Московский Авиационный Институт

(Национальный Исследовательский Университет)

Институт №8 “Компьютерные науки и прикладная математика”

Кафедра №806 “Вычислительная математика и программирование”

**Лабораторная работа №5-7 по курсу**

**«Операционные системы»**

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**Постановка задачи**

**Вариант 22.**

Реализовать распределенную систему по асинхронной обработке запросов. В данной распределенной системе должно существовать 2 вида узлов: «управляющий» и «вычислительный». Необходимо объединить данные узлы в соответствии с той топологией, которая определена вариантом. Связь между узлами необходимо осуществить при помощи технологии очередей сообщений. Также в данной системе необходимо предусмотреть проверку доступности узлов в соответствии с вариантом. При убийстве («kill -9») любого вычислительного узла система должна пытаться максимально сохранять свою работоспособность, а именно все дочерние узлы убитого узла могут стать недоступными, но родительские узлы должны сохранить свою работоспособность. Управляющий узел отвечает за ввод команд от пользователя и отправку этих команд на вычислительные узлы.

* Топология 2. Аналогично топологии 1, но узлы находятся в дереве общего вида.
* Набор команд 2. Локальный целочисленны словарь
* Тип проверки доступности узлов 1 - pingall.

**Общий метод и алгоритм решения**

Использованные системные вызовы:

* pid\_t fork(void); – создает дочерний процесс.
* exec() — используется для выполнения другой программы. Эта другая программа, называемая процессом-потомком (child process), загружается поверх программы, содержащей вызов exec. Имя файла, содержащего процесс-потомок, задано с помощью первого аргумента.
* zmq\_ctx\_new() –– создает новый контекст ZMQ.
* zmq\_connect() — создает входящее соединение на сокет.
* zmq\_disconnect() — отсоединяет сокет от заданного endpoint.
* zmq\_socket() — создает ZMQ сокет.
* zmq\_close() — закрывает ZMQ сокет.
* zmq\_ctx\_destroy() –– уничтожает контекст ZMQ.

Для работы с системой, запускается программа control.cpp, которая является реализацией логики контролирующего узла, при создании вычислительного узла программа создает новый процесс и запускает в нем программу compute.cpp. Сообщения в вычислительные узлы передаются при помощи ZeroMQ, по созданному сокету. Взаимосвязь узлов между собой описывается логикой, описанной в файле topology.hpp.

**Код программы**

**control.cpp**

#include <iostream>

#include <cstdio>

#include <stdlib.h>

#include <unistd.h>

#include <cstring>

#include </usr/include/zmq.h>

#include "struct.hpp"

void print\_menu() {

cout << "Menu:" << endl;

cout << "\t-create <child\_id> <parent\_id> - create a new node" << endl;

cout << "\t-exec <id> <KEY> <VALUE> - save value in the local dictionary or print saved value" << endl;

cout << "\t-print <id> - print the contents of the local dictionary" << endl;

cout << "\t-pingall - availability check" << endl;

cout << "\t-exit - stop programm" << endl;

}

void send\_and\_receive(Node\* root, int id, char\* message, char\* reply) {

Node\* node = search(root, id);

node->is\_available = false;

void\* context = zmq\_ctx\_new();

void\* request\_socket = zmq\_socket(context, ZMQ\_REQ);

char adress[100];

sprintf(adress, "tcp://127.0.0.1:%d", 5555 + id);

zmq\_connect(request\_socket, adress);

zmq\_msg\_t req\_msg;

zmq\_msg\_init\_size(&req\_msg, strlen(message) + 1);

memcpy(zmq\_msg\_data(&req\_msg), message, strlen(message) + 1);

zmq\_msg\_send(&req\_msg, request\_socket, 0);

zmq\_msg\_close(&req\_msg);

zmq\_msg\_t rep\_msg;

zmq\_msg\_init(&rep\_msg);

zmq\_msg\_recv(&rep\_msg, request\_socket, 0);

memcpy(reply, zmq\_msg\_data(&rep\_msg), zmq\_msg\_size(&rep\_msg));

zmq\_msg\_close(&req\_msg);

zmq\_close(request\_socket);

zmq\_ctx\_destroy(context);

node->is\_available = true;

}

void pingall(Node\* root, int\* nodes, int\* len) {

if(!root->is\_available && root->id != -1){

nodes[\*len] = root->id;

