

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

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

**Утилита strace**

Студент: Аминов Степан Сеегеевич  
Группа: М80 – 308Б  
Преподаватель: Миронов Евгений Сергеевич  
Дата:  
Оценка:  
Подпись: \_\_\_\_\_

Москва, 2021

## 1 Постановка задачи

Strace — утилита для диагностики, отладки и поиска неисправностей программ для Linux. Она используется для мониторинга взаимодействиями между процессами и ядром Linux, которые включают в себя системные вызовы, доставку сигналов и изменение состояния процесса. Работа strace становится возможной благодаря функции ядра, известной как ptrace.

## 2 Лабораторная работа №2

```
magic@magical:~/labs/os$ cat strace_log.txt
3747 execve("./a.out", ["/a.out"], 0x7ffc9ed22c18 /* 66 vars */) = 0
3747 arch_prctl(0x3001 /* ARCH_??? */, 0x7ffe51e42a00) = -1 EINVAL (Invalid argument)
3747 mmap(NULL, 102741, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7feccecb000
3747 read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\360q\2\0\0\0\0...",
832) = 832
3747 mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7feccecb000
3747 mmap(NULL, 2036952, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7fecceaca000
3747 mmap(0x7fecceacf000, 1540096, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE, 3, 0x25000) = 0x7fecceacf000
3747 mmap(0x7feccecb67000, 303104, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x19d000) = 0x7feccecb67000
3747 mmap(0x7feccecb2000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE, 3, 0x1e7000) = 0x7feccecb2000
3747 mmap(0x7feccecb8000, 13528, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_ANONYMOUS, -1, 0) = 0x7feccecb8000
3747 arch_prctl(ARCH_SET_FS, 0x7feccecbd540) = 0
3747 read(0, "test2\n", 1024) = 6
3747 clone(child_stack=NULL, flags=CLONE_CHILD_CLEARTID|CLONE_CHILD_SETTID|SIGCHLD,
child_tidptr=0x7feccecbd810) = 3748
3747 write(1, "[3747] It's parent. Child id: 37" ..., 35) = 35
3748 write(1, "[3748] It's child\n", 18 <unfinished ...>
3747 read(0, <unfinished ...>
3748 <... write resumed>) = 18
3748 read(4, <unfinished ...>
3747 <... read resumed>"140\n", 1024) = 4
3747 read(0, "4\n", 1024) = 2
3747 read(0, "2\n", 1024) = 2
3747 write(5, "\214\0\0\0", 4) = 4
3748 <... read resumed>"\214\0\0\0", 4) = 4
3747 write(5, "\4\0\0\0", 4 <unfinished ...>
3748 write(1, "[140] It's child\n", 17 <unfinished ...>
3747 <... write resumed>) = 4
3748 <... write resumed>) = 17
3748 read(4, <unfinished ...>3747
3748 write(5, "\2\0\0\0", 4 <unfinished ...>
3748 <... read resumed>"\4\0\0\0", 4) = 4
3747 write(1, "[140] It's child\n", 17 <unfinished ...>
3748 <... write resumed>) = 4
3748 <... write resumed>) = 17
3747 write(1, "[4] It's child\n", 15) = 15
3748 exit_group(0 <unfinished ...
3747 read(4, <unfinished ...>)
3748 <... exit_group resumed>) = ?
3748 <... read resumed>"\2\0\0\0", 4) = 4
```

```

3747 write(1, "[2] It's child\n", 15) = 15
3748 +++ exited with 0 +++
3748 write(1, "[17.500000] It's child\n", 23) = 23
3748 write(3, "17.500000", 9) = 9
3748 exit_group(0) = ?
3748 +++ exited with 0 +++

```

### 3 Лабораторная работа №3

```

magic@magical:~/CLionProjects/os3$ strace -f -e trace="%process,write" -o
strace_log.txt ./lab3 1
Введите число для проверки: 151
151 простое число
magic@magical:~/CLionProjects/os3$ cat strace_log.txt
5376 execve("./lab3", ["/lab3", "."], 0x7ffd32914760 /* 68 vars */) = 0
5376 arch_prctl(0x3001 /* ARCH_??? */, 0x7ffcee536b70) = -1 EINVAL (Invalid argument)
5376 arch_prctl(ARCH_SET_FS, 0x7f33e698d740) = 0
5376 write(1, "\320\222\320\262\320\265\320\264\320\270\321\202\320\265 \
321\207\320\270\321\201\320\273\320\276 \320\264\320\273\321\217"... , 51) = 51
5376 clone(child_stack=0x7f33e698bfb0, flags=CLONE_VM|CLONE_FS|CLONE_FILES|
CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|
CLONE_CHILD_CLEARTID, parent_tid=[5377], tls=0x7f33e698c700,
child_tidptr=0x7f33e698c9d0) = 5377
5377 exit(0) = ?
5377 +++ exited with 0 +++
5376 clone(child_stack=0x7f33e698bfb0, flags=CLONE_VM|CLONE_FS|CLONE_FILES|
CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|
CLONE_CHILD_CLEARTID, parent_tid=[5378], tls=0x7f33e698c700,
child_tidptr=0x7f33e698c9d0) = 5378
5378 exit(0) = ?
5378 +++ exited with 0 +++
5376 clone(child_stack=0x7f33e698bfb0, flags=CLONE_VM|CLONE_FS|CLONE_FILES|
CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|
CLONE_CHILD_CLEARTID, parent_tid=[5379], tls=0x7f33e698c700,
child_tidptr=0x7f33e698c9d0) = 5379
5379 exit(0) = ?
5379 +++ exited with 0 +++
5376 clone(child_stack=0x7f33e698bfb0, flags=CLONE_VM|CLONE_FS|CLONE_FILES|
CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|
CLONE_CHILD_CLEARTID, parent_tid=[5380], tls=0x7f33e698c700,
child_tidptr=0x7f33e698c9d0) = 5380
5380 exit(0) = ?
5380 +++ exited with 0 +++
5376 clone(child_stack=0x7f33e698bfb0, flags=CLONE_VM|CLONE_FS|CLONE_FILES|
CLONE_SIGHAND|CLONE_THREAD|CLONE_SYSVSEM|CLONE_SETTLS|CLONE_PARENT_SETTID|
CLONE_CHILD_CLEARTID, parent_tid=[5381], tls=0x7f33e698c700,
child_tidptr=0x7f33e698c9d0) = 5381
5381 exit(0) = ?
5381 +++ exited with 0 +++
5376 write(1, "151 \320\277\321\200\320\276\321\201\321\202\320\276\320\265 \
321\207\320\270\321\201\320\273\320\276\n", 30) = 30
5376 exit_group(0) = ?
5376 +++ exited with 0 +++

