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|  | **Отчёт по лабораторной работе** №1 по курсу Операционные системы ­  студента группы М8О-207Б-18 Хренова Геннадия Николаевича , № по списку 28  Адреса www, e-mail, jabber, skype [khrenov.gena@yandex.ru](mailto:khrenov.gena@yandex.ru)  Работа выполнена: “26“ декабря 2019 г.  Преподаватель: Миронов Е. С.  Входной контроль знаний с оценкой  Отчёт сдан “ “ 20 г., итоговая оценка  Подпись преподавателя |

1. **Тема**: Средство диагностики strace
2. **Цель работы**: Приобретение практических навыков диагностики работы программного обеспечения.
3. **Задание** продемонстрировать ключевые системные вызовы, которые в них используются и то, что их использование соответствует варианту ЛР.
4. **Оборудование** (*лабораторное*):

ЭВМ Pentium , процессор 2.7 ГГц , имя узла сети с ОП 4096 МБ

НМД 2 ГБ. Терминал адрес . Принтер

Другие устройства

*Оборудование ПЭВМ студента, если использовалось:*

Процессор intel core i3 , ОП 3072 , НМД 50 ГБ. Монитор

Другие устройства

1. **Программное обеспечение** (*лабораторное*):

Операционная система семейства Unix , наименование версия

Интерпретатор команд bash версия

Система программирования версия

Редактор текстов Emacs версия

Утилиты операционной системы

Прикладные системы и программы

Местонахождения и имена файлов программ и данных

*Программное обеспечение ЭВМ студента, если использовалось:*

Операционная система семейства Unix , наименование Ubuntu версия 18.04LTS

Интерпретатор команд bash версия

Система программирования версия

Редактор текстов Emacs версия

Утилиты операционной системы

Прикладные системы и программы

Местонахождения и имена файлов программ и данных

1. **Идея, метод, алгоритм** решения задачи (в формах: словесной, псевдокода, графической [блок-схема, диаграмма, рисунок, таблица] или формальное описание с пред- и постусловиями)

github - https://github.com/khrengen/os

Далее будут представлены strace для всех лабораторных

1. **Сценарий выполнения работы** [план работы, первоначальный текст программы в черновике (можно на отдельном листе) и тесты, либо соображения по тестированию].

Lab №2

execve("./a.out", ["./a.out", "ls", "lol.txt"], 0x7fff156fdbe0 /\* 57 vars \*/) = 0

brk(NULL) = 0x55b6c5f0f000

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=90804, ...}) = 0

mmap(NULL, 90804, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7fefe179a000

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\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) = 0x7fefe1798000

mmap(NULL, 4131552, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7fefe1199000

mprotect(0x7fefe1380000, 2097152, PROT\_NONE) = 0

mmap(0x7fefe1580000, 24576, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1e7000) = 0x7fefe1580000

mmap(0x7fefe1586000, 15072, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7fefe1586000

close(3) = 0

arch\_prctl(ARCH\_SET\_FS, 0x7fefe17994c0) = 0

mprotect(0x7fefe1580000, 16384, PROT\_READ) = 0

mprotect(0x55b6c4815000, 4096, PROT\_READ) = 0

mprotect(0x7fefe17b1000, 4096, PROT\_READ) = 0

munmap(0x7fefe179a000, 90804) = 0

clone(child\_stack=NULL, flags=CLONE\_CHILD\_CLEARTID|CLONE\_CHILD\_SETTID|SIGCHLD, child\_tidptr=0x7fefe1799790) = 2131

wait4(2131, [{WIFEXITED(s) && WEXITSTATUS(s) == 0}], 0, NULL) = 2131

--- SIGCHLD {si\_signo=SIGCHLD, si\_code=CLD\_EXITED, si\_pid=2131, si\_uid=1000, si\_status=0, si\_utime=0, si\_stime=0} ---

exit\_group(0) = ?