\*len += 1;

}

for (size\_t i = 0; i < root->\_children.size(); ++i){

pingall(root->\_children[i], nodes, len);

}

}

int main() {

int id;

Node\* root = create\_node(-1);

print\_menu();

cout << "Enter your command:" << endl;

char command[100];

char reply[100];

while (scanf("%s", command) != EOF) {

if (!strcmp(command, "create")) {

int id\_par, id\_ch;

cin >> id\_ch >> id\_par;

if (exist(root, id\_ch)) {

printf("Error: Already exist\n");

continue;

}

if (!exist(root, id\_par)) {

printf("Error: There is no such parent\n");

continue;

}

Node\* par = search(root, id\_par);

add\_node(par, id\_ch);

int pid = fork();

if (pid < 0) {

printf("Error: Fork error\n");

exit(-1);

}

if (pid == 0) {

char str\_id[100];

sprintf(str\_id, "%d", id\_ch);

int err = execl("calc", "calc", str\_id, NULL);

if (err == -1) {

printf("Error: Execl error");

}

}

} else if (!strcmp(command,"exec")) {

char key[100];

char buffer[100];

cin >> id >> key;

fgets(buffer, sizeof(char) \* 100, stdin);

buffer[strlen(buffer)-1] = '\0';

if (!exist(root, id)) {

printf("Error: %d Not found\n", id);

continue;

}

char message[1000];

if (!strcmp(buffer, "")) {

sprintf(message, "return %s", key);

} else {

sprintf(message, "save %s%s", key, buffer);

}

send\_and\_receive(root, id, message, reply);

} else if (!strcmp(command, "print")) {

cin >> id;

if (!exist(root, id)) {

printf("Error: Not found\n");

continue;

}

send\_and\_receive(root, id, "print", reply);

} else if (!strcmp(command, "pingall")) {

int len = 0;

int unvailable\_nodes[100];

pingall(root, unvailable\_nodes, &len);

cout << "Ok: ";

if (len == 0) {

cout << "-1" << endl;

} else {

for (int i = 0; i < len; i++) {

cout << unvailable\_nodes[i] << ";";

}

cout << endl;

}

} else if (!strcmp(command,"exit")) {

delete\_topology(root);

break;

} else {

cout << "Unknown command." << endl;

}

}

return 0;

}

**calc.cpp**

#include <iostream>

#include <cstdio>

#include <map>

#include <string>

#include <cstring>

#include <stdlib.h>

#include <unistd.h>

#include </usr/include/zmq.h>

#include "struct.hpp"

using namespace std;

void get\_request(void\* socket, char\* request) {

zmq\_msg\_t request\_msg;

zmq\_msg\_init(&request\_msg);

zmq\_msg\_recv(&request\_msg, socket, 0);

memcpy(request, zmq\_msg\_data(&request\_msg), zmq\_msg\_size(&request\_msg));

zmq\_msg\_close(&request\_msg);

}

void send\_reply(void\* socket, char\* message) {

zmq\_msg\_t reply\_msg;

zmq\_msg\_init\_size(&reply\_msg, strlen(message)+1);

memcpy(zmq\_msg\_data(&reply\_msg), message, strlen(message)+1);

zmq\_msg\_send(&reply\_msg, socket, 0);

zmq\_msg\_close(&reply\_msg);

}

void print\_map(const map<string, int>& m){

for (const auto& [key, value] : m)

cout << '[' << key << "] = " << value << "; " << endl;;

}

int main(int argc, char\* argv[]) {

printf("Ok: %d\n", getpid());

int id = atoi(argv[1]);

map<string, int> dictionary;

void\* context = zmq\_ctx\_new();

void\* respond\_socket = zmq\_socket(context, ZMQ\_REP);

char adress[100];

sprintf(adress, "tcp://127.0.0.1:%d", 5555 + id);

zmq\_bind(respond\_socket, adress);

for(;;) {

char request[100];

char reply[100];

get\_request(respond\_socket, request);

if (!strcmp(request, "print")) {

cout << "Node " << id << ": content of the dictionary:" << endl;

print\_map(dictionary);

sprintf(reply, "Ok:%d", id);