```

### 4 Лабораторная работа №4

```

magic@magical:~/CLionProjects/os4$ strace -f -e trace="%process,read,write,dup2,mmap"-o
strace_log.txt ./main
letsgo3

```

```

150 6 5
magic@magical:~/CLionProjects/os4$ cat letsgo3
-3.533333
magic@magical:~/CLionProjects/os4$ cat strace_log.txt
5940 execve("./main", ["/main"], 0x7ffc3df90288 /* 68 vars */) = 0
5940 arch_prctl(0x3001 /* ARCH_??? */, 0x7ffa7ac9750) = -1 EINVAL (Invalid argument)
5940 mmap(NULL, 102741, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f10d0ea1000
5940 read(3, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\360q\2\0\0\0\0"...
832) = 832
5940 mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f10d0e9f000
5940 mmap(NULL, 2036952, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f10d0cad000
5940 mmap(0x7f10d0cd2000, 1540096, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE, 3, 0x25000) = 0x7f10d0cd2000
5940 mmap(0x7f10d0e4a000, 303104, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x19d000) = 0x7f10d0e4a000
5940 mmap(0x7f10d0e95000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE, 3, 0x1e7000) = 0x7f10d0e95000
5940 mmap(0x7f10d0e9b000, 13528, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_ANONYMOUS, -1, 0) = 0x7f10d0e9b000
5940 arch_prctl(ARCH_SET_FS, 0x7f10d0ea0540) = 0
5940 read(0, "letsgo2\n", 1024) = 8
5940 read(0, "150 6 5\n", 1024) = 8
5940 mmap(NULL, 12, PROT_WRITE, MAP_SHARED, 3, 0) = 0x7f10d0ee7000
5940 execve("child", ["/", "letsgo2"], 0x7ffa7ac9838 /* 68 vars */) = 0
5940 arch_prctl(0x3001 /* ARCH_??? */, 0x7ffd06c26fd0) = -1 EINVAL (Invalid argument)
5940 mmap(NULL, 102741, PROT_READ, MAP_PRIVATE, 4, 0) = 0x7ffa81e90000
5940 read(4, "\177ELF\2\1\1\3\0\0\0\0\0\0\0\3\0>\0\1\0\0\0\360q\2\0\0\0\0"...
832) = 832
5940 mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7ffa81e8e000
5940 mmap(NULL, 2036952, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 4, 0) = 0x7ffa81c9c000
5940 mmap(0x7ffa81cc1000, 1540096, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE, 4, 0x25000) = 0x7ffa81cc1000
5940 mmap(0x7ffa81e39000, 303104, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 4,
0x19d000) = 0x7ffa81e39000
5940 mmap(0x7ffa81e84000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE, 4, 0x1e7000) = 0x7ffa81e84000
5940 mmap(0x7ffa81e8a000, 13528, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_ANONYMOUS, -1, 0) = 0x7ffa81e8a000
5940 arch_prctl(ARCH_SET_FS, 0x7ffa81e8f540) = 0
5940 mmap(NULL, 12, PROT_READ, MAP_SHARED, 4, 0) = 0x7ffa81ed6000
5940 write(5, "-3.533333", 9) = 9
5940 exit_group(0) = ?
5940 +++ exited with 0 +++

```

## 5 Лабораторная работа №5

```

magic@magical:~/CLionProjects/os5$ strace ./main1
execve("./main1", ["/main1"], 0x7ffc921b7660 /* 66 vars */) = 0
brk(NULL) = 0x5575074f9000
arch_prctl(0x3001 /* ARCH_??? */, 0x7ffcbbcf3100) = -1 EINVAL (Invalid argument)
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=102741, ...}) = 0
mmap(NULL, 102741, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7fcd6fa87000
close(3) = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/tls/haswell/x86_64/libfirst.so", O_RDONLY|
O_CLOEXEC) = -1 ENOENT (No such file or directory)

```

stat("/lib/x86\_64-linux-gnu/tls/haswell/x86\_64", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/tls/haswell/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/lib/x86\_64-linux-gnu/tls/haswell", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/tls/x86\_64/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/lib/x86\_64-linux-gnu/tls/x86\_64", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/tls/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/lib/x86\_64-linux-gnu/tls", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/haswell/x86\_64/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/lib/x86\_64-linux-gnu/haswell/x86\_64", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/haswell/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/lib/x86\_64-linux-gnu/haswell", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/x86\_64/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/lib/x86\_64-linux-gnu/x86\_64", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/libfirst.so", 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/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/usr/lib/x86\_64-linux-gnu/tls/haswell/x86\_64", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/lib/x86\_64/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/lib/x86\_64", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/lib/libfirst.so", 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/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/usr/lib/tls/haswell/x86\_64", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/usr/lib/tls/haswell/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/usr/lib/tls/haswell", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/usr/lib/tls/x86\_64/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/usr/lib/tls/x86\_64", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/usr/lib/tls/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/usr/lib/tls", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/usr/lib/haswell/x86\_64/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/usr/lib/haswell/x86\_64", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/usr/lib/haswell/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/usr/lib/haswell", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)  
openat(AT\_FDCWD, "/usr/lib/x86\_64/libfirst.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)  
stat("/usr/lib/x86\_64", 0x7ffcbbcf2350) = -1 ENOENT (No such file or directory)



```

3, 0x1d0000) = 0x7f76e2eb0000
mmap(0x7f76e2ebe000, 10240, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_ANONYMOUS,
-1, 0) = 0x7f76e2ebe000
close(3)
= 0
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\3405\0\0\0\0\0"..., 832) =
832
fstat(3, {st_mode=S_IFREG|0644, st_size=104984, ...}) = 0
mmap(NULL, 107592, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e2cc4000
mmap(0x7f76e2cc7000, 73728, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x3000) = 0x7f76e2cc7000
mmap(0x7f76e2cd9000, 16384, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x15000) = 0x7f76e2cd9000
mmap(0x7f76e2cdd000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x18000) = 0x7f76e2cdd000
close(3)
= 0
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\360q\2\0\0\0\0"..., 832) =
832
pread64(3, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0"..., 784,
64) = 784
pread64(3, "\4\0\0\0\20\0\0\0\5\0\0\0GNU\0\2\0\0\300\4\0\0\0\3\0\0\0\0\0\0", 32,
848) = 32
pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0\t\233\222%\
274\260\320\31\331\326\10\204\276X>\263"..., 68, 880) = 68
fstat(3, {st_mode=S_IFREG|0755, st_size=2029224, ...}) = 0
pread64(3, "\6\0\0\0\4\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0\0@\0\0\0\0\0\0"..., 784,
64) = 784
pread64(3, "\4\0\0\0\20\0\0\0\5\0\0\0GNU\0\2\0\0\300\4\0\0\0\3\0\0\0\0\0\0", 32,
848) = 32
pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0\t\233\222%\
274\260\320\31\331\326\10\204\276X>\263"..., 68, 880) = 68
mmap(NULL, 2036952, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e2ad2000
mprotect(0x7f76e2af7000, 1847296, PROT_NONE) = 0
mmap(0x7f76e2af7000, 1540096, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE, 3, 0x25000) = 0x7f76e2af7000
mmap(0x7f76e2c6f000, 303104, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x19d000) = 0x7f76e2c6f000
mmap(0x7f76e2cba000, 24576, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x1e7000) = 0x7f76e2cba000
mmap(0x7f76e2cc0000, 13528, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_ANONYMOUS,
-1, 0) = 0x7f76e2cc0000
close(3)
= 0
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\200\302\0\0\0\0\0"..., 832)
= 832
fstat(3, {st_mode=S_IFREG|0644, st_size=355016, ...}) = 0
mmap(NULL, 357384, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e2a7a000
mmap(0x7f76e2a86000, 229376, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,

