULL, 8392704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|
MAP_STACK, -1, 0) = 0x7f0d53cf2000
mprotect(0x7f0d53cf3000, 8388608, PROT_READ|PROT_WRITE) = 0
clone(child_stack=0x7f0d544f1fb0, flags=CLONE_VM|CLONE_FS|
CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|
CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
parent_tidptr=0x7f0d544f29d0, tls=0x7f0d544f2700,
child_tidptr=0x7f0d544f29d0) = 11763
mmap(NULL, 8392704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|
MAP_STACK, -1, 0) = 0x7f0d534f1000
mprotect(0x7f0d534f2000, 8388608, PROT_READ|PROT_WRITE) = 0

```

clone(child_stack=0x7f0d53cf0fb0, flags=CLONE_VM|CLONE_FS|
CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|
CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
parent_tidptr=0x7f0d53cf19d0, tls=0x7f0d53cf1700,
child_tidptr=0x7f0d53cf19d0) = 11764

mmap(NULL, 8392704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|
MAP_STACK, -1, 0) = 0x7f0d52cf0000

mprotect(0x7f0d52cf1000, 8388608, PROT_READ|PROT_WRITE) = 0

clone(child_stack=0x7f0d534effb0, flags=CLONE_VM|CLONE_FS|
CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|
CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
parent_tidptr=0x7f0d534f09d0, tls=0x7f0d534f0700,
child_tidptr=0x7f0d534f09d0) = 11765

write(1, "Best move: 6\n", 13Best move: 6

) = 13

write(1, "Best move: 8\n", 13Best move: 8

) = 13

lseek(0, -1, SEEK_CUR) = -1 ESPIPE (Illegal seek)

exit_group(0) = ?

+++ exited with 0 +++

Time: 0h:00m:15s

JIP 4

execve("./a.out", ["/a.out", "echo", "dsadjasfjasjkldjasfkals"], 0x7ffddb7d4a0 /*
74 vars */) = 0

brk(NULL) = 0x561726be6000

access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)

access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3

fstat(3, {st_mode=S_IFREG|0644, st_size=129774, ...}) = 0

mmap(NULL, 129774, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f884cb15000

close(3) = 0

```
access("/etc/ld.so.nohwcap", F_OK)    = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/librt.so.1", O_RDONLY|
O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0"... , 832) =
832
fstat(3, {st_mode=S_IFREG|0644, st_size=31680, ...}) = 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_ANONYMOUS, -1, 0) = 0x7f884cb13000
mmap(NULL, 2128864, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f884c706000
mprotect(0x7f884c70d000, 2093056, PROT_NONE) = 0
mmap(0x7f884c90c000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x6000) = 0x7f884c90c000
close(3)                                = 0
access("/etc/ld.so.nohwcap", F_OK)    = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|
O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\260\34\2\0\0\0\0\0"... ,
832) = 832
fstat(3, {st_mode=S_IFREG|0755, st_size=2030544, ...}) = 0
mmap(NULL, 4131552, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f884c315000
mprotect(0x7f884c4fc000, 2097152, PROT_NONE) = 0
mmap(0x7f884c6fc000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x1e7000) = 0x7f884c6fc000
mmap(0x7f884c702000, 15072, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f884c702000
close(3)                                = 0
access("/etc/ld.so.nohwcap", F_OK)    = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libpthread.so.0", O_RDONLY|
O_CLOEXEC) = 3
```



```

read(3, "\\177ELF\\2\\1\\1\\0\\0\\0\\0\\0\\0\\0\\0\\0\\3\\0>\\0\\1\\0\\0\\0000b\\0\\0\\0\\0\\0\\0"..., 832) =
832
fstat(3, {st_mode=S_IFREG|0755, st_size=144976, ...}) = 0
mmap(NULL, 2221184, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f884c0f6000
mprotect(0x7f884c110000, 2093056, PROT_NONE) = 0
mmap(0x7f884c30f000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x19000) = 0x7f884c30f000
mmap(0x7f884c311000, 13440, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f884c311000
close(3) = 0
mmap(NULL, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_ANONYMOUS, -1, 0) = 0x7f884cb10000
arch_prctl(ARCH_SET_FS, 0x7f884cb10740) = 0
mprotect(0x7f884c6fc000, 16384, PROT_READ) = 0
mprotect(0x7f884c30f000, 4096, PROT_READ) = 0
mprotect(0x7f884c90c000, 4096, PROT_READ) = 0
mprotect(0x561725608000, 4096, PROT_READ) = 0
mprotect(0x7f884cb35000, 4096, PROT_READ) = 0
munmap(0x7f884cb15000, 129774) = 0
set_tid_address(0x7f884cb10a10) = 12786
set_robust_list(0x7f884cb10a20, 24) = 0
rt_sigaction(SIGRTMIN, {sa_handler=0x7f884c0fbc0, sa_mask=[],
sa_flags=SA_RESTORER|SA_SIGINFO, sa_restorer=0x7f884c1088a0}, NULL,
8) = 0
rt_sigaction(SIGRT_1, {sa_handler=0x7f884c0fbd50, sa_mask=[],
sa_flags=SA_RESTORER|SA_RESTART|SA_SIGINFO,
sa_restorer=0x7f884c1088a0}, NULL, 8) = 0
rt_sigprocmask(SIG_UNBLOCK, [RTMIN RT_1], NULL, 8) = 0
prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024,
rlim_max=RLIM64_INFINITY}) = 0

```

```

prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024,
rlim_max=RLIM64_INFINITY}) = 0

statfs("/dev/shm/", {f_type=TMPFS_MAGIC, f_bsize=4096, f_blocks=1005938,
f_bfree=969107, f_bavail=969107, f_files=1005938, f_ffree=1005275,
f_fsid={val=[0, 0]}, f_namelen=255, f_frsize=4096, f_flags=ST_VALID|
ST_NOSUID|ST_NODEV}) = 0

futex(0x7f884c314370, FUTEX_WAKE_PRIVATE, 2147483647) = 0

openat(AT_FDCWD, "/dev/shm/memfile", O_RDWR|O_CREAT|O_TRUNC|
O_NOFOLLOW|O_CLOEXEC, 0600) = 3

ftruncate(3, 4194304) = 0

mmap(NULL, 4194304, PROT_READ|PROT_WRITE, MAP_SHARED, 3, 0) =
0x7f884bcf6000

clone(child_stack=NULL, flags=CLONE_CHILD_CLEARTID|
CLONE_CHILD_SETTID|SIGCHLD, child_tidptr=0x7f884cb10a10) = 12787

wait4(12787, [{WIFEXITED(s) && WEXITSTATUS(s) == 0}], 0, NULL) =
12787

--- SIGCHLD {si_signo=SIGCHLD, si_code=CLD_EXITED, si_pid=12787,
si_uid=1000, si_status=0, si_utime=0, si_stime=0} ---

fstat(1, {st_mode=S_IFCHR|0620, st_rdev=makedev(136, 1), ...}) = 0

brk(NULL) = 0x561726be6000

brk(0x561726c07000) = 0x561726c07000

write(1, "DSADJASFJASJKLDJASFKALS\n",
24DSADJASFJASJKLDJASFKALS
) = 24

exit_group(0) = ?