} else {

char\* command = strtok(request, " ");

char\* key = strtok(NULL, " ");

string key\_fin(key);

if (!strcmp(command, "save")) {

int value = atoi(strtok(NULL, " "));

dictionary[key\_fin] = value;

cout << "Node " << id << ": key " << key\_fin << "was saved with value " << value << endl;

sprintf(reply, "Ok: %d", id);

} else if (!strcmp(command, "return")) {

if (dictionary[key\_fin] != 0){

cout << "Node " << id << ": value is " << dictionary[key\_fin] << endl;

}

else{

cout << "There is no such value in the dictionary" << endl;

}

sprintf(reply, "Ok:%d:%d", id, dictionary[key\_fin]);

}

}

send\_reply(respond\_socket, reply);

}

}

**struct.hpp**

#include <vector>

#include <cstdio>

#include <stdlib.h>

using namespace std;

struct Node{

int id;

bool is\_available;

vector<Node \*> \_children;

};

Node\* create\_node(int id){

Node \*new\_node = new(Node);

new\_node->id = id;

new\_node->\_children = {};

new\_node->is\_available = true;

return new\_node;

}

void add\_node(Node\* prev, int id){

Node\* new\_node = create\_node(id);

prev->\_children.push\_back(new\_node);

}

Node\* search(Node\* root, int id){

if (root->id == id){

return root;

}

for(size\_t i = 0; i < root->\_children.size(); ++i){

Node \*result = search(root->\_children[i], id);

if (result != nullptr) {

return result;

}

}

return nullptr;

}

void stop\_node(Node\* node){

node->is\_available = false;

}

void delete\_topology(Node\* root){

for(size\_t i = 0; i < root->\_children.size(); ++i){

delete\_topology(root->\_children[i]);

}

delete root;

}

bool exist(Node\* root, int id){

if(search(root, id) != nullptr){

return true;

}

return false;

}

**Протокол работы программы**

**Тестирование:**

alex@alex-HP-ENVY-x360-Convertible-13-ay1xxx:~/Desktop/OSLabs/lab5-7/build$ ./control

Menu:

-create <child\_id> <parent\_id> - create a new node

-exec <id> <KEY> <VALUE> - save value in the local dictionary or print saved value

-print <id> - print the contents of the local dictionary

-pingall - availability check

-exit - stop programm

Enter your command:

create 1 -1

Ok: 29205

create 2 1

Ok: 29241

create 3 1

Ok: 29244

pingall

Ok: -1

exec 2 a 123

Node 2: key awas saved with value 123

print 2

Node 2: content of the dictionary:

[a] = 123;

print 1

Node 1: content of the dictionary:

create 4 3

Ok: 29778

create 5 3

Ok: 29795

exec 5 a 321

Node 5: key awas saved with value 321

exec 5 b 432

Node 5: key bwas saved with value 432

print 5

Node 5: content of the dictionary:

[a] = 321;

[b] = 432;

**Strace:**

alex@alex-HP-ENVY-x360-Convertible-13-ay1xxx:~/Desktop/OSLabs/lab5-7/build$ strace ./control

execve("./control", ["./control"], 0x7ffe6a3041b0 /\* 87 vars \*/) = 0

brk(NULL) = 0x557ec6978000

arch\_prctl(0x3001 /\* ARCH\_??? \*/, 0x7ffe9a80cda0) = -1 EINVAL (Invalid argument)

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f40ac220000

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

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=73283, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 73283, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7f40ac20e000

close(3) = 0

openat(AT\_FDCWD, "/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\0\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=583920, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 585912, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40ac17e000

mmap(0x7f40ac196000, 364544, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x18000) = 0x7f40ac196000

mmap(0x7f40ac1ef000, 90112, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x71000) = 0x7f40ac1ef000

mmap(0x7f40ac205000, 36864, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x86000) = 0x7f40ac205000

close(3) = 0

openat(AT\_FDCWD, "/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\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=2260296, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 2275520, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40abe00000

mprotect(0x7f40abe9a000, 1576960, PROT\_NONE) = 0

mmap(0x7f40abe9a000, 1118208, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x9a000) = 0x7f40abe9a000

mmap(0x7f40abfab000, 454656, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1ab000) = 0x7f40abfab000

mmap(0x7f40ac01b000, 57344, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x21a000) = 0x7f40ac01b000

mmap(0x7f40ac029000, 10432, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f40ac029000