```

```

3, 0xc000) = 0x7f76e2a86000
mmap(0x7f76e2abe000, 73728, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x44000) = 0x7f76e2abe000
mmap(0x7f76e2ad0000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x55000) = 0x7f76e2ad0000
close(3)
= 0
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\3\0>\0\1\0\0\0\240\0\0\0\0\0"..., 832) =
832
fstat(3, {st_mode=S_IFREG|0644, st_size=302056, ...}) = 0
mmap(NULL, 321584, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e2a2b000
mmap(0x7f76e2a2f000, 163840, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x4000) = 0x7f76e2a2f000
mmap(0x7f76e2a57000, 118784, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x2c000) = 0x7f76e2a57000
mmap(0x7f76e2a74000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x48000) = 0x7f76e2a74000
mmap(0x7f76e2a76000, 14384, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_ANONYMOUS,
-1, 0) = 0x7f76e2a76000
close(3)
= 0
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\3\0>\0\1\0\0\0\257\0\0\0\0\0"..., 832) =
832
fstat(3, {st_mode=S_IFREG|0644, st_size=690344, ...}) = 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f76e2a29000
mmap(NULL, 1420000, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e28ce000
mmap(0x7f76e28d8000, 421888, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0xa000) = 0x7f76e28d8000
mmap(0x7f76e293f000, 217088, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x71000) = 0x7f76e293f000
mmap(0x7f76e2974000, 16384, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0xa5000) = 0x7f76e2974000
mmap(0x7f76e2978000, 723680, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_ANONYMOUS, -1, 0) = 0x7f76e2978000
close(3)
= 0
openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libgssapi_krb5.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\321\0\0\0\0\0"..., 832) =
832
fstat(3, {st_mode=S_IFREG|0644, st_size=309712, ...}) = 0
mmap(NULL, 312128, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e2881000
mmap(0x7f76e288c000, 204800, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0xb000) = 0x7f76e288c000
mmap(0x7f76e28be000, 49152, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x3d000) = 0x7f76e28be000
mmap(0x7f76e28ca000, 16384, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,

```



```

3, 0x48000) = 0x7f76e28ca000
close(3)
= 0
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\3\0>\0\1\0\0\0\220\201\0\0\0\0\0"..., 832)
= 832
pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0\345Ga\367\265T\320\374\301V)Yf]\
223\337"..., 68, 824) = 68
fstat(3, {st_mode=S_IFREG|0755, st_size=157224, ...}) = 0
pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0\345Ga\367\265T\320\374\301V)Yf]\
223\337"..., 68, 824) = 68
mmap(NULL, 140408, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e285e000
mmap(0x7f76e2865000, 69632, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x7000) = 0x7f76e2865000
mmap(0x7f76e2876000, 20480, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x18000) = 0x7f76e2876000
mmap(0x7f76e287b000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x1c000) = 0x7f76e287b000
mmap(0x7f76e287d000, 13432, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_ANONYMOUS,
-1, 0) = 0x7f76e287d000
close(3)
= 0
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\300\363\0\0\0\0\0"..., 832)
= 832
fstat(3, {st_mode=S_IFREG|0644, st_size=1369352, ...}) = 0
mmap(NULL, 1368336, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e270f000
mmap(0x7f76e271e000, 684032, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0xf000) = 0x7f76e271e000
mmap(0x7f76e27c5000, 618496, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0xb6000) = 0x7f76e27c5000
mmap(0x7f76e285c000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x14c000) = 0x7f76e285c000
close(3)
= 0
openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libkrb5.so.3", 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\2\0\0\0\0\0"..., 832) = 832
fstat(3, {st_mode=S_IFREG|0644, st_size=902016, ...}) = 0
mmap(NULL, 904640, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e2632000
mprotect(0x7f76e2654000, 700416, PROT_NONE) = 0
mmap(0x7f76e2654000, 397312, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x22000) = 0x7f76e2654000
mmap(0x7f76e26b5000, 299008, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x83000) = 0x7f76e26b5000
mmap(0x7f76e26ff000, 65536, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0xcc000) = 0x7f76e26ff000
close(3)
= 0
openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libk5crypto.so.3", 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\240D\0\0\0\0\0"..., 832) =
832

```

```

fstat(3, {st_mode=S_IFREG|0644, st_size=191040, ...}) = 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f76e2630000
mmap(NULL, 196696, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e25ff000
mprotect(0x7f76e2603000, 172032, PROT_NONE) = 0
mmap(0x7f76e2603000, 114688, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x4000) = 0x7f76e2603000
mmap(0x7f76e261f000, 53248, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x20000) = 0x7f76e261f000
mmap(0x7f76e262d000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x2d000) = 0x7f76e262d000
mmap(0x7f76e262f000, 88, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_ANONYMOUS, -
1, 0) = 0x7f76e262f000
close(3) = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libcom_err.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\0\200$\0\0\0\0\0"... , 832) =
832
fstat(3, {st_mode=S_IFREG|0644, st_size=22600, ...}) = 0
mmap(NULL, 24744, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e25f8000
mmap(0x7f76e25fa000, 8192, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x2000) = 0x7f76e25fa000
mmap(0x7f76e25fc000, 4096, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x4000) =
0x7f76e25fc000
mmap(0x7f76e25fd000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x4000) = 0x7f76e25fd000
close(3) = 0
openat(AT_FDCWD, "/usr/lib/x86_64-linux-gnu/libkrb5support.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\0\3605\0\0\0\0\0"... , 832) =
832
fstat(3, {st_mode=S_IFREG|0644, st_size=56096, ...}) = 0
mmap(NULL, 58344, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e25e9000
mmap(0x7f76e25ec000, 28672, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x3000) = 0x7f76e25ec000
mmap(0x7f76e25f3000, 12288, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xa000)
= 0x7f76e25f3000
mmap(0x7f76e25f6000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0xc000) = 0x7f76e25f6000
close(3) = 0
openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libkeyutils.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\0@\0\0\0\0\0"... , 832) = 832
fstat(3, {st_mode=S_IFREG|0644, st_size=22600, ...}) = 0
mmap(NULL, 24592, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e25e2000
mmap(0x7f76e25e4000, 8192, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x2000) = 0x7f76e25e4000
mmap(0x7f76e25e6000, 4096, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x4000)
= 0x7f76e25e6000
mmap(0x7f76e25e7000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x4000) = 0x7f76e25e7000
close(3)
= 0