+++ exited with 0 +++

clone — дочерний процесс

lab№3

execve("./a.out", ["./a.out", "5"], 0x7ffcf44a03d8 /\* 57 vars \*/) = 0

brk(NULL) = 0x5589db177000

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=92646, ...}) = 0

mmap(NULL, 92646, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7f59cb9a6000

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, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f59cb9a4000

mmap(NULL, 2221184, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f59cb577000

mprotect(0x7f59cb591000, 2093056, PROT\_NONE) = 0

mmap(0x7f59cb790000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x19000) = 0x7f59cb790000

mmap(0x7f59cb792000, 13440, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f59cb792000

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\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) = 0x7f59cb186000

mprotect(0x7f59cb36d000, 2097152, PROT\_NONE) = 0

mmap(0x7f59cb56d000, 24576, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1e7000) = 0x7f59cb56d000

mmap(0x7f59cb573000, 15072, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f59cb573000

close(3) = 0

mmap(NULL, 12288, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f59cb9a1000

arch\_prctl(ARCH\_SET\_FS, 0x7f59cb9a1740) = 0

mprotect(0x7f59cb56d000, 16384, PROT\_READ) = 0

mprotect(0x7f59cb790000, 4096, PROT\_READ) = 0

mprotect(0x5589da1ee000, 4096, PROT\_READ) = 0

mprotect(0x7f59cb9bd000, 4096, PROT\_READ) = 0

munmap(0x7f59cb9a6000, 92646) = 0

set\_tid\_address(0x7f59cb9a1a10) = 2354

set\_robust\_list(0x7f59cb9a1a20, 24) = 0

rt\_sigaction(SIGRTMIN, {sa\_handler=0x7f59cb57ccb0, sa\_mask=[], sa\_flags=SA\_RESTORER|SA\_SIGINFO, sa\_restorer=0x7f59cb589890}, NULL, 8) = 0

rt\_sigaction(SIGRT\_1, {sa\_handler=0x7f59cb57cd50, sa\_mask=[], sa\_flags=SA\_RESTORER|SA\_RESTART|SA\_SIGINFO, sa\_restorer=0x7f59cb589890}, 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) = 0x5589db177000

brk(0x5589db198000) = 0x5589db198000

mmap(NULL, 8392704, PROT\_NONE, MAP\_PRIVATE|MAP\_ANONYMOUS|MAP\_STACK, -1, 0) = 0x7f59ca985000

mprotect(0x7f59ca986000, 8388608, PROT\_READ|PROT\_WRITE) = 0

clone(child\_stack=0x7f59cb184fb0, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f59cb1859d0, tls=0x7f59cb185700, child\_tidptr=0x7f59cb1859d0) = 2355

mmap(NULL, 8392704, PROT\_NONE, MAP\_PRIVATE|MAP\_ANONYMOUS|MAP\_STACK, -1, 0) = 0x7f59ca184000

mprotect(0x7f59ca185000, 8388608, PROT\_READ|PROT\_WRITE) = 0

clone(child\_stack=0x7f59ca983fb0, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f59ca9849d0, tls=0x7f59ca984700, child\_tidptr=0x7f59ca9849d0) = 2356

mmap(NULL, 8392704, PROT\_NONE, MAP\_PRIVATE|MAP\_ANONYMOUS|MAP\_STACK, -1, 0) = 0x7f59c976b000

mprotect(0x7f59c976c000, 8388608, PROT\_READ|PROT\_WRITE) = 0

clone(child\_stack=0x7f59c9f6afb0, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f59c9f6b9d0, tls=0x7f59c9f6b700, child\_tidptr=0x7f59c9f6b9d0) = 2357

mmap(NULL, 8392704, PROT\_NONE, MAP\_PRIVATE|MAP\_ANONYMOUS|MAP\_STACK, -1, 0) = 0x7f59c8f6a000

mprotect(0x7f59c8f6b000, 8388608, PROT\_READ|PROT\_WRITE) = 0

clone(child\_stack=0x7f59c9769fb0, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f59c976a9d0, tls=0x7f59c976a700, child\_tidptr=0x7f59c976a9d0) = 2358