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\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=125488, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 127720, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40ac15e000

mmap(0x7f40ac161000, 94208, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x3000) = 0x7f40ac161000

mmap(0x7f40ac178000, 16384, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1a000) = 0x7f40ac178000

mmap(0x7f40ac17c000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1d000) = 0x7f40ac17c000

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\0\3\0>\0\1\0\0\0P\237\2\0\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\0"..., 784, 64) = 784

pread64(3, "\4\0\0\0 \0\0\0\5\0\0\0GNU\0\2\0\0\300\4\0\0\0\3\0\0\0\0\0\0\0"..., 48, 848) = 48

pread64(3, "\4\0\0\0\24\0\0\0\3\0\0\0GNU\0\302\211\332Pq\2439\235\350\223\322\257\201\326\243\f"..., 68, 896) = 68

newfstatat(3, "", {st\_mode=S\_IFREG|0755, st\_size=2220400, ...}, AT\_EMPTY\_PATH) = 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\0"..., 784, 64) = 784

mmap(NULL, 2264656, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40aba00000

mprotect(0x7f40aba28000, 2023424, PROT\_NONE) = 0

mmap(0x7f40aba28000, 1658880, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x28000) = 0x7f40aba28000

mmap(0x7f40abbbd000, 360448, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1bd000) = 0x7f40abbbd000

mmap(0x7f40abc16000, 24576, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x215000) = 0x7f40abc16000

mmap(0x7f40abc1c000, 52816, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f40abc1c000

close(3) = 0

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/libunwind.so.8", 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\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=63744, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 109264, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40ac143000

mmap(0x7f40ac145000, 40960, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x2000) = 0x7f40ac145000

mmap(0x7f40ac14f000, 12288, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xc000) = 0x7f40ac14f000

mmap(0x7f40ac152000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xe000) = 0x7f40ac152000

mmap(0x7f40ac154000, 39632, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f40ac154000

close(3) = 0

openat(AT\_FDCWD, "/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\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=355040, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 357440, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40ac0eb000

mprotect(0x7f40ac0f7000, 303104, PROT\_NONE) = 0

mmap(0x7f40ac0f7000, 229376, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xc000) = 0x7f40ac0f7000

mmap(0x7f40ac12f000, 69632, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x44000) = 0x7f40ac12f000

mmap(0x7f40ac141000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x55000) = 0x7f40ac141000

close(3) = 0

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f40ac0e9000

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/libpgm-5.3.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\340L\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=310264, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 329808, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40ac098000

mmap(0x7f40ac09c000, 172032, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x4000) = 0x7f40ac09c000

mmap(0x7f40ac0c6000, 118784, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x2e000) = 0x7f40ac0c6000

mmap(0x7f40ac0e3000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x4a000) = 0x7f40ac0e3000

mmap(0x7f40ac0e5000, 14416, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f40ac0e5000

close(3) = 0

openat(AT\_FDCWD, "/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\0 \255\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=497824, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 1223168, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40abcd5000

mprotect(0x7f40abcdf000, 446464, PROT\_NONE) = 0

mmap(0x7f40abcdf000, 286720, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xa000) = 0x7f40abcdf000

mmap(0x7f40abd25000, 155648, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x50000) = 0x7f40abd25000

mmap(0x7f40abd4c000, 16384, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x76000) = 0x7f40abd4c000

mmap(0x7f40abd50000, 719360, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f40abd50000

close(3) = 0

openat(AT\_FDCWD, "/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\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=338648, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 340960, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40ac044000

mprotect(0x7f40ac04f000, 282624, PROT\_NONE) = 0

mmap(0x7f40ac04f000, 229376, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xb000) = 0x7f40ac04f000

mmap(0x7f40ac087000, 49152, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x43000) = 0x7f40ac087000

mmap(0x7f40ac094000, 16384, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x4f000) = 0x7f40ac094000

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\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=940560, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 942344, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40ab919000

mmap(0x7f40ab927000, 507904, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xe000) = 0x7f40ab927000

mmap(0x7f40ab9a3000, 372736, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x8a000) = 0x7f40ab9a3000

mmap(0x7f40ab9fe000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xe4000) = 0x7f40ab9fe000

close(3) = 0

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/liblzma.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\0\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=170456, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 172296, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40abcaa000

mmap(0x7f40abcad000, 110592, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x3000) = 0x7f40abcad000

mmap(0x7f40abcc8000, 45056, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1e000) = 0x7f40abcc8000

mmap(0x7f40abcd3000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x28000) = 0x7f40abcd3000