```

```

openat(AT_FDCWD, "/lib/x86_64-linux-gnu/libresolv.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\0 G\0\0\0\0\0"..., 832) = 832
fstat(3, {st_mode=S_IFREG|0644, st_size=101320, ...}) = 0
mmap(NULL, 113280, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e25c6000
mprotect(0x7f76e25ca000, 81920, PROT_NONE) = 0
mmap(0x7f76e25ca000, 65536, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x4000) = 0x7f76e25ca000
mmap(0x7f76e25da000, 12288, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3,
0x14000) = 0x7f76e25da000
mmap(0x7f76e25de000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x17000) = 0x7f76e25de000
mmap(0x7f76e25e0000, 6784, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_ANONYMOUS,
-1, 0) = 0x7f76e25e0000
close(3)
= 0
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\0 \22\0\0\0\0\0"..., 832) =
832
fstat(3, {st_mode=S_IFREG|0644, st_size=18816, ...}) = 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f76e25c4000
mmap(NULL, 20752, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e25be000
mmap(0x7f76e25bf000, 8192, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE,
3, 0x1000) = 0x7f76e25bf000
mmap(0x7f76e25c1000, 4096, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0x3000)
= 0x7f76e25c1000
mmap(0x7f76e25c2000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x3000) = 0x7f76e25c2000
close(3)
= 0
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f76e25bc000
mmap(NULL, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x7f76e25ba000
arch_prctl(ARCH_SET_FS, 0x7f76e25bd600) = 0
mprotect(0x7f76e2cba000, 12288, PROT_READ) = 0
mprotect(0x7f76e25c2000, 4096, PROT_READ) = 0
mprotect(0x7f76e25de000, 4096, PROT_READ) = 0
mprotect(0x7f76e25e7000, 4096, PROT_READ) = 0
mprotect(0x7f76e25f6000, 4096, PROT_READ) = 0
mprotect(0x7f76e287b000, 4096, PROT_READ) = 0
mprotect(0x7f76e25fd000, 4096, PROT_READ) = 0
mprotect(0x7f76e262d000, 4096, PROT_READ) = 0
mprotect(0x7f76e26ff000, 57344, PROT_READ) = 0
mprotect(0x7f76e285c000, 4096, PROT_READ) = 0
mprotect(0x7f76e28ca000, 8192, PROT_READ) = 0
mprotect(0x7f76e2cdd000, 4096, PROT_READ) = 0
mprotect(0x7f76e2eb0000, 45056, PROT_READ) = 0
mprotect(0x7f76e2974000, 12288, PROT_READ) = 0
mprotect(0x7f76e2a74000, 4096, PROT_READ) = 0
mprotect(0x7f76e2ad0000, 4096, PROT_READ) = 0
mprotect(0x7f76e2f5f000, 28672, PROT_READ) = 0
mprotect(0x5628e7fe6000, 4096, PROT_READ) = 0
mprotect(0x7f76e2fb0000, 4096, PROT_READ) = 0

```

```

munmap(0x7f76e2f69000, 102741)
= 0
set_tid_address(0x7f76e25bd8d0)
= 8709
set_robust_list(0x7f76e25bd8e0, 24)
= 0
rt_sigaction(SIGRTMIN, {sa_handler=0x7f76e2865bf0, sa_mask=[], sa_flags=SA_RESTORER|
SA_SIGINFO, sa_restorer=0x7f76e28733c0}, NULL, 8) = 0
rt_sigaction(SIGRT_1, {sa_handler=0x7f76e2865c90, sa_mask=[], sa_flags=SA_RESTORER|
SA_RESTART|SA_SIGINFO, sa_restorer=0x7f76e28733c0}, 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)
= 0x5628e8608000
brk(0x5628e8629000)
= 0x5628e8629000
futex(0x7f76e2ebe6bc, FUTEX_WAKE_PRIVATE, 2147483647) = 0
futex(0x7f76e2ebe6c8, 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
getdents64(3, /* 26 entries */, 32768) = 752
getdents64(3, /* 0 entries */, 32768)
= 0
close(3)
= 0
getpid()
= 8709
sched_getaffinity(8709, 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=545, ...}) = 0
read(3, "# /etc/nsswitch.conf\n#\n# Example"..., 4096) = 545
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=102741, ...}) = 0
mmap(NULL, 102741, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f76e2f69000
close(3)
= 0
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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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=86016, ...}) = 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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0)
= -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0)
= -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", 0x7fffcc3df4b0)
= -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0)
= -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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", 0x7fffcc3df4b0) = -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=4096, ...}) = 0
munmap(0x7f76e2f69000, 102741)
= 0
openat(AT_FDCWD, "/etc/ld.so.cache", O_RDONLY|O_CLOEXEC) = 3
fstat(3, {st_mode=S_IFREG|0644, st_size=102741, ...}) = 0
mmap(NULL, 102741, PROT_READ, MAP_PRIVATE, 3, 0) = 0x7f76e2f69000
close(3)
= 0
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\3\0>\0\1\0\0\0\3005\0\0\0\0\0"... , 832) =
832