+++ exited with 0 +++

```

ЛП 5

```
gcc -std=c99 -w -O2 -Wextra -Werror -Wall -Wno-sign-compare -pedantic -shared
-o libqueue.so queue.o
```

```

/usr/bin/ld: queue.o: relocation R_X86_64_PC32 against symbol
`stdout@@@GLIBC_2.2.5' can not be used when making a shared object;
перекомпилируйте с параметром -fPIC

```

/usr/bin/ld: final link failed: Некорректное значение

collect2: error: ld returned 1 exit status

Makefile:17: recipe for target 'libqueue.so' failed

make: *** [libqueue.so] Error 1

.../prog_3_sem/os/lab5 ∃ strace ./run-dyn

Σ x Σ

21:29:05

execve("./run-dyn", [".run-dyn"], 0x7fff0bee28d0 /* 74 vars */) = 0

brk(NULL) = 0x55644db9d000

access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)

access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3

fstat(3, {st_mode=S_IFREG|0644, st_size=129774, ...}) = 0

mmap(NULL, 129774, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f454f855000

close(3) = 0

access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libdl.so.2", O_RDONLY|O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P\16\0\0\0\0\0"... , 832) = 832

fstat(3, {st_mode=S_IFREG|0644, st_size=14560, ...}) = 0

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x7f454f853000

mmap(NULL, 2109712, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f454f44a000

mprotect(0x7f454f44d000, 2093056, PROT_NONE) = 0

mmap(0x7f454f64c000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x2000) = 0x7f454f64c000

close(3) = 0

access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)

```

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|
O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\260\34\2\0\0\0\0\0"...,
832) = 832
fstat(3, {st_mode=S_IFREG|0755, st_size=2030544, ...}) = 0
mmap(NULL, 4131552, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f454f059000
mprotect(0x7f454f240000, 2097152, PROT_NONE) = 0
mmap(0x7f454f440000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x1e7000) = 0x7f454f440000
mmap(0x7f454f446000, 15072, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f454f446000
close(3) = 0
mmap(NULL, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_ANONYMOUS, -1, 0) = 0x7f454f850000
arch_prctl(ARCH_SET_FS, 0x7f454f850740) = 0
mprotect(0x7f454f440000, 16384, PROT_READ) = 0
mprotect(0x7f454f64c000, 4096, PROT_READ) = 0
mprotect(0x55644cce9000, 4096, PROT_READ) = 0
mprotect(0x7f454f875000, 4096, PROT_READ) = 0
munmap(0x7f454f855000, 129774) = 0
brk(NULL) = 0x55644db9d000
brk(0x55644dbbe000) = 0x55644dbbe000
openat(AT_FDCWD, "./libqueue.so", O_RDONLY|O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\200\7\0\0\0\0\0"..., 832)
= 832
fstat(3, {st_mode=S_IFREG|0775, st_size=8456, ...}) = 0
getcwd("/home/vladislav/\320\240\320\260\320\261\320\276\321\207\320\270\320
\271 \321\201\321\202\320\276\320\273/prog_3_sem/os/lab5", 128) = 59
mmap(NULL, 2101336, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f454ee57000

```

```

mprotect(0x7f454ee58000, 2093056, PROT_NONE) = 0
mmap(0x7f454f057000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0) = 0x7f454f057000
close(3) = 0
mprotect(0x7f454f057000, 4096, PROT_READ) = 0
fstat(1, {st_mode=S_IFCHR|0620, st_rdev=makedev(136, 1), ...}) = 0
write(1, "Choose an operation:\n", 21Choose an operation:
) = 21
write(1, "1) Initialize the queue\n", 241) Initialize the queue
) = 24
write(1, "2) Push front\n", 142) Push front
) = 14
write(1, "3) Pop back\n", 123) Pop back
) = 12
write(1, "4) Print queue\n", 154) Print queue
) = 15
write(1, "0) Exit\n", 80) Exit
) = 8
fstat(0, {st_mode=S_IFCHR|0620, st_rdev=makedev(136, 1), ...}) = 0
read(0, 1
"1\n", 1024) = 2
write(1, "Enter key to initialize the queu"..., 35Enter key to initialize the queue: ) =
35
read(0, 1
"1\n", 1024) = 2
write(1, "Choose an operation:\n", 21Choose an operation:
) = 21
write(1, "1) Initialize the queue\n", 241) Initialize the queue
) = 24

```

```

write(1, "2) Push front\n", 142) Push front
)      = 14
write(1, "3) Pop back\n", 123) Pop back
)      = 12
write(1, "4) Print queue\n", 154) Print queue
)      = 15
write(1, "0) Exit\n", 80) Exit
)      = 8
read(0, 2
"2\n", 1024)      = 2
write(1, "Enter key: ", 11Enter key: )      = 11
read(0, 100
"100\n", 1024)      = 4
write(1, "Choose an operation:\n", 21Choose an operation:
) = 21
write(1, "1) Initialize the queue\n", 241) Initialize the queue
) = 24
write(1, "2) Push front\n", 142) Push front
)      = 14
write(1, "3) Pop back\n", 123) Pop back
)      = 12
write(1, "4) Print queue\n", 154) Print queue
)      = 15
write(1, "0) Exit\n", 80) Exit
)      = 8
read(0, 4
"4\n", 1024)      = 2
write(1, "100.000000 1.000000 \n", 21100.000000 1.000000
) = 21

```