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\0\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=21448, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f40ac042000

mmap(NULL, 16424, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40ac03d000

mmap(0x7f40ac03e000, 4096, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1000) = 0x7f40ac03e000

mmap(0x7f40ac03f000, 4096, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x2000) = 0x7f40ac03f000

mmap(0x7f40ac040000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x2000) = 0x7f40ac040000

close(3) = 0

openat(AT\_FDCWD, "/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\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=827936, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 830576, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40ab84e000

mprotect(0x7f40ab86f000, 634880, PROT\_NONE) = 0

mmap(0x7f40ab86f000, 380928, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x21000) = 0x7f40ab86f000

mmap(0x7f40ab8cc000, 249856, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x7e000) = 0x7f40ab8cc000

mmap(0x7f40ab90a000, 61440, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xbb000) = 0x7f40ab90a000

close(3) = 0

openat(AT\_FDCWD, "/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\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=182864, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 188472, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40abc7b000

mprotect(0x7f40abc7f000, 163840, PROT\_NONE) = 0

mmap(0x7f40abc7f000, 110592, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x4000) = 0x7f40abc7f000

mmap(0x7f40abc9a000, 49152, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x1f000) = 0x7f40abc9a000

mmap(0x7f40abca7000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x2b000) = 0x7f40abca7000

mmap(0x7f40abca9000, 56, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f40abca9000

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\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=18504, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 20552, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40ac037000

mmap(0x7f40ac039000, 4096, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x2000) = 0x7f40ac039000

mmap(0x7f40ac03a000, 4096, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x3000) = 0x7f40ac03a000

mmap(0x7f40ac03b000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x3000) = 0x7f40ac03b000

close(3) = 0

openat(AT\_FDCWD, "/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\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=52016, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 54224, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40abc6d000

mprotect(0x7f40abc70000, 36864, PROT\_NONE) = 0

mmap(0x7f40abc70000, 24576, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x3000) = 0x7f40abc70000

mmap(0x7f40abc76000, 8192, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x9000) = 0x7f40abc76000

mmap(0x7f40abc79000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xb000) = 0x7f40abc79000

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\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=22600, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f40ac035000

mmap(NULL, 24592, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40ac02e000

mmap(0x7f40ac030000, 8192, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x2000) = 0x7f40ac030000

mmap(0x7f40ac032000, 4096, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x4000) = 0x7f40ac032000

mmap(0x7f40ac033000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x4000) = 0x7f40ac033000

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\0\3\0>\0\1\0\0\0\0\0\0\0\0\0\0\0"..., 832) = 832

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=68552, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 80456, PROT\_READ, MAP\_PRIVATE|MAP\_DENYWRITE, 3, 0) = 0x7f40abc59000

mmap(0x7f40abc5c000, 40960, PROT\_READ|PROT\_EXEC, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0x3000) = 0x7f40abc5c000

mmap(0x7f40abc66000, 12288, PROT\_READ, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xd000) = 0x7f40abc66000

mmap(0x7f40abc69000, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_DENYWRITE, 3, 0xf000) = 0x7f40abc69000

mmap(0x7f40abc6b000, 6728, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_FIXED|MAP\_ANONYMOUS, -1, 0) = 0x7f40abc6b000

close(3) = 0

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f40ac02c000

mmap(NULL, 12288, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f40abc56000