```

```

fstat(3, {st_mode=S_IFREG|0644, st_size=51832, ...}) = 0
mmap(NULL, 79672, PROT_READ, MAP_PRIVATE|MAP_DENYWRITE, 3, 0) = 0x7f76e25a6000
mmap(0x7f76e25a9000, 28672, PROT_READ|PROT_EXEC, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0x3000) = 0x7f76e25a9000
mmap(0x7f76e25b0000, 8192, PROT_READ, MAP_PRIVATE|MAP_FIXED|MAP_DENYWRITE, 3, 0xa000)
= 0x7f76e25b0000
mmap(0x7f76e25b2000, 8192, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_DENYWRITE,
3, 0xb000) = 0x7f76e25b2000
mmap(0x7f76e25b4000, 22328, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_FIXED|
MAP_ANONYMOUS,
-1, 0) = 0x7f76e25b4000
close(3)
= 0
mprotect(0x7f76e25b2000, 4096, PROT_READ) = 0
munmap(0x7f76e2f69000, 102741)
= 0
openat(AT_FDCWD, "/etc/protocols", O_RDONLY|O_CLOEXEC) = 3
lseek(3, 0, SEEK_CUR)
= 0
fstat(3, {st_mode=S_IFREG|0644, st_size=2932, ...}) = 0
read(3, "# Internet (IP) protocols\n#\n# Up"..., 4096) = 2932
lseek(3, 0, SEEK_CUR)
= 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("\x76\xa5\x38\x18\xb1\x92\x68\xef\x82\x81\xdc\x5b\x37\x1e\xc2\x30", 16, 0) =
16
getrandom("\x48\x9e\xca\x06\x87\x23\xb3\x39\x33\x2c\xe9\x2d\x0e\x4f\xa0\x5a", 16, 0) =
16
fstat(0, {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0), ...}) = 0
read(0, "create 100 -1\n", 1024)
= 14
clone(child_stack=NULL, flags=CLONE_CHILD_CLEARTID|CLONE_CHILD_SETTID|SIGCHLD,
child_tidptr=0x7f76e25bd8d0) = 8710
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=3898714816, u64=94733697395392}}) = 0
epoll_ctl(5, EPOLL_CTL_MOD, 4, {EPOLLIN, {u32=3898714816, u64=94733697395392}}) = 0
mmap(NULL, 8392704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|MAP_STACK, -1, 0) =
0x7f76e1da5000
mprotect(0x7f76e1da6000, 8388608, PROT_READ|PROT_WRITE) = 0
clone(child_stack=0x7f76e25a4d30, flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|
CLONE_THREAD|CLONE_SYSVSEM|CLONE_SETTID|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
parent_tid=[8711], tls=0x7f76e25a5700, child_tidptr=0x7f76e25a59d0) = 8711
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=3898716944, u64=94733697397520}}) = 0
epoll_ctl(7, EPOLL_CTL_MOD, 6, {EPOLLIN, {u32=3898716944, u64=94733697397520}}) = 0
mmap(NULL, 8392704, PROT_NONE, MAP_PRIVATE|MAP_ANONYMOUS|MAP_STACK, -1, 0) =
0x7f76e15a4000
mprotect(0x7f76e15a5000, 8388608, PROT_READ|PROT_WRITE) = 0
clone(child_stack=0x7f76e1da3d30, flags=CLONE_VM|CLONE_FS|CLONE_FILES|CLONE_SIGHAND|
CLONE_THREAD|CLONE_SYSVSEM|CLONE_SETTID|CLONE_PARENT_SETTID|CLONE_CHILD_CLEARTID,
parent_tid=[8712], tls=0x7f76e1da4700, child_tidptr=0x7f76e1da49d0) = 8712
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=8709, nl_groups=00000000}, [12]) = 0
sendto(9, [{len=20, type=RTM_GETLINK, flags=NLM_F_REQUEST|NLM_F_DUMP, seq=1633725592,
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=1316, type=RTM_NEWLINK, flags=NLM_F_MULTI,
seq=1633725592, pid=8709}, {ifi_family=AF_UNSPEC, ifi_type=ARPHRD_LOOPBACK,
ifi_index=if_nametoindex("lo"), ifi_flags=IFF_UP|IFF_LOOPBACK|IFF_RUNNING|
IFF_LOWER_UP, 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_MIN_MTU}, 0], [{nla_len=8, nla_type=IFLA_MAX_MTU}, 0], [{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, 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=IFLA_CARRIER_UP_COUNT}, 0}, {{nla_len=8,
nla_type=IFLA_CARRIER_DOWN_COUNT}, 0}, {{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=876, tx_packets=876,
rx_bytes=77809, tx_bytes=77809, 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=876, tx_packets=876, rx_bytes=77809, tx_bytes=77809,
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}, XDP_ATTACHED_NONE}}, {{nla_len=760,
nla_type=IFLA_AF_SPEC}, {{{nla_len=136, nla_type=AF_INET}, {{nla_len=132,
nla_type=IFLA_INET_CONF}, [[IPV4_DEVCONF_FORWARDING-1] = 0,
[IPV4_DEVCONF_MC_FORWARDING-1] = 0, [IPV4_DEVCONF_PROXY_ARP-1] = 0,
[IPV4_DEVCONF_ACCEPT_REDIRECTS-1] = 1, [IPV4_DEVCONF_SECURE_REDIRECTS-1] = 1,
[IPV4_DEVCONF_SEND_REDIRECTS-1] = 1, [IPV4_DEVCONF_SHARED_MEDIA-1] = 1,
[IPV4_DEVCONF_RP_FILTER-1] = 0, [IPV4_DEVCONF_ACCEPT_SOURCE_ROUTE-1] = 1,
[IPV4_DEVCONF_BOOTP_RELAY-1] = 0, [IPV4_DEVCONF_LOG_MARTIANS-1] = 0,
[IPV4_DEVCONF_TAG-1] = 0, [IPV4_DEVCONF_ARPFILTER-1] = 0, [IPV4_DEVCONF_MEDIUM_ID-1] =
0, [IPV4_DEVCONF_NOXFRM-1] = 1, [IPV4_DEVCONF_NOPOLICY-1] = 1,
[IPV4_DEVCONF_FORCE_IGMP_VERSION-1] = 0, [IPV4_DEVCONF_ARP_ANNOUNCE-1] = 0,
[IPV4_DEVCONF_ARP_IGNORE-1] = 0, [IPV4_DEVCONF_PROMOTE_SECONDARIES-1] = 1,
[IPV4_DEVCONF_ARP_ACCEPT-1] = 0, [IPV4_DEVCONF_ARP_NOTIFY-1] = 0,
[IPV4_DEVCONF_ACCEPT_LOCAL-1] = 0, [IPV4_DEVCONF_SRC_VMARK-1] = 0,
[IPV4_DEVCONF_PROXY_ARP_PVLAN-1] = 0, [IPV4_DEVCONF_ROUTE_LOCALNET-1] = 0,
[IPV4_DEVCONF_IGMPV2_UNSOLICITED_REPORT_INTERVAL-1] = 10000,
[IPV4_DEVCONF_IGMPV3_UNSOLICITED_REPORT_INTERVAL-1] = 1000,
[IPV4_DEVCONF_IGNORE_ROUTES_WITH_LINKDOWN-1] = 0,
[IPV4_DEVCONF_DROP_UNICAST_IN_L2_MULTICAST-1] = 0,
[IPV4_DEVCONF_DROP_GRATUITOUS_ARP-
1] = 0, [IPV4_DEVCONF_BC_FORWARDING-1] = 0}}}}, {{nla_len=620, nla_type=AF_INET6},
{{{nla_len=8, nla_type=IFLA_INET6_FLAGS}, IF_READY}, {{nla_len=20,
nla_type=IFLA_INET6_CACHEINFO}, {max_reasm_len=65535, tstamp=280,
reachable_time=44684, retrans_time=1000}}, {{nla_len=208, nla_type=IFLA_INET6_CONF},
[[DEVCONF_FORWARDING] = 0, [DEVCONF_HOPLIMIT] = 64, [DEVCONF_MTU6] = 65536,
[DEVCONF_ACCEPT_RA] = 1, [DEVCONF_ACCEPT_REDIRECTS] = 1, [DEVCONF_AUTOCONF] = 1,
[DEVCONF_DAD_TRANSMITS] = 1, [DEVCONF_RTR_SOLICITS] = -1,
[DEVCONF_RTR_SOLICIT_INTERVAL] = 4000, [DEVCONF_RTR_SOLICIT_DELAY] = 1000,
[DEVCONF_USE_TEMPADDR] = -1, [DEVCONF_TEMP_VALID_LFT] = 604800,
[DEVCONF_TEMP_PREFERRED_LFT] = 86400, [DEVCONF_REGEN_MAX_RETRY] = 3,
[DEVCONF_MAX_DESYNC_FACTOR] = 600, [DEVCONF_MAX_ADDRESSES] = 16,
[DEVCONF_FORCE_MLD_VERSION] = 0, [DEVCONF_ACCEPT_RA_DEFRTR] = 1,
[DEVCONF_ACCEPT_RA_PINFO] = 1, [DEVCONF_ACCEPT_RA_RTR_PREF] = 1,
[DEVCONF_RTR_PROBE_INTERVAL] = 60000, [DEVCONF_ACCEPT_RA_RT_INFO_MAX_PLEN] = 0,
[DEVCONF_PROXY_NDP] = 0, [DEVCONF_OPTIMISTIC_DAD] = 0,
[DEVCONF_ACCEPT_SOURCE_ROUTE] =
0, [DEVCONF_MC_FORWARDING] = 0, [DEVCONF_DISABLE_IPV6] = 0, [DEVCONF_ACCEPT_DAD] = -1,
[DEVCONF_FORCE_TLLAO] = 0, [DEVCONF_NDISC_NOTIFY] = 0,