mmap(NULL, 8392704, PROT\_NONE, MAP\_PRIVATE|MAP\_ANONYMOUS|MAP\_STACK, -1, 0) = 0x7f59c8769000

mprotect(0x7f59c876a000, 8388608, PROT\_READ|PROT\_WRITE) = 0

clone(child\_stack=0x7f59c8f68fb0, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f59c8f699d0, tls=0x7f59c8f69700, child\_tidptr=0x7f59c8f699d0) = 2359

munmap(0x7f59ca985000, 8392704) = 0

fstat(1, {st\_mode=S\_IFCHR|0620, st\_rdev=makedev(136, 0), ...}) = 0

write(1, "0.200000\n", 90.200000

) = 9

exit\_group(0) = ?

+++ exited with 0 +++

lab№4

execve("./a.out", ["./a.out", "help.txt"], 0x7ffd550ef218 /\* 57 vars \*/) = 0

brk(NULL) = 0x557483436000

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=92729, ...}) = 0

mmap(NULL, 92729, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7f8cb6683000

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\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) = 0x7f8cb6681000

mmap(NULL, 4131552, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f8cb6082000

mprotect(0x7f8cb6269000, 2097152, PROT\_NONE) = 0

mmap(0x7f8cb6469000, 24576, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1e7000) = 0x7f8cb6469000

mmap(0x7f8cb646f000, 15072, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f8cb646f000

close(3) = 0

arch\_prctl(ARCH\_SET\_FS, 0x7f8cb66824c0) = 0

mprotect(0x7f8cb6469000, 16384, PROT\_READ) = 0

mprotect(0x557483086000, 4096, PROT\_READ) = 0

mprotect(0x7f8cb669a000, 4096, PROT\_READ) = 0

munmap(0x7f8cb6683000, 92729) = 0

openat(AT\_FDCWD, "help.txt", O\_RDWR|O\_CREAT, 0114440) = 3

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=15, ...}) = 0

mmap(NULL, 15, PROT\_READ, MAP\_SHARED, 3, 0) = 0x7f8cb6699000

close(3) = 0

clone(child\_stack=NULL, flags=CLONE\_CHILD\_CLEARTID|CLONE\_CHILD\_SETTID|SIGCHLD, child\_tidptr=0x7f8cb6682790) = 5684

wait4(5684, [{WIFEXITED(s) && WEXITSTATUS(s) == 0}], 0, NULL) = 5684

--- SIGCHLD {si\_signo=SIGCHLD, si\_code=CLD\_EXITED, si\_pid=5684, si\_uid=1000, si\_status=0, si\_utime=0, si\_stime=0} ---

munmap(0x7f8cb6699000, 15) = 0

exit\_group(0) = ?

+++ exited with 0 +++

lab№5

execve("./run", ["./run"], 0x7fff5f579370 /\* 57 vars \*/) = 0

brk(NULL) = 0x560d0d1b3000

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=92729, ...}) = 0

mmap(NULL, 92729, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7fcc660ff000

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\0\3\0>\0\1\0\0\0P\16\0\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) = 0x7fcc660fd000

mmap(NULL, 2109712, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7fcc65ceb000

mprotect(0x7fcc65cee000, 2093056, PROT\_NONE) = 0

mmap(0x7fcc65eed000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x2000) = 0x7fcc65eed000

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\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) = 0x7fcc658fa000

mprotect(0x7fcc65ae1000, 2097152, PROT\_NONE) = 0

mmap(0x7fcc65ce1000, 24576, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1e7000) = 0x7fcc65ce1000

mmap(0x7fcc65ce7000, 15072, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7fcc65ce7000

close(3) = 0

mmap(NULL, 12288, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7fcc660fa000

arch\_prctl(ARCH\_SET\_FS, 0x7fcc660fa740) = 0

mprotect(0x7fcc65ce1000, 16384, PROT\_READ) = 0

mprotect(0x7fcc65eed000, 4096, PROT\_READ) = 0

mprotect(0x560d0c257000, 4096, PROT\_READ) = 0

mprotect(0x7fcc66116000, 4096, PROT\_READ) = 0

munmap(0x7fcc660ff000, 92729) = 0

fstat(1, {st\_mode=S\_IFCHR|0620, st\_rdev=makedev(136, 1), ...}) = 0

brk(NULL) = 0x560d0d1b3000

brk(0x560d0d1d4000) = 0x560d0d1d4000

fstat(0, {st\_mode=S\_IFCHR|0620, st\_rdev=makedev(136, 1), ...}) = 0

write(1, "enter function: ", 16enter function: ) = 16

read(0, qPush 1

"qPush 1\n", 1024) = 8

write(1, "trying to do \"qPush\"\n", 21trying to do "qPush"