```

write(1, "Choose an operation:\n", 21) Choose an operation:
) = 21
write(1, "1) Initialize the queue\n", 24) 1) Initialize the queue
) = 24
write(1, "2) Push front\n", 14) 2) Push front
) = 14
write(1, "3) Pop back\n", 12) 3) Pop back
) = 12
write(1, "4) Print queue\n", 15) 4) Print queue
) = 15
write(1, "0) Exit\n", 8) 0) Exit
) = 8
read(0, 0
"0\n", 1024) = 2
munmap(0x7f454ee57000, 2101336) = 0
lseek(0, -1, SEEK_CUR) = -1 ESPIPE (Illegal seek)
exit_group(0) = ?
+++ exited with 0 +++
Time: 0h:00m:33s

```

JIP 6

```

execve("./terminal", [".terminal", "15", "0"], 0x7ffd6dde9490 /* 74 vars */) = 0
brk(NULL) = 0x55c772fe7000
access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)
access("/etc/ld.so.preload", R_OK) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
fstat(3, {st_mode=S_IFREG|0644, st_size=129774, ...}) = 0
mmap(NULL, 129774, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f965a2fa000
close(3) = 0

```

```

access("/etc/ld.so.nohwcap", F_OK)    = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libzmq.so.5", O_RDONLY|
O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P?\1\0\0\0\0"... , 832) =
832

fstat(3, {st_mode=S_IFREG|0644, st_size=630464, ...}) = 0

mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_ANONYMOUS, -1, 0) = 0x7f965a2f8000

mmap(NULL, 2725560, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f9659e59000

mprotect(0x7f9659e59000, 2097152, PROT_NONE) = 0

mmap(0x7f965a0ec000, 28672, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x93000) = 0x7f965a0ec000

close(3)                                = 0

access("/etc/ld.so.nohwcap", F_OK)    = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libstdc++.so.6", O_RDONLY|
O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0220\304\10\0\0\0\0"... ,
832) = 832

fstat(3, {st_mode=S_IFREG|0644, st_size=1594864, ...}) = 0

mmap(NULL, 3702848, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f9659ad0000

mprotect(0x7f9659c49000, 2097152, PROT_NONE) = 0

mmap(0x7f9659e49000, 49152, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x179000) = 0x7f9659e49000

mmap(0x7f9659e55000, 12352, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f9659e55000

close(3)                                = 0

access("/etc/ld.so.nohwcap", F_OK)    = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libgcc_s.so.1", O_RDONLY|
O_CLOEXEC) = 3

```


read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\300*\0\0\0\0\0"..., 832)
= 832

fstat(3, {st_mode=S_IFREG|0644, st_size=96616, ...}) = 0

mmap(NULL, 2192432, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f96598b8000

mprotect(0x7f96598cf000, 2093056, PROT_NONE) = 0

mmap(0x7f9659ace000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x16000) = 0x7f9659ace000

close(3) = 0

access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libc.so.6", O_RDONLY|
O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\260\34\2\0\0\0\0"...,
832) = 832

fstat(3, {st_mode=S_IFREG|0755, st_size=2030544, ...}) = 0

mmap(NULL, 4131552, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f96594c7000

mprotect(0x7f96596ae000, 2097152, PROT_NONE) = 0

mmap(0x7f96598ae000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x1e7000) = 0x7f96598ae000

mmap(0x7f96598b4000, 15072, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f96598b4000

close(3) = 0

access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libsodium.so.23", O_RDONLY|
O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\340\251\0\0\0\0\0"...,
832) = 832

fstat(3, {st_mode=S_IFREG|0644, st_size=330440, ...}) = 0

mmap(NULL, 2425864, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f9659276000

mprotect(0x7f96592c6000, 2093056, PROT_NONE) = 0

```

mmap(0x7f96594c5000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x4f000) = 0x7f96594c5000
close(3)                                = 0
access("/etc/ld.so.nohwcap", F_OK)      = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libpgm-5.2.so.0", O_RDONLY|
O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0000;\0\0\0\0\0\0"..., 832) =
832
fstat(3, {st_mode=S_IFREG|0644, st_size=293784, ...}) = 0
mmap(NULL, 2406448, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f965902a000
mprotect(0x7f9659071000, 2093056, PROT_NONE) = 0
mmap(0x7f9659270000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x46000) = 0x7f9659270000
mmap(0x7f9659272000, 14384, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f9659272000
close(3)                                = 0
access("/etc/ld.so.nohwcap", F_OK)      = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libnorm.so.1", O_RDONLY|
O_CLOEXEC) = 3
read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0000\374\1\0\0\0\0\0"...,
832) = 832
fstat(3, {st_mode=S_IFREG|0644, st_size=522248, ...}) = 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_ANONYMOUS, -1, 0) = 0x7f965a2f6000
mmap(NULL, 3340624, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f9658cfa000
mprotect(0x7f9658d77000, 2097152, PROT_NONE) = 0
mmap(0x7f9658f77000, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x7d000) = 0x7f9658f77000
mmap(0x7f9658f7a000, 719184, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f9658f7a000

```

```

close(3)                                = 0

access("/etc/ld.so.nohwcap", F_OK)      = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/librt.so.1", O_RDONLY|
O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0"..., 832) =
832

fstat(3, {st_mode=S_IFREG|0644, st_size=31680, ...}) = 0

mmap(NULL, 2128864, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f9658af2000

mprotect(0x7f9658af9000, 2093056, PROT_NONE) = 0

mmap(0x7f9658cf8000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x6000) = 0x7f9658cf8000

close(3)                                = 0

access("/etc/ld.so.nohwcap", F_OK)      = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libpthread.so.0", O_RDONLY|
O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0000b\0\0\0\0\0\0"..., 832) =
832

fstat(3, {st_mode=S_IFREG|0755, st_size=144976, ...}) = 0

mmap(NULL, 2221184, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f96588d3000

mprotect(0x7f96588ed000, 2093056, PROT_NONE) = 0

mmap(0x7f9658aec000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x19000) = 0x7f9658aec000

mmap(0x7f9658aee000, 13440, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f9658aee000

close(3)                                = 0

access("/etc/ld.so.nohwcap", F_OK)      = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libm.so.6", O_RDONLY|
O_CLOEXEC) = 3

read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\200\272\0\0\0\0\0\0"...,
832) = 832

```