arch\_prctl(ARCH\_SET\_FS, 0x7f40abc569c0) = 0

set\_tid\_address(0x7f40abc56c90) = 31720

set\_robust\_list(0x7f40abc56ca0, 24) = 0

rseq(0x7f40abc57360, 0x20, 0, 0x53053053) = 0

mprotect(0x7f40abc16000, 16384, PROT\_READ) = 0

mprotect(0x7f40abc69000, 4096, PROT\_READ) = 0

mprotect(0x7f40ac033000, 4096, PROT\_READ) = 0

mprotect(0x7f40abc79000, 4096, PROT\_READ) = 0

mprotect(0x7f40ac03b000, 4096, PROT\_READ) = 0

mprotect(0x7f40abca7000, 4096, PROT\_READ) = 0

mprotect(0x7f40ab90a000, 53248, PROT\_READ) = 0

mprotect(0x7f40ac040000, 4096, PROT\_READ) = 0

mprotect(0x7f40abcd3000, 4096, PROT\_READ) = 0

mprotect(0x7f40ab9fe000, 4096, PROT\_READ) = 0

mprotect(0x7f40ac094000, 8192, PROT\_READ) = 0

mprotect(0x7f40ac17c000, 4096, PROT\_READ) = 0

mmap(NULL, 8192, PROT\_READ|PROT\_WRITE, MAP\_PRIVATE|MAP\_ANONYMOUS, -1, 0) = 0x7f40abc54000

mprotect(0x7f40ac01b000, 45056, PROT\_READ) = 0

mprotect(0x7f40abd4c000, 12288, PROT\_READ) = 0

mprotect(0x7f40ac0e3000, 4096, PROT\_READ) = 0

mprotect(0x7f40ac141000, 4096, PROT\_READ) = 0

mprotect(0x7f40ac152000, 4096, PROT\_READ) = 0

mprotect(0x7f40ac205000, 32768, PROT\_READ) = 0

mprotect(0x557ec49c1000, 4096, PROT\_READ) = 0

mprotect(0x7f40ac25a000, 8192, PROT\_READ) = 0

prlimit64(0, RLIMIT\_STACK, NULL, {rlim\_cur=8192\*1024, rlim\_max=RLIM64\_INFINITY}) = 0

munmap(0x7f40ac20e000, 73283) = 0

getrandom("\xe4\x5a\x47\x24\x20\x72\x9a\xb3", 8, GRND\_NONBLOCK) = 8

brk(NULL) = 0x557ec6978000

brk(0x557ec6999000) = 0x557ec6999000

futex(0x7f40ac02977c, FUTEX\_WAKE\_PRIVATE, 2147483647) = 0

newfstatat(1, "", {st\_mode=S\_IFCHR|0620, st\_rdev=makedev(0x88, 0), ...}, AT\_EMPTY\_PATH) = 0

write(1, "Menu:\n", 6Menu:

) = 6

write(1, "\t-create <child\_id> <parent\_id> "..., 52 -create <child\_id> <parent\_id> - create a new node

) = 52

write(1, "\t-exec <id> <KEY> <VALUE> - save"..., 84 -exec <id> <KEY> <VALUE> - save value in the local dictionary or print saved value

) = 84

write(1, "\t-print <id> - print the content"..., 58 -print <id> - print the contents of the local dictionary

) = 58

write(1, "\t-pingall - availability check\n", 31 -pingall - availability check

) = 31

write(1, "\t-exit - stop programm\n", 23 -exit - stop programm

) = 23

write(1, "Enter your command:\n", 20Enter your command:

) = 20

newfstatat(0, "", {st\_mode=S\_IFCHR|0620, st\_rdev=makedev(0x88, 0), ...}, AT\_EMPTY\_PATH) = 0

read(0, create 1 -1

"create 1 -1\n", 1024) = 12

clone(child\_stack=NULL, flags=CLONE\_CHILD\_CLEARTID|CLONE\_CHILD\_SETTID|SIGCHLD, child\_tidptr=0x7f40abc56c90) = 31739

read(0, Ok: 31739

create 2 1

"create 2 1\n", 1024) = 11

clone(child\_stack=NULL, flags=CLONE\_CHILD\_CLEARTID|CLONE\_CHILD\_SETTID|SIGCHLD, child\_tidptr=0x7f40abc56c90) = 31788

read(0, Ok: 31788

create 3 1

"create 3 1\n", 1024) = 11

clone(child\_stack=NULL, flags=CLONE\_CHILD\_CLEARTID|CLONE\_CHILD\_SETTID|SIGCHLD, child\_tidptr=0x7f40abc56c90) = 31863

read(0, Ok: 31863

exec 3 a 123

"exec 3 a 123\n", 1024) = 13

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

read(3, "0-11\n", 1024) = 5

close(3) = 0

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

newfstatat(3, "", {st\_mode=S\_IFDIR|0755, st\_size=0, ...}, AT\_EMPTY\_PATH) = 0

getdents64(3, 0x557ec698a820 /\* 30 entries \*/, 32768) = 864

getdents64(3, 0x557ec698a820 /\* 0 entries \*/, 32768) = 0

close(3) = 0

getpid() = 31720

sched\_getaffinity(31720, 128, [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]) = 8