) = 21

openat(AT\_FDCWD, "../libq.so", 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\340\6\0\0\0\0\0\0"..., 832) = 832

fstat(3, {st\_mode=S\_IFREG|0755, st\_size=8224, ...}) = 0

getcwd("/home/gennadii/workdir/os/laba5/case2", 128) = 38

mmap(NULL, 2101312, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7fcc656f8000

mprotect(0x7fcc656f9000, 2093056, PROT\_NONE) = 0

mmap(0x7fcc658f8000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0) = 0x7fcc658f8000

close(3) = 0

mprotect(0x7fcc658f8000, 4096, PROT\_READ) = 0

write(1, "pushing...\n", 11pushing...

) = 11

munmap(0x7fcc656f8000, 2101312) = 0

write(1, "enter function: ", 16enter function: ) = 16

write(1, "0.200000\n", 90.200000

) = 9

exit\_group(0) = ?

+++ exited with 0 +++

lab№6

execve("./main", ["./main"], 0x7ffce534d930 /\* 57 vars \*/) = 0

brk(NULL) = 0x560d2a646000

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=92823, ...}) = 0

mmap(NULL, 92823, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7f5acef36000

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\0\3\0>\0\1\0\0\0P?\1\0\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) = 0x7f5acef34000

mmap(NULL, 2725560, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f5acea8c000

mprotect(0x7f5aceb1f000, 2097152, PROT\_NONE) = 0

mmap(0x7f5aced1f000, 28672, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x93000) = 0x7f5aced1f000

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\0\3\0>\0\1\0\0\0\220\304\10\0\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) = 0x7f5ace703000

mprotect(0x7f5ace87c000, 2097152, PROT\_NONE) = 0

mmap(0x7f5acea7c000, 49152, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x179000) = 0x7f5acea7c000

mmap(0x7f5acea88000, 12352, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f5acea88000

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\0\3\0>\0\1\0\0\0\300\*\0\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) = 0x7f5ace4eb000

mprotect(0x7f5ace502000, 2093056, PROT\_NONE) = 0

mmap(0x7f5ace701000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x16000) = 0x7f5ace701000

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\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) = 0x7f5ace0fa000

mprotect(0x7f5ace2e1000, 2097152, PROT\_NONE) = 0

mmap(0x7f5ace4e1000, 24576, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1e7000) = 0x7f5ace4e1000

mmap(0x7f5ace4e7000, 15072, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f5ace4e7000

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\0\3\0>\0\1\0\0\0\340\251\0\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) = 0x7f5acdea9000

mprotect(0x7f5acdef9000, 2093056, PROT\_NONE) = 0

mmap(0x7f5ace0f8000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x4f000) = 0x7f5ace0f8000

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) = 0x7f5acdc5d000

mprotect(0x7f5acdca4000, 2093056, PROT\_NONE) = 0

mmap(0x7f5acdea3000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x46000) = 0x7f5acdea3000

mmap(0x7f5acdea5000, 14384, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f5acdea5000

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) = 0x7f5acef32000

mmap(NULL, 3340624, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f5acd92d000

mprotect(0x7f5acd9aa000, 2097152, PROT\_NONE) = 0

mmap(0x7f5acdbaa000, 12288, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x7d000) = 0x7f5acdbaa000

mmap(0x7f5acdbad000, 719184, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f5acdbad000

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\0\3\0>\0\1\0\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) = 0x7f5acd725000

mprotect(0x7f5acd72c000, 2093056, PROT\_NONE) = 0

mmap(0x7f5acd92b000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x6000) = 0x7f5acd92b000