```
fstat(3, {st_mode=S_IFREG|0644, st_size=1700792, ...}) = 0
mmap(NULL, 3789144, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f9658535000
mprotect(0x7f96586d2000, 2093056, PROT_NONE) = 0
mmap(0x7f96588d1000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0x19c000) = 0x7f96588d1000
close(3) = 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_ANONYMOUS, -1, 0) = 0x7f965a2f4000
mmap(NULL, 12288, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_ANONYMOUS, -1, 0) = 0x7f965a2f1000
arch_prctl(ARCH_SET_FS, 0x7f965a2f1b80) = 0
mprotect(0x7f96598ae000, 16384, PROT_READ) = 0
mprotect(0x7f96588d1000, 4096, PROT_READ) = 0
mprotect(0x7f9658aec000, 4096, PROT_READ) = 0
mprotect(0x7f9658cf8000, 4096, PROT_READ) = 0
mprotect(0x7f9659ace000, 4096, PROT_READ) = 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_ANONYMOUS, -1, 0) = 0x7f965a2ef000
mprotect(0x7f9659e49000, 40960, PROT_READ) = 0
mprotect(0x7f9658f77000, 8192, PROT_READ) = 0
mprotect(0x7f9659270000, 4096, PROT_READ) = 0
mprotect(0x7f96594c5000, 4096, PROT_READ) = 0
mprotect(0x7f965a0ec000, 24576, PROT_READ) = 0
mprotect(0x55c771a96000, 4096, PROT_READ) = 0
mprotect(0x7f965a31a000, 4096, PROT_READ) = 0
munmap(0x7f965a2fa000, 129774) = 0
set_tid_address(0x7f965a2f1e50) = 16642
set_robust_list(0x7f965a2f1e60, 24) = 0
```

```

rt_sigaction(SIGRTMIN, {sa_handler=0x7f96588d8cb0, sa_mask=[],
sa_flags=SA_RESTORER|SA_SIGINFO, sa_restorer=0x7f96588e58a0}, NULL,
8) = 0

rt_sigaction(SIGRT_1, {sa_handler=0x7f96588d8d50, sa_mask=[],
sa_flags=SA_RESTORER|SA_RESTART|SA_SIGINFO,
sa_restorer=0x7f96588e58a0}, NULL, 8) = 0

rt_sigprocmask(SIG_UNBLOCK, [RTMIN RT_1], NULL, 8) = 0

prlimit64(0, RLIMIT_STACK, NULL, {rlim_cur=8192*1024,
rlim_max=RLIM64_INFINITY}) = 0

brk(NULL) = 0x55c772fe7000

brk(0x55c773008000) = 0x55c773008000

futex(0x7f9659e5609c, FUTEX_WAKE_PRIVATE, 2147483647) = 0

futex(0x7f9659e560a8, FUTEX_WAKE_PRIVATE, 2147483647) = 0

openat(AT_FDCWD, "/sys/devices/system/cpu/online", O_RDONLY|
O_CLOEXEC) = 3

read(3, "0-7\n", 8192) = 4

close(3) = 0

openat(AT_FDCWD, "/sys/devices/system/cpu", O_RDONLY|O_NONBLOCK|
O_CLOEXEC|O_DIRECTORY) = 3

fstat(3, {st_mode=S_IFDIR|0755, st_size=0, ...}) = 0

getdents(3, /* 26 entries */, 32768) = 752

getdents(3, /* 0 entries */, 32768) = 0

close(3) = 0

getpid() = 16642

sched_getaffinity(16642, 128, [0, 1, 2, 3, 4, 5, 6, 7]) = 8

openat(AT_FDCWD, "/etc/nsswitch.conf", O_RDONLY|O_CLOEXEC) = 3

fstat(3, {st_mode=S_IFREG|0644, st_size=556, ...}) = 0

read(3, "# /etc/nsswitch.conf\n#\n# Example"..., 4096) = 556

read(3, "", 4096) = 0

close(3) = 0

openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3

```

```
fstat(3, {st_mode=S_IFREG|0644, st_size=129774, ...}) = 0
mmap(NULL, 129774, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f965a2fa000
close(3)                                = 0
access("/etc/ld.so.nohwcap", F_OK)      = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/haswell/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/lib/x86_64-linux-gnu/tls/haswell/x86_64", 0x7ffe6b849370) = -1 ENOENT
(No such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/haswell/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/lib/x86_64-linux-gnu/tls/haswell", 0x7ffe6b849370) = -1 ENOENT (No such
file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/lib/x86_64-linux-gnu/tls/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such
file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/libnss_db.so.2", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/lib/x86_64-linux-gnu/tls", 0x7ffe6b849370) = -1 ENOENT (No such file or
directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/haswell/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/lib/x86_64-linux-gnu/haswell/x86_64", 0x7ffe6b849370) = -1 ENOENT (No
such file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/haswell/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/lib/x86_64-linux-gnu/haswell", 0x7ffe6b849370) = -1 ENOENT (No such
file or directory)
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/x86_64/libnss_db.so.2",
O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/lib/x86_64-linux-gnu/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such
file or directory)
```

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/x86_64-linux-gnu", {st_mode=S_IFDIR|0755, st_size=12288, ...}) = 0

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls/haswell/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86_64-linux-gnu/tls/haswell/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls/haswell/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86_64-linux-gnu/tls/haswell", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86_64-linux-gnu/tls/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/tls/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86_64-linux-gnu/tls", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/haswell/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86_64-linux-gnu/haswell/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/haswell/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86_64-linux-gnu/haswell", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86_64-linux-gnu/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1 ENOENT (No such file or directory)

```
stat("/usr/lib/x86_64-linux-gnu", {st_mode=S_IFDIR|0755, st_size=139264, ...}) =
0
openat(AT_FDCWD, "/lib/tls/haswell/x86_64/libnss_db.so.2", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/lib/tls/haswell/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such file or
directory)
openat(AT_FDCWD, "/lib/tls/haswell/libnss_db.so.2", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/lib/tls/haswell", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/tls/x86_64/libnss_db.so.2", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/lib/tls/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/tls/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1
ENOENT (No such file or directory)
stat("/lib/tls", 0x7ffe6b849370)      = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/haswell/x86_64/libnss_db.so.2", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/lib/haswell/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such file or
directory)
openat(AT_FDCWD, "/lib/haswell/libnss_db.so.2", O_RDONLY|O_CLOEXEC) =
-1 ENOENT (No such file or directory)
stat("/lib/haswell", 0x7ffe6b849370)   = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/x86_64/libnss_db.so.2", O_RDONLY|O_CLOEXEC) =
-1 ENOENT (No such file or directory)
stat("/lib/x86_64", 0x7ffe6b849370)    = -1 ENOENT (No such file or directory)
openat(AT_FDCWD, "/lib/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1
ENOENT (No such file or directory)
stat("/lib", {st_mode=S_IFDIR|0755, st_size=4096, ...}) = 0
openat(AT_FDCWD, "/usr/lib/tls/haswell/x86_64/libnss_db.so.2", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)
stat("/usr/lib/tls/haswell/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such file or
directory)
```