newfstatat(AT\_FDCWD, "/etc/nsswitch.conf", {st\_mode=S\_IFREG|0644, st\_size=542, ...}, 0) = 0

newfstatat(AT\_FDCWD, "/", {st\_mode=S\_IFDIR|0755, st\_size=4096, ...}, 0) = 0

openat(AT\_FDCWD, "/etc/nsswitch.conf", O\_RDONLY|O\_CLOEXEC) = 3

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=542, ...}, AT\_EMPTY\_PATH) = 0

read(3, "# /etc/nsswitch.conf\n#\n# Example"..., 4096) = 542

read(3, "", 4096) = 0

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=542, ...}, AT\_EMPTY\_PATH) = 0

close(3) = 0

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

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=73283, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 73283, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7f40ac20e000

close(3) = 0

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/glibc-hwcaps/x86-64-v3/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/glibc-hwcaps/x86-64-v3", 0x7ffe9a809670, 0) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/glibc-hwcaps/x86-64-v2/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/glibc-hwcaps/x86-64-v2", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/tls/x86\_64/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/tls/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/tls/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/tls", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/x86\_64/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/x86\_64-linux-gnu", {st\_mode=S\_IFDIR|0755, st\_size=98304, ...}, 0) = 0

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/glibc-hwcaps/x86-64-v3/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/glibc-hwcaps/x86-64-v3", 0x7ffe9a809670, 0) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/glibc-hwcaps/x86-64-v2/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/glibc-hwcaps/x86-64-v2", 0x7ffe9a809670, 0) = -1 ENOENT (No such file or directory)

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)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/tls/x86\_64/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/tls/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/tls/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/tls", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/x86\_64/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu", {st\_mode=S\_IFDIR|0755, st\_size=98304, ...}, 0) = 0

openat(AT\_FDCWD, "/lib/glibc-hwcaps/x86-64-v3/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT\_FDCWD, "/lib/glibc-hwcaps/x86-64-v3", 0x7ffe9a809670, 0) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/glibc-hwcaps/x86-64-v2/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT\_FDCWD, "/lib/glibc-hwcaps/x86-64-v2", 0x7ffe9a809670, 0) = -1 ENOENT (No such file or directory)

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

newfstatat(AT\_FDCWD, "/lib/tls/x86\_64/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/tls/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/tls/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/tls", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/x86\_64/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/lib", {st\_mode=S\_IFDIR|0755, st\_size=4096, ...}, 0) = 0

openat(AT\_FDCWD, "/usr/lib/glibc-hwcaps/x86-64-v3/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT\_FDCWD, "/usr/lib/glibc-hwcaps/x86-64-v3", 0x7ffe9a809670, 0) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/glibc-hwcaps/x86-64-v2/libnss\_db.so.2", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

newfstatat(AT\_FDCWD, "/usr/lib/glibc-hwcaps/x86-64-v2", 0x7ffe9a809670, 0) = -1 ENOENT (No such file or directory)

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)

newfstatat(AT\_FDCWD, "/usr/lib/tls/x86\_64/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/tls/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/tls/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/tls", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib/x86\_64", 0x7ffe9a809670, 0) = -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)

newfstatat(AT\_FDCWD, "/usr/lib", {st\_mode=S\_IFDIR|0755, st\_size=4096, ...}, 0) = 0

munmap(0x7f40ac20e000, 73283) = 0

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

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=73283, ...}, AT\_EMPTY\_PATH) = 0

mmap(NULL, 73283, PROT\_READ, MAP\_PRIVATE, 3, 0) = 0x7f40ac20e000

close(3) = 0

openat(AT\_FDCWD, "/lib/x86\_64-linux-gnu/libnss\_db-2.35.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/x86\_64-linux-gnu/libnss\_db-2.35.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/lib/libnss\_db-2.35.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

openat(AT\_FDCWD, "/usr/lib/libnss\_db-2.35.so", O\_RDONLY|O\_CLOEXEC) = -1 ENOENT (No such file or directory)

munmap(0x7f40ac20e000, 73283) = 0

openat(AT\_FDCWD, "/etc/protocols", O\_RDONLY|O\_CLOEXEC) = 3

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=2932, ...}, AT\_EMPTY\_PATH) = 0