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) = 0x7f5acd506000

mprotect(0x7f5acd520000, 2093056, PROT\_NONE) = 0

mmap(0x7f5acd71f000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x19000) = 0x7f5acd71f000

mmap(0x7f5acd721000, 13440, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f5acd721000

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\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) = 0x7f5acd168000

mprotect(0x7f5acd305000, 2093056, PROT\_NONE) = 0

mmap(0x7f5acd504000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x19c000) = 0x7f5acd504000

close(3) = 0

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f5acef30000

mmap(NULL, 12288, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f5acef2d000

arch\_prctl(ARCH\_SET\_FS, 0x7f5acef2db80) = 0

mprotect(0x7f5ace4e1000, 16384, PROT\_READ) = 0

mprotect(0x7f5acd504000, 4096, PROT\_READ) = 0

mprotect(0x7f5acd71f000, 4096, PROT\_READ) = 0

mprotect(0x7f5acd92b000, 4096, PROT\_READ) = 0

mprotect(0x7f5ace701000, 4096, PROT\_READ) = 0

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f5acef2b000

mprotect(0x7f5acea7c000, 40960, PROT\_READ) = 0

mprotect(0x7f5acdbaa000, 8192, PROT\_READ) = 0

mprotect(0x7f5acdea3000, 4096, PROT\_READ) = 0

mprotect(0x7f5ace0f8000, 4096, PROT\_READ) = 0

mprotect(0x7f5aced1f000, 24576, PROT\_READ) = 0

mprotect(0x560d28f8d000, 4096, PROT\_READ) = 0

mprotect(0x7f5acef4d000, 4096, PROT\_READ) = 0

munmap(0x7f5acef36000, 92823) = 0

set\_tid\_address(0x7f5acef2de50) = 4795

set\_robust\_list(0x7f5acef2de60, 24) = 0

rt\_sigaction(SIGRTMIN, {sa\_handler=0x7f5acd50bcb0, sa\_mask=[], sa\_flags=SA\_RESTORER|SA\_SIGINFO, sa\_restorer=0x7f5acd518890}, NULL, 8) = 0

rt\_sigaction(SIGRT\_1, {sa\_handler=0x7f5acd50bd50, sa\_mask=[], sa\_flags=SA\_RESTORER|SA\_RESTART|SA\_SIGINFO, sa\_restorer=0x7f5acd518890}, 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) = 0x560d2a646000

brk(0x560d2a667000) = 0x560d2a667000

futex(0x7f5acea8909c, FUTEX\_WAKE\_PRIVATE, 2147483647) = 0

futex(0x7f5acea890a8, FUTEX\_WAKE\_PRIVATE, 2147483647) = 0

fstat(1, {st\_mode=S\_IFCHR|0620, st\_rdev=makedev(136, 0), ...}) = 0

write(1, "Start\n", 6Start

) = 6

fstat(0, {st\_mode=S\_IFCHR|0620, st\_rdev=makedev(136, 0), ...}) = 0

read(0, Create 1

"Create 1\n", 1024) = 9

openat(AT\_FDCWD, "/sys/devices/system/cpu/online", O\_RDONLY|O\_CLOEXEC) = 3

read(3, "0-3\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, /\* 21 entries \*/, 32768) = 624

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

close(3) = 0

getpid() = 4795

sched\_getaffinity(4795, 128, [0, 1, 2, 3]) = 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=92823, ...}) = 0

mmap(NULL, 92823, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7f5acef36000

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/x86\_64/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/x86\_64", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/x86\_64/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/x86\_64", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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/x86\_64/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/x86\_64", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/x86\_64/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/x86\_64", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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=73728, ...}) = 0

openat(AT\_FDCWD, "/lib/tls/x86\_64/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/tls/x86\_64/x86\_64", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/lib/x86\_64/x86\_64", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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/x86\_64/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/tls/x86\_64/x86\_64", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64/x86\_64/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

stat("/usr/lib/x86\_64/x86\_64", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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", 0x7fff0cda9230) = -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(0x7f5acef36000, 92823) = 0

openat(AT\_FDCWD, "/etc/ld.so.cache", O\_RDONLY|O\_CLOEXEC) = 3

fstat(3, {st\_mode=S\_IFREG|0644, st\_size=92823, ...}) = 0

mmap(NULL, 92823, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7f5acef36000