```
openat(AT_FDCWD, "/usr/lib/tls/haswell/libnss_db.so.2", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/tls/haswell", 0x7ffe6b849370) = -1 ENOENT (No such file or
directory)

openat(AT_FDCWD, "/usr/lib/tls/x86_64/libnss_db.so.2", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/tls/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such file or
directory)

openat(AT_FDCWD, "/usr/lib/tls/libnss_db.so.2", O_RDONLY|O_CLOEXEC) =
-1 ENOENT (No such file or directory)

stat("/usr/lib/tls", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/haswell/x86_64/libnss_db.so.2", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/haswell/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such file or
directory)

openat(AT_FDCWD, "/usr/lib/haswell/libnss_db.so.2", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/haswell", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/x86_64/libnss_db.so.2", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86_64", 0x7ffe6b849370) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/usr/lib/libnss_db.so.2", O_RDONLY|O_CLOEXEC) = -1
ENOENT (No such file or directory)

stat("/usr/lib", {st_mode=S_IFDIR|0755, st_size=12288, ...}) = 0

munmap(0x7f965a2fa000, 129774) = 0

openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3

fstat(3, {st_mode=S_IFREG|0644, st_size=129774, ...}) = 0

mmap(NULL, 129774, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f965a2fa000

close(3) = 0

access("/etc/ld.so.nohwcap", F_OK) = -1 ENOENT (No such file or directory)

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libnss_files.so.2", O_RDONLY|
O_CLOEXEC) = 3
```

```
read(3, "\177ELF\2\1\1\0\0\0\0\0\0\0\0\0\3\0>\0\1\0\0\0P#\0\0\0\0\0"..., 832) =
832
fstat(3, {st_mode=S_IFREG|0644, st_size=47568, ...}) = 0
mmap(NULL, 2168632, PROT_READ|PROT_EXEC, MAP_PRIVATE|
MAP_DENYWRITE, 3, 0) = 0x7f9658323000
mprotect(0x7f965832e000, 2093056, PROT_NONE) = 0
mmap(0x7f965852d000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_DENYWRITE, 3, 0xa000) = 0x7f965852d000
mmap(0x7f965852f000, 22328, PROT_READ|PROT_WRITE, MAP_PRIVATE|
MAP_FIXED|MAP_ANONYMOUS, -1, 0) = 0x7f965852f000
close(3) = 0
mprotect(0x7f965852d000, 4096, PROT_READ) = 0
munmap(0x7f965a2fa000, 129774) = 0
openat(AT_FDCWD, "/etc/protocols", O_RDONLY|O_CLOEXEC) = 3
fstat(3, {st_mode=S_IFREG|0644, st_size=2932, ...}) = 0
read(3, "# Internet (IP) protocols\n#\n# Up"..., 4096) = 2932
read(3, "", 4096) = 0
close(3) = 0
eventfd2(0, EFD_CLOEXEC) = 3
fcntl(3, F_GETFL) = 0x2 (flags O_RDWR)
fcntl(3, F_SETFL, O_RDWR|O_NONBLOCK) = 0
fcntl(3, F_GETFL) = 0x802 (flags O_RDWR|O_NONBLOCK)
fcntl(3, F_SETFL, O_RDWR|O_NONBLOCK) = 0
getrandom("\x28\x44\xf4\x6d\xc3\x93\x96\x32\x04\x79\xd5\x90\xab\x5d\x11\x3b", 16, 0) = 16
getrandom("\x5c\xe7\x08\x19\xfb\x38\xd0\x0a\x0d\x9e\xde\x5e\x40\xe4\x55\x25", 16, 0) = 16
eventfd2(0, EFD_CLOEXEC) = 4
fcntl(4, F_GETFL) = 0x2 (flags O_RDWR)
fcntl(4, F_SETFL, O_RDWR|O_NONBLOCK) = 0
```

```

fcntl(4, F_GETFL)                = 0x802 (flags O_RDWR|O_NONBLOCK)
fcntl(4, F_SETFL, O_RDWR|O_NONBLOCK) = 0
epoll_create1(EPOLL_CLOEXEC)      = 5
epoll_ctl(5, EPOLL_CTL_ADD, 4, {0, {u32=1929353248,
u64=94315116206112}}) = 0
epoll_ctl(5, EPOLL_CTL_MOD, 4, {EPOLLIN, {u32=1929353248,
u64=94315116206112}}) = 0
mmap(NULL, 8392704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|
MAP_STACK, -1, 0) = 0x7f9657b22000
mprotect(0x7f9657b23000, 8388608, PROT_READ|PROT_WRITE) = 0
clone(child_stack=0x7f9658321b70, flags=CLONE_VM|CLONE_FS|
CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|
CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
parent_tidptr=0x7f96583229d0, tls=0x7f9658322700,
child_tidptr=0x7f96583229d0) = 16643
openat(AT_FDCWD, "/proc/self/task/16643/comm", O_RDWR) = 6
write(6, "ZMQbg/0", 7)              = 7
close(6)                        = 0
eventfd2(0, EFD_CLOEXEC)        = 6
fcntl(6, F_GETFL)                = 0x2 (flags O_RDWR)
fcntl(6, F_SETFL, O_RDWR|O_NONBLOCK) = 0
fcntl(6, F_GETFL)                = 0x802 (flags O_RDWR|O_NONBLOCK)
fcntl(6, F_SETFL, O_RDWR|O_NONBLOCK) = 0
epoll_create1(EPOLL_CLOEXEC)      = 7
epoll_ctl(7, EPOLL_CTL_ADD, 6, {0, {u32=1929368688,
u64=94315116221552}}) = 0
epoll_ctl(7, EPOLL_CTL_MOD, 6, {EPOLLIN, {u32=1929368688,
u64=94315116221552}}) = 0
mmap(NULL, 8392704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|
MAP_STACK, -1, 0) = 0x7f9657321000
mprotect(0x7f9657322000, 8388608, PROT_READ|PROT_WRITE) = 0

```