```

```

[DEVCONF_MLDV1_UNSOLICITED_REPORT_INTERVAL] = 10000,
[DEVCONF_MLDV2_UNSOLICITED_REPORT_INTERVAL] = 1000, ...}}, {{nla_len=300,
nla_type=IFLA_INET6_STATS}, [[IPSTATS_MIB_NUM] = 37, [IPSTATS_MIB_INPKTS] = 6,
[IPSTATS_MIB_INOCTETS] = 432, [IPSTATS_MIB_INDELIVERS] = 6,
[IPSTATS_MIB_OUTFORWDATAGRAMS] = 0, [IPSTATS_MIB_OUTPKTS] = 6, [IPSTATS_MIB_OUTOCTETS]
= 432, [IPSTATS_MIB_INHDRERRORS] = 0, [IPSTATS_MIB_INTOOBIGERRORS] = 0,
[IPSTATS_MIB_INNOROUTES] = 0, [IPSTATS_MIB_INADDRERRORS] = 0,
[IPSTATS_MIB_INUNKNOWNPROTOS] = 0, [IPSTATS_MIB_INTRUNCATEDPKTS] = 0,
[IPSTATS_MIB_INDISCARDS] = 0, [IPSTATS_MIB_OUTDISCARDS] = 0, [IPSTATS_MIB_OUTNOROUTES]
= 0, [IPSTATS_MIB_REASMTIMEOUT] = 0, [IPSTATS_MIB_REASMREQDS] = 0,
[IPSTATS_MIB_REASMOKS] = 0, [IPSTATS_MIB_REASMFails] = 0, [IPSTATS_MIB_FRAGOKS] = 0,
[IPSTATS_MIB_FRAGFAILS] = 0, [IPSTATS_MIB_FRAGCREATES] = 0, [IPSTATS_MIB_INMCASTPKTS]
= 0, [IPSTATS_MIB_OUTMCASTPKTS] = 2, [IPSTATS_MIB_INBCASTPKTS] = 0,
[IPSTATS_MIB_OUTBCASTPKTS] = 0, [IPSTATS_MIB_INMCASTOCTETS] = 0,
[IPSTATS_MIB_OUTMCASTOCTETS] = 152, [IPSTATS_MIB_INBCASTOCTETS] = 0,
[IPSTATS_MIB_OUTBCASTOCTETS] = 0, [IPSTATS_MIB_CSUMERRORS] = 0, ...}}, {{nla_len=52,
nla_type=IFLA_INET6_ICMP6STATS}, [[ICMP6_MIB_NUM] = 6, [ICMP6_MIB_INMSGs] = 2,
[ICMP6_MIB_INERRORS] = 0, [ICMP6_MIB_OUTMSGs] = 2, [ICMP6_MIB_OUTERRORS] = 0,
[ICMP6_MIB_CSUMERRORS] = 0}}, {{nla_len=20, nla_type=IFLA_INET6_TOKEN},
inet_pton(AF_INET6, "::"), {{nla_len=5, nla_type=IFLA_INET6_ADDR_GEN_MODE},
IN6_ADDR_GEN_MODE_EUI64}}}}, {{len=1320, type=RTM_NEWLINK, flags=NLM_F_MULTI,
seq=1633725592, pid=8709}, {ifi_family=AF_UNSPEC, ifi_type=ARPHRD_ETHER,
ifi_index=if_nametoindex("wlo1"), ifi_flags=IFF_UP|IFF_BROADCAST|IFF_RUNNING|
IFF_MULTICAST|IFF_LOWER_UP, ifi_change=0}, {{{nla_len=9, nla_type=IFLA_IFNAME},
"wlo1"}, {{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_MIN_MTU}, 256}, {{nla_len=8,
nla_type=IFLA_MAX_MTU}, 2304}, {{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,
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}, 8}, {{nla_len=5,
nla_type=IFLA_PROTO_DOWN}, 0}, {{nla_len=8, nla_type=IFLA_CARRIER_UP_COUNT}, 4},
{{nla_len=8, nla_type=IFLA_CARRIER_DOWN_COUNT}, 4}, {{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}, "\x38\x00\x25\x36\x5b\x73"}, {{nla_len=10,
nla_type=IFLA_BROADCAST}, "\xff\xff\xff\xff\xff\xff"}, {{nla_len=196,
nla_type=IFLA_STATS64}, {rx_packets=50522, tx_packets=6842, rx_bytes=24212568,
tx_bytes=1022785, 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=50522, tx_packets=6842, rx_bytes=24212568,
tx_bytes=1022785, 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}, XDP_ATTACHED_NONE}}, {{nla_len=760,
nla_type=IFLA_AF_SPEC}, {{{nla_len=136, nla_type=AF_INET}, {{nla_len=132,
nla_type=IFLA_INET_CONF}, [[IPV4_DEVCONF_FORWARDING-1] = 0,
[IPV4_DEVCONF_MC_FORWARDING-1] = 0, [IPV4_DEVCONF_PROXY_ARP-1] = 0,
[IPV4_DEVCONF_ACCEPT_REDIRECTS-1] = 1, [IPV4_DEVCONF_SECURE_REDIRECTS-1] = 1,
[IPV4_DEVCONF_SEND_REDIRECTS-1] = 1, [IPV4_DEVCONF_SHARED_MEDIA-1] = 1,
[IPV4_DEVCONF_RP_FILTER-1] = 2, [IPV4_DEVCONF_ACCEPT_SOURCE_ROUTE-1] = 1,
[IPV4_DEVCONF_BOOTP_RELAY-1] = 0, [IPV4_DEVCONF_LOG_MARTIANS-1] = 0,