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\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) = 0x7f5accf56000

mprotect(0x7f5accf61000, 2093056, PROT\_NONE) = 0

mmap(0x7f5acd160000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xa000) = 0x7f5acd160000

mmap(0x7f5acd162000, 22328, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f5acd162000

close(3) = 0

mprotect(0x7f5acd160000, 4096, PROT\_READ) = 0

munmap(0x7f5acef36000, 92823) = 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("\x0e\xb9\x6e\x9f\xce\xf2\xcd\x8c\x3a\xa5\x85\x6a\xd7\x90\x48\x9e", 16, 0) = 16

getrandom("\x26\x37\x2b\x75\xf4\x57\x7b\x28\x44\x75\x0a\xc2\x2d\xe6\xfe\x03", 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=711299792, u64=94614545863376}}) = 0

epoll\_ctl(5, EPOLL\_CTL\_MOD, 4, {EPOLLIN, {u32=711299792, u64=94614545863376}}) = 0

mmap(NULL, 8392704, PROT\_NONE, MAP\_PRIVATE|MAP\_ANONYMOUS|MAP\_STACK, -1, 0) = 0x7f5acc755000

mprotect(0x7f5acc756000, 8388608, PROT\_READ|PROT\_WRITE) = 0

clone(child\_stack=0x7f5accf54b70, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f5accf559d0, tls=0x7f5accf55700, child\_tidptr=0x7f5accf559d0) = 4797

openat(AT\_FDCWD, "/proc/self/task/4797/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=711315232, u64=94614545878816}}) = 0

epoll\_ctl(7, EPOLL\_CTL\_MOD, 6, {EPOLLIN, {u32=711315232, u64=94614545878816}}) = 0

mmap(NULL, 8392704, PROT\_NONE, MAP\_PRIVATE|MAP\_ANONYMOUS|MAP\_STACK, -1, 0) = 0x7f5acbf54000

mprotect(0x7f5acbf55000, 8388608, PROT\_READ|PROT\_WRITE) = 0

clone(child\_stack=0x7f5acc753b70, flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, parent\_tidptr=0x7f5acc7549d0, tls=0x7f5acc754700, child\_tidptr=0x7f5acc7549d0) = 4798

openat(AT\_FDCWD, "/proc/self/task/4798/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\_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("0.0.0.0")}, 16) = 0

listen(9, 100) = 0

getsockname(9, {sa\_family=AF\_INET, sin\_port=htons(30000), sin\_addr=inet\_addr("0.0.0.0")}, [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

clone(child\_stack=NULL, flags=CLONE\_CHILD\_CLEARTID|CLONE\_CHILD\_SETTID|SIGCHLD, child\_tidptr=0x7f5acef2de50) = 4799

write(1, "OK: 4799\n", 9OK: 4799

) = 9

read(0, "", 1024) = 0

exit\_group(0) = ?

+++ exited with 0 +++

**9.Дневник отладки** должен содержать дату и время сеансов отладки, и основные ошибки (ошибки в сценарии и программе, не стандартные операции) и краткие комментарии к ним. В дневнике отладки приводятся сведения об использовании других ЭВМ, существенном участии преподавателя и других лиц в написании и отладке программы.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| № | Лаб.  или  дом. | Дата | Время | Событие | Действие по исправлению | Примечание |
|  |  |  |  |  |  |  |

1. Замечание автора по существу работы
2. Выводы: strace позволяет следить за процессом работы любой из программ, наблюдая системные вызовы, которые использует программа. Анализируя работу strace можно узнать как именно работает программа, как совершает свои вызовы, в каком порядке, а эта информация крайне полезна при дебагах или оптимизации. В целом, это очень удобный инструмент, который поможет решить множество проблем.