```

clone(child_stack=0x7f9657b20b70, flags=CLONE_VM|CLONE_FS|
CLONE_FILES|CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|
CLONE_SETTLS|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
parent_tidptr=0x7f9657b219d0, tls=0x7f9657b21700,
child_tidptr=0x7f9657b219d0) = 16644

openat(AT_FDCWD, "/proc/self/task/16644/comm", O_RDWR) = 8

write(8, "ZMQbg/1", 7)          = 7

close(8)                  = 0

eventfd2(0, EFD_CLOEXEC)    = 8

fcntl(8, F_GETFL)           = 0x2 (flags O_RDWR)

fcntl(8, F_SETFL, O_RDWR|O_NONBLOCK) = 0

fcntl(8, F_GETFL)           = 0x802 (flags O_RDWR|O_NONBLOCK)

fcntl(8, F_SETFL, O_RDWR|O_NONBLOCK) = 0

poll([{fd=8, events=POLLIN}], 1, 0) = 0 (Timeout)

socket(AF_NETLINK, SOCK_RAW|SOCK_CLOEXEC, NETLINK_ROUTE) =
9

bind(9, {sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000}, 12) = 0

getsockname(9, {sa_family=AF_NETLINK, nl_pid=16642,
nl_groups=00000000}, [12]) = 0

sendto(9, {{len=20, type=RTM_GETLINK, flags=NLM_F_REQUEST|
NLM_F_DUMP, seq=1601836461, pid=0}, {ifi_family=AF_UNSPEC, ...}}, 20, 0,
{sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000}, 12) = 20

recvmsg(9, {msg_name={sa_family=AF_NETLINK, nl_pid=0,
nl_groups=00000000}, msg_namelen=12, msg_iov=[{iov_base=[{len=1296,
type=RTM_NEWLINK, flags=NLM_F_MULTI, seq=1601836461, pid=16642},
{ifi_family=AF_UNSPEC, ifi_type=ARPHRD_LOOPBACK,
ifi_index=if_nametoindex("lo"), ifi_flags=IFF_UP|IFF_LOOPBACK|
IFF_RUNNING|0x10000, ifi_change=0}, [{nla_len=7,
nla_type=IFLA_IFNAME}, "lo"], [{nla_len=8, nla_type=IFLA_TXQLEN},
1000}, [{nla_len=5, nla_type=IFLA_OPERSTATE}, 0}, [{nla_len=5,
nla_type=IFLA_LINKMODE}, 0}, [{nla_len=8, nla_type=IFLA_MTU}, 65536},
[{nla_len=8, nla_type=IFLA_GROUP}, 0}, [{nla_len=8,
nla_type=IFLA_PROMISCUITY}, 0}, [{nla_len=8,
nla_type=IFLA_NUM_TX_QUEUES}, 1}, [{nla_len=8,
nla_type=IFLA_GSO_MAX_SEGS}, 65535}, [{nla_len=8,

```

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nla_type=IFLA_GSO_MAX_SIZE}, 65536}, {{nla_len=8,
nla_type=IFLA_NUM_RX_QUEUES}, 1}, {{nla_len=5,
nla_type=IFLA_CARRIER}, 1}, {{nla_len=12, nla_type=IFLA_QDISC},
"noqueue"}, {{nla_len=8, nla_type=IFLA_CARRIER_CHANGES}, 0},
{{nla_len=5, nla_type=IFLA_PROTO_DOWN}, 0}, {{nla_len=8,
nla_type=0x2f /* IFLA_??? */}, "\x00\x00\x00\x00"}, {{nla_len=8,
nla_type=0x30 /* IFLA_??? */}, "\x00\x00\x00\x00"}, {{nla_len=36,
nla_type=IFLA_MAP}, {mem_start=0, mem_end=0, base_addr=0, irq=0, dma=0,
port=0}}, {{nla_len=10, nla_type=IFLA_ADDRESS},
"\x00\x00\x00\x00\x00\x00"}, {{nla_len=10, nla_type=IFLA_BROADCAST},
"\x00\x00\x00\x00\x00\x00"}, {{nla_len=196, nla_type=IFLA_STATS64},
{rx_packets=8569, tx_packets=8569, rx_bytes=748940, tx_bytes=748940,
rx_errors=0, tx_errors=0, rx_dropped=0, tx_dropped=0, multicast=0, collisions=0,
rx_length_errors=0, rx_over_errors=0, rx_crc_errors=0, rx_frame_errors=0,
rx_fifo_errors=0, rx_missed_errors=0, tx_aborted_errors=0, tx_carrier_errors=0,
tx_fifo_errors=0, tx_heartbeat_errors=0, tx_window_errors=0, rx_compressed=0,
tx_compressed=0, rx_nohandler=0}}, {{nla_len=100, nla_type=IFLA_STATS},
{rx_packets=8569, tx_packets=8569, rx_bytes=748940, tx_bytes=748940,
rx_errors=0, tx_errors=0, rx_dropped=0, tx_dropped=0, multicast=0, collisions=0,
rx_length_errors=0, rx_over_errors=0, rx_crc_errors=0, rx_frame_errors=0,
rx_fifo_errors=0, rx_missed_errors=0, tx_aborted_errors=0, tx_carrier_errors=0,
tx_fifo_errors=0, tx_heartbeat_errors=0, tx_window_errors=0, rx_compressed=0,
tx_compressed=0, rx_nohandler=0}}, {{nla_len=12, nla_type=IFLA_XDP},
{{nla_len=5, nla_type=IFLA_XDP_ATTACHED}, 0}}, {{nla_len=756,
nla_type=IFLA_AF_SPEC},
"\x84\x00\x02\x00\x80\x00\x01\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x01\x00\x00\x00\x01\x00\x00\x00\x01\x00\x00\x00"...}}}, {{len=1296,