```

```

[IPV4_DEVCONF_TAG-1] = 0, [IPV4_DEVCONF_ARPFILTER-1] = 0, [IPV4_DEVCONF_MEDIUM_ID-1] =
0, [IPV4_DEVCONF_NOXFRM-1] = 0, [IPV4_DEVCONF_NOPOLICY-1] = 0,
[IPV4_DEVCONF_FORCE_IGMP_VERSION-1] = 0, [IPV4_DEVCONF_ARP_ANNOUNCE-1] = 0,
[IPV4_DEVCONF_ARP_IGNORE-1] = 0, [IPV4_DEVCONF_PROMOTE_SECONDARIES-1] = 1,
[IPV4_DEVCONF_ARP_ACCEPT-1] = 0, [IPV4_DEVCONF_ARP_NOTIFY-1] = 0,
[IPV4_DEVCONF_ACCEPT_LOCAL-1] = 0, [IPV4_DEVCONF_SRC_VMARK-1] = 0,
[IPV4_DEVCONF_PROXY_ARP_PVLAN-1] = 0, [IPV4_DEVCONF_ROUTE_LOCALNET-1] = 0,
[IPV4_DEVCONF_IGMPV2_UNSOLICITED_REPORT_INTERVAL-1] = 10000,
[IPV4_DEVCONF_IGMPV3_UNSOLICITED_REPORT_INTERVAL-1]
= 1000, [IPV4_DEVCONF_IGNORE_ROUTES_WITH_LINKDOWN-1] = 0,
[IPV4_DEVCONF_DROP_UNICAST_IN_L2_MULTICAST-1] = 0,
[IPV4_DEVCONF_DROP_GRATUITOUS_ARP-
1] = 0, [IPV4_DEVCONF_BC_FORWARDING-1] = 0]], {{nla_len=620, nla_type=AF_INET6},
[{{nla_len=8, nla_type=IFLA_INET6_FLAGS}, IF_READY}, {{nla_len=20,
nla_type=IFLA_INET6_CACHEINFO}, {max_reasm_len=65535, tstamp=806301,
reachable_time=16128, retrans_time=1000}}, {{nla_len=208, nla_type=IFLA_INET6_CONF},
[[DEVCONF_FORWARDING] = 0, [DEVCONF_HOPLIMIT] = 64, [DEVCONF_MTU6] = 1500,
[DEVCONF_ACCEPT_RA] = 0, [DEVCONF_ACCEPT_REDIRECTS] = 1, [DEVCONF_AUTOCONF] = 1,
[DEVCONF_DAD_TRANSMITS] = 1, [DEVCONF_RTR_SOLICITS] = -1,
[DEVCONF_RTR_SOLICIT_INTERVAL] = 4000, [DEVCONF_RTR_SOLICIT_DELAY] = 1000,
[DEVCONF_USE_TEMPADDR] = 2, [DEVCONF_TEMP_VALID_LFT] = 604800,
[DEVCONF_TEMP_PREFERRED_LFT] = 86400, [DEVCONF_REGEN_MAX_RETRY] = 3,
[DEVCONF_MAX_DESYNC_FACTOR] = 600, [DEVCONF_MAX_ADDRESSES] = 16,
[DEVCONF_FORCE_MLD_VERSION] = 0, [DEVCONF_ACCEPT_RA_DEFRTR] = 1,
[DEVCONF_ACCEPT_RA_PINFO] = 1, [DEVCONF_ACCEPT_RA_RTR_PREF] = 1,
[DEVCONF_RTR_PROBE_INTERVAL] = 60000, [DEVCONF_ACCEPT_RA_RT_INFO_MAX_PLEN] = 0,
[DEVCONF_PROXY_NDP] = 0, [DEVCONF_OPTIMISTIC_DAD] = 0,
[DEVCONF_ACCEPT_SOURCE_ROUTE] =
0, [DEVCONF_MC_FORWARDING] = 0, [DEVCONF_DISABLE_IPV6] = 0, [DEVCONF_ACCEPT_DAD] = 1,
[DEVCONF_FORCE_TLLAO] = 0, [DEVCONF_NDISC_NOTIFY] = 0,
[DEVCONF_MLDV1_UNSOLICITED_REPORT_INTERVAL] = 10000,
[DEVCONF_MLDV2_UNSOLICITED_REPORT_INTERVAL] = 1000, ...]], {{nla_len=300,
nla_type=IFLA_INET6_STATS}, [[IPSTATS_MIB_NUM] = 37, [IPSTATS_MIB_INPKTS] = 3948,
[IPSTATS_MIB_INOCTETS] = 386720, [IPSTATS_MIB_INDELIVERS] = 3721,
[IPSTATS_MIB_OUTFORWDATAGRAMS] = 0, [IPSTATS_MIB_OUTPKTS] = 91,
[IPSTATS_MIB_OUTOCTETS] = 13338, [IPSTATS_MIB_INHDRERRORS] = 0,
[IPSTATS_MIB_INTOOBIGERRORS] = 0, [IPSTATS_MIB_INNOROUTES] = 0,
[IPSTATS_MIB_INADDRERRORS] = 0, [IPSTATS_MIB_INUNKNOWNPROTOS] = 0,
[IPSTATS_MIB_INTRUNCATEDPKTS] = 0, [IPSTATS_MIB_INDISCARDS] = 0,
[IPSTATS_MIB_OUTDISCARDS] = 3, [IPSTATS_MIB_OUTNOROUTES] = 0,
[IPSTATS_MIB_REASMTIMEOUT] = 0, [IPSTATS_MIB_REASMREQDS] = 0, [IPSTATS_MIB_REASMOKS] =
0, [IPSTATS_MIB_REASMFAILS] = 0, [IPSTATS_MIB_FRAGOKS] = 0, [IPSTATS_MIB_FRAGFAILS] =
0, [IPSTATS_MIB_FRAGCREATES] = 0, [IPSTATS_MIB_INMCASTPKTS] = 3948,
[IPSTATS_MIB_OUTMCASTPKTS] = 91, [IPSTATS_MIB_INBCASTPKTS] = 0,
[IPSTATS_MIB_OUTBCASTPKTS] = 0, [IPSTATS_MIB_INMCASTOCTETS] = 386720,
[IPSTATS_MIB_OUTMCASTOCTETS] = 13338, [IPSTATS_MIB_INBCASTOCTETS] = 0,
[IPSTATS_MIB_OUTBCASTOCTETS] = 0, [IPSTATS_MIB_CSUMERRORS] = 0, ...]], {{nla_len=52,
nla_type=IFLA_INET6_ICMP6STATS}, [[ICMP6_MIB_NUM] = 6, [ICMP6_MIB_INMSGs] = 0,
[ICMP6_MIB_INERRORS] = 0, [ICMP6_MIB_OUTMSGs] = 40, [ICMP6_MIB_OUTERRORS] = 0,
[ICMP6_MIB_CSUMERRORS] = 0]], {{nla_len=20, nla_type=IFLA_INET6_TOKEN},
inet_pton(AF_INET6, ":::")), {{nla_len=5, nla_type=IFLA_INET6_ADDR_GEN_MODE},
IN6_ADDR_GEN_MODE_NONE}}]]], iov_len=4096}}, msg_iovlen=1, msg_controllen=0,
msg_flags=0}, 0) = 2636
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=1633725592, pid=8709}, 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=1633725593,

```

```

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=1633725593, pid=8709}, {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}, inet_addr("127.0.0.1")}, {{nla_len=8,
nla_type=IFA_LOCAL}, inet_addr("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_prefered=4294967295, ifa_valid=4294967295, cstamp=280,
tstamp=280}}]}, {len=88, type=RTM_NEWADDR, flags=NLM_F_MULTI, seq=1633725593,
pid=8709}, {ifa_family=AF_INET, ifa_prefixlen=24, ifa_flags=0,
ifa_scope=RT_SCOPE_UNIVERSE, ifa_index=if_nametoindex("wlo1")}, [{{nla_len=8,
nla_type=IFA_ADDRESS}, inet_addr("192.168.1.36")}, {{nla_len=8, nla_type=IFA_LOCAL},
inet_addr("192.168.1.36")}, {{nla_len=8, nla_type=IFA_BROADCAST},
inet_addr("192.168.1.255")}, {{nla_len=9, nla_type=IFA_LABEL}, "wlo1"}, {{nla_len=8,
nla_type=IFA_FLAGS}, IFA_F_NOPREFIXROUTE}, {{nla_len=20, nla_type=IFA_CACHEINFO},
{ifa_prefered=16123, ifa_valid=16123, cstamp=806332, tstamp=1684533}}]}],
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=1633725593, pid=8709}, {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}, inet_pton(AF_INET6, "::1")}, {{nla_len=20,
nla_type=IFA_CACHEINFO}, {ifa_prefered=4294967295, ifa_valid=4294967295, cstamp=280,
tstamp=280}}, {{nla_len=8, nla_type=IFA_FLAGS}, IFA_F_PERMANENT}}]}, {len=72,
type=RTM_NEWADDR, flags=NLM_F_MULTI, seq=1633725593, pid=8709}, {ifa_family=AF_INET6,
ifa_prefixlen=64, ifa_flags=IFA_F_PERMANENT, ifa_scope=RT_SCOPE_LINK,
ifa_index=if_nametoindex("wlo1")}, [{{nla_len=20, nla_type=IFA_ADDRESS},
inet_pton(AF_INET6, "fe80::e86a:cabf:fdaa:abe7")}, {{nla_len=20,
nla_type=IFA_CACHEINFO}, {ifa_prefered=4294967295, ifa_valid=4294967295,
cstamp=806301, tstamp=806470}}, {{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=1633725593, pid=8709}, 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(4140), sin_addr=inet_addr("127.0.0.1")}, 16) = 0
listen(9, 100) = 0
getsockname(9, {sa_family=AF_INET, sin_port=htons(4140),
sin_addr=inet_addr("127.0.0.1")}, [128->16]) = 0
getsockname(9, {sa_family=AF_INET, sin_port=htons(4140),
sin_addr=inet_addr("127.0.0.1")}, [128->16]) = 0
write(6, "\1\0\0\0\0\0\0\0", 8) = 8
write(8, "\1\0\0\0\0\0\0\0", 8) = 8
poll([{fd=8, events=POLLIN}], 1, 0) = 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)
poll([{fd=8, events=POLLIN}], 1, 5000) = 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(6, "\1\0\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) = 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(6, "\1\0\0\0\0\0\0", 8) = 8
fstat(1, {st_mode=S_IFCHR|0620, st_rdev=makedev(0x88, 0), ...}) = 0
write(1, "OK: 8710\n", 9) = 9
read(0, "exit\n", 1024) = 5
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", 8) = 8
poll([{fd=8, events=POLLIN}], 1, 0) = 0 (Timeout)
poll([{fd=8, events=POLLIN}], 1, 0) = 0 (Timeout)
write(6, "\1\0\0\0\0\0\0", 8) = 8
--- SIGCHLD {si_signo=SIGCHLD, si_code=CLD_EXITED, si_pid=8710, si_uid=1000,
si_status=0, si_utime=0, si_stime=0} ---
lseek(0, -1, SEEK_CUR) = -1 ESPIPE (Illegal seek)
exit_group(0) = ?
+++ exited with 0 +++
```

## **7 Выводы**

В ходе выполнения данной лабораторной работы утилита strace показала себя как удобный и довольно простой инструмент отслеживания системных вызовов, полезный при отладке и тестировании программ. И хотя временами протоколы работы утилиты становятся довольно громоздкими, но при помощи различных ключей это можно исправить. Также для более точного и комфортного исследования системных вызовов можно использовать такие утилиты как ftrace для отслеживания работы операционной системы или ltrace для отслеживания вызовов динамических библиотек. Лично для себя я нахожу эти утилиты довольно полезными и планирую их использовать в будущем в других лабораторных работах и не только.