type=RTM_NEWLINK, flags=NLM_F_MULTI, seq=1601836461, pid=16642},
{ifi_family=AF_UNSPEC, ifi_type=ARPHRD_ETHER,
ifi_index=if_nametoindex("wlp2s0"), ifi_flags=IFF_UP|IFF_BROADCAST|
IFF_RUNNING|IFF_MULTICAST|0x10000, ifi_change=0}, [{{nla_len=11,
nla_type=IFLA_IFNAME}, "wlp2s0"}, {{nla_len=8, nla_type=IFLA_TXQLEN},
1000}, {{nla_len=5, nla_type=IFLA_OPERSTATE}, 6}, {{nla_len=5,
nla_type=IFLA_LINKMODE}, 1}, {{nla_len=8, nla_type=IFLA_MTU}, 1500},
{{nla_len=8, nla_type=IFLA_GROUP}, 0}, {{nla_len=8,
nla_type=IFLA_PROMISCUITY}, 0}, {{nla_len=8,
nla_type=IFLA_NUM_TX_QUEUES}, 4}, {{nla_len=8,
nla_type=IFLA_GSO_MAX_SEGS}, 65535}, {{nla_len=8,
nla_type=IFLA_GSO_MAX_SIZE}, 65536}, {{nla_len=8,
nla_type=IFLA_NUM_RX_QUEUES}, 1}, {{nla_len=5,
nla_type=IFLA_CARRIER}, 1}, {{nla_len=7, nla_type=IFLA_QDISC}, "mq"},
{{nla_len=8, nla_type=IFLA_CARRIER_CHANGES}, 2}, {{nla_len=5,
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nla_type=IFLA_PROTO_DOWN}, 0}, {{nla_len=8, nla_type=0x2f /* IFLA_??? */},
"/}, {"x01\x00\x00\x00"}, {{nla_len=8, nla_type=0x30 /* IFLA_??? */},
"/}, {"x01\x00\x00\x00"}, {{nla_len=36, nla_type=IFLA_MAP}, {mem_start=0,
mem_end=0, base_addr=0, irq=0, dma=0, port=0}}, {{nla_len=10,
nla_type=IFLA_ADDRESS}, {"x30\x24\x32\xb6\x6d\x95"}, {{nla_len=10,
nla_type=IFLA_BROADCAST}, {"xff\xff\xff\xff\xff\xff"}, {{nla_len=196,
nla_type=IFLA_STATS64}, {rx_packets=220570, tx_packets=156200,
rx_bytes=245841439, tx_bytes=137461428, rx_errors=0, tx_errors=0,
rx_dropped=0, tx_dropped=0, multicast=0, collisions=0, rx_length_errors=0,
rx_over_errors=0, rx_crc_errors=0, rx_frame_errors=0, rx_fifo_errors=0,
rx_missed_errors=0, tx_aborted_errors=0, tx_carrier_errors=0, tx_fifo_errors=0,
tx_heartbeat_errors=0, tx_window_errors=0, rx_compressed=0, tx_compressed=0,
rx_nohandler=0}}, {{nla_len=100, nla_type=IFLA_STATS},
{rx_packets=220570, tx_packets=156200, rx_bytes=245841439,
tx_bytes=137461428, rx_errors=0, tx_errors=0, rx_dropped=0, tx_dropped=0,
multicast=0, collisions=0, rx_length_errors=0, rx_over_errors=0, rx_crc_errors=0,
rx_frame_errors=0, rx_fifo_errors=0, rx_missed_errors=0, tx_aborted_errors=0,
tx_carrier_errors=0, tx_fifo_errors=0, tx_heartbeat_errors=0, tx_window_errors=0,
rx_compressed=0, tx_compressed=0, rx_nohandler=0}}, {{nla_len=12,
nla_type=IFLA_XDP}, {{nla_len=5, nla_type=IFLA_XDP_ATTACHED}, 0}},
{{nla_len=756, nla_type=IFLA_AF_SPEC},
{"x84\x00\x02\x00\x80\x00\x01\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x01\x00\x00\x00\x01\x00\x00\x00\x01\x00\x00\x00"...}}],
iov_len=4096}}, msg_iovlen=1, msg_controllen=0, msg_flags=0}, 0) = 2592
```

```
recvmsg(9, {msg_name={sa_family=AF_NETLINK, nl_pid=0,
nl_groups=00000000}, msg_namelen=12, msg_iov=[{iov_base={len=20,
type=NLMMSG_DONE, flags=NLM_F_MULTI, seq=1601836461, pid=16642}, 0},
iov_len=4096}], msg_iovlen=1, msg_controllen=0, msg_flags=0}, 0) = 20
```

```
sendto(9, {{len=20, type=RTM_GETADDR, flags=NLM_F_REQUEST|
NLM_F_DUMP, seq=1601836462, pid=0}, {ifa_family=AF_UNSPEC, ...}}, 20,
0, {sa_family=AF_NETLINK, nl_pid=0, nl_groups=00000000}, 12) = 20
```

```
recvmsg(9, {msg_name={sa_family=AF_NETLINK, nl_pid=0,
nl_groups=00000000}, msg_namelen=12, msg_iov=[{iov_base=[{len=76,
type=RTM_NEWADDR, flags=NLM_F_MULTI, seq=1601836462, pid=16642},
{ifa_family=AF_INET, ifa_prefixlen=8, ifa_flags=IFA_F_PERMANENT,
ifa_scope=RT_SCOPE_HOST, ifa_index=if_nametoindex("lo")}, [{nla_len=8,
nla_type=IFA_ADDRESS}, 127.0.0.1}, {nla_len=8, nla_type=IFA_LOCAL},
127.0.0.1}, {nla_len=7, nla_type=IFA_LABEL}, "lo"}, {nla_len=8,
nla_type=IFA_FLAGS}, IFA_F_PERMANENT}, {nla_len=20,
nla_type=IFA_CACHEINFO}, {ifa_preferred=4294967295,
```

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ifa_valid=4294967295, cstamp=731, tstamp=731}}]], {{len=88,
type=RTM_NEWADDR, flags=NLM_F_MULTI, seq=1601836462, pid=16642},
{ifa_family=AF_INET, ifa_prefixlen=16, ifa_flags=0,
ifa_scope=RT_SCOPE_UNIVERSE, ifa_index=if_nametoindex("wlp2s0")},
[{{nla_len=8, nla_type=IFA_ADDRESS}, 172.31.95.172}, {{nla_len=8,
nla_type=IFA_LOCAL}, 172.31.95.172}, {{nla_len=8,
nla_type=IFA_BROADCAST}, 172.31.255.255}, {{nla_len=11,
nla_type=IFA_LABEL}, "wlp2s0"}, {{nla_len=8, nla_type=IFA_FLAGS},
IFA_F_NOPREFIXROUTE}, {{nla_len=20, nla_type=IFA_CACHEINFO},
{ifa_prefered=11118, ifa_valid=11118, cstamp=1287, tstamp=591208}}]],
iov_len=4096}], msg_iovlen=1, msg_controllen=0, msg_flags=0}, 0) = 164

recvmsg(9, {msg_name={sa_family=AF_NETLINK, nl_pid=0,
nl_groups=00000000}, msg_namelen=12, msg_iov=[{iov_base=[{{len=72,
type=RTM_NEWADDR, flags=NLM_F_MULTI, seq=1601836462, pid=16642},
{ifa_family=AF_INET6, ifa_prefixlen=128, ifa_flags=IFA_F_PERMANENT,
ifa_scope=RT_SCOPE_HOST, ifa_index=if_nametoindex("lo")}, [{{nla_len=20,
nla_type=IFA_ADDRESS}, ::1}, {{nla_len=20, nla_type=IFA_CACHEINFO},
{ifa_prefered=4294967295, ifa_valid=4294967295, cstamp=731, tstamp=731}},
{{nla_len=8, nla_type=IFA_FLAGS}, IFA_F_PERMANENT}}]], {len=72,
type=RTM_NEWADDR, flags=NLM_F_MULTI, seq=1601836462, pid=16642},
{ifa_family=AF_INET6, ifa_prefixlen=64, ifa_flags=IFA_F_PERMANENT,
ifa_scope=RT_SCOPE_LINK, ifa_index=if_nametoindex("wlp2s0")},
[{{nla_len=20, nla_type=IFA_ADDRESS}, fe80::f713:34c:e538:c20d},
{{nla_len=20, nla_type=IFA_CACHEINFO}, {ifa_prefered=4294967295,
ifa_valid=4294967295, cstamp=1283, tstamp=1446}}, {{nla_len=8,
nla_type=IFA_FLAGS}, IFA_F_PERMANENT|IFA_F_NOPREFIXROUTE}}]],
iov_len=4096}], msg_iovlen=1, msg_controllen=0, msg_flags=0}, 0) = 144

recvmsg(9, {msg_name={sa_family=AF_NETLINK, nl_pid=0,
nl_groups=00000000}, msg_namelen=12, msg_iov=[{iov_base={{len=20,
type=NLMMSG_DONE, flags=NLM_F_MULTI, seq=1601836462, pid=16642}, 0},
iov_len=4096}], msg_iovlen=1, msg_controllen=0, msg_flags=0}, 0) = 20

close(9) = 0

socket(AF_INET, SOCK_STREAM|SOCK_CLOEXEC, IPPROTO_TCP) = 9

setsockopt(9, SOL_SOCKET, SO_REUSEADDR, [1], 4) = 0

bind(9, {sa_family=AF_INET, sin_port=htons(30000),
sin_addr=inet_addr("127.0.0.1")}, 16) = 0

listen(9, 100) = 0

```

```

getsockname(9, {sa_family=AF_INET, sin_port=htons(30000),
sin_addr=inet_addr("127.0.0.1")}, [128->16]) = 0
write(6, "\1\0\0\0\0\0\0", 8)      = 8
write(8, "\1\0\0\0\0\0\0", 8)      = 8
fstat(0, {st_mode=S_IFCHR|0620, st_rdev=makedev(136, 1), ...}) = 0
read(0, create 1
"create 1\n", 1024)      = 9
clone(child_stack=NULL, flags=CLONE_CHILD_CLEARTID|
CLONE_CHILD_SETTID|SIGCHLD, child_tidptr=0x7f965a2f1e50) = 16723
poll([{fd=8, events=POLLIN}], 1, 0)  = 1 ([{fd=8, revents=POLLIN}])
read(8, "\1\0\0\0\0\0\0", 8)      = 8
poll([{fd=8, events=POLLIN}], 1, 0)  = 0 (Timeout)
poll([{fd=8, events=POLLIN}], 1, 2000) = 1 ([{fd=8, revents=POLLIN}])
read(8, "\1\0\0\0\0\0\0", 8)      = 8
poll([{fd=8, events=POLLIN}], 1, 0)  = 0 (Timeout)
poll([{fd=8, events=POLLIN}], 1, -1) = 1 ([{fd=8, revents=POLLIN}])
read(8, "\1\0\0\0\0\0\0", 8)      = 8
poll([{fd=8, events=POLLIN}], 1, 0)  = 0 (Timeout)
poll([{fd=8, events=POLLIN}], 1, -1) = 1 ([{fd=8, revents=POLLIN}])
read(8, "\1\0\0\0\0\0\0", 8)      = 8
poll([{fd=8, events=POLLIN}], 1, 0)  = 0 (Timeout)
write(6, "\1\0\0\0\0\0\0", 8)      = 8
fstat(1, {st_mode=S_IFCHR|0620, st_rdev=makedev(136, 1), ...}) = 0
write(1, "Ok:16723\n", 9Ok:16723
)      = 9
read(0, exec 1 test
"exec 1 test\n", 1024)      = 12
poll([{fd=8, events=POLLIN}], 1, 0)  = 0 (Timeout)
write(6, "\1\0\0\0\0\0\0", 8)      = 8

```



```

poll([ {fd=8, events=POLLIN}], 1, -1) = 1 ([ {fd=8, revents=POLLIN}])
read(8, "\1\0\0\0\0\0\0\0", 8)      = 8
poll([ {fd=8, events=POLLIN}], 1, 0)  = 0 (Timeout)
write(1, "Ok:1\n", 5Ok:1
)          = 5
read(0, remove 1
"remove 1\n", 1024)          = 9
kill(16723, SIGTERM)          = 0
kill(16723, SIGKILL)          = 0
write(1, "Ok\n", 3Ok
)          = 3
read(0, 0x55c772ffda60, 1024)      = ? ERESTARTSYS (To be restarted if
SA_RESTART is set)
--- SIGCHLD {si_signo=SIGCHLD, si_code=CLD_KILLED, si_pid=16723,
si_uid=1000, si_status=SIGTERM, si_etime=0, si_stime=0} ---
read(0, exit
"exit\n", 1024)          = 5
write(4, "\1\0\0\0\0\0\0\0", 8)      = 8
poll([ {fd=3, events=POLLIN}], 1, -1) = 1 ([ {fd=3, revents=POLLIN}])
read(3, "\1\0\0\0\0\0\0\0", 8)      = 8
write(6, "\1\0\0\0\0\0\0\0", 8)      = 8
futex(0x7f9657b219d0, FUTEX_WAIT, 16644, NULL) = -1 EAGAIN (Resource
temporarily unavailable)
close(7)          = 0
close(6)          = 0
close(5)          = 0
close(4)          = 0
close(3)          = 0
lseek(0, -1, SEEK_CUR)          = -1 ESPIPE (Illegal seek)
exit_group(0)          = ?

```

+++ exited with 0 +++

Time: 0h:04m:57s

Вывод

В результате лабораторной работы я посмотрел, как утилита strace даёт возможность посмотреть на системные вызовы в ходе выполнения программ.