lseek(3, 0, SEEK\_SET) = 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

getpid() = 31720

getpid() = 31720

getrandom("\x0e\xd8\xb5\x9a\x1a\x2b\xe5\x47\xb2\x7d\xe9\xdb\x0e\xb9\x06\xaa", 16, 0) = 16

getrandom("\x57\x61\xa4\xcc\xcc\xc2\x98\x1a\x6f\xe7\x18\x5f\x89\x4b\x0c\xdc", 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

getpid() = 31720

epoll\_create1(EPOLL\_CLOEXEC) = 5

epoll\_ctl(5, EPOLL\_CTL\_ADD, 4, {events=0, data={u32=3331893120, u64=94002986133376}}) = 0

epoll\_ctl(5, EPOLL\_CTL\_MOD, 4, {events=EPOLLIN, data={u32=3331893120, u64=94002986133376}}) = 0

getpid() = 31720

rt\_sigaction(SIGRT\_1, {sa\_handler=0x7f40aba91870, sa\_mask=[], sa\_flags=SA\_RESTORER|SA\_ONSTACK|SA\_RESTART|SA\_SIGINFO, sa\_restorer=0x7f40aba42520}, NULL, 8) = 0

rt\_sigprocmask(SIG\_UNBLOCK, [RTMIN RT\_1], NULL, 8) = 0

mmap(NULL, 8392704, PROT\_NONE, MAP\_PRIVATE|MAP\_ANONYMOUS|MAP\_STACK, -1, 0) = 0x7f40ab04d000

mprotect(0x7f40ab04e000, 8388608, PROT\_READ|PROT\_WRITE) = 0

rt\_sigprocmask(SIG\_BLOCK, ~[], [], 8) = 0

clone3({flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, child\_tid=0x7f40ab84d910, parent\_tid=0x7f40ab84d910, exit\_signal=0, stack=0x7f40ab04d000, stack\_size=0x7ffc80, tls=0x7f40ab84d640} => {parent\_tid=[31947]}, 88) = 31947

rt\_sigprocmask(SIG\_SETMASK, [], NULL, 8) = 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

getpid() = 31720

epoll\_create1(EPOLL\_CLOEXEC) = 7

epoll\_ctl(7, EPOLL\_CTL\_ADD, 6, {events=0, data={u32=3331916592, u64=94002986156848}}) = 0

epoll\_ctl(7, EPOLL\_CTL\_MOD, 6, {events=EPOLLIN, data={u32=3331916592, u64=94002986156848}}) = 0

mmap(NULL, 8392704, PROT\_NONE, MAP\_PRIVATE|MAP\_ANONYMOUS|MAP\_STACK, -1, 0) = 0x7f40aa84c000

mprotect(0x7f40aa84d000, 8388608, PROT\_READ|PROT\_WRITE) = 0

rt\_sigprocmask(SIG\_BLOCK, ~[], [], 8) = 0

clone3({flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, child\_tid=0x7f40ab04c910, parent\_tid=0x7f40ab04c910, exit\_signal=0, stack=0x7f40aa84c000, stack\_size=0x7ffc80, tls=0x7f40ab04c640} => {parent\_tid=[31948]}, 88) = 31948

rt\_sigprocmask(SIG\_SETMASK, [], NULL, 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

getpid() = 31720

getpid() = 31720

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

brk(0x557ec69ba000) = 0x557ec69ba000

futex(0x7f40ac029788, FUTEX\_WAKE\_PRIVATE, 2147483647) = 0

getpid() = 31720

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

write(8, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

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

getpid() = 31720

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

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

getpid() = 31720

poll([{fd=8, events=POLLIN}], 1, -1) = 1 ([{fd=8, revents=POLLIN}])

getpid() = 31720

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

getpid(Node 3: key awas saved with value 123

) = 31720

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

getpid() = 31720

poll([{fd=8, events=POLLIN}], 1, -1) = 1 ([{fd=8, revents=POLLIN}])

getpid() = 31720

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

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

getpid() = 31720

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

write(4, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

getpid() = 31720

write(8, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

poll([{fd=3, events=POLLIN}], 1, -1) = 1 ([{fd=3, revents=POLLIN}])

getpid() = 31720

read(3, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

futex(0x7f40ab04c910, FUTEX\_WAIT\_BITSET|FUTEX\_CLOCK\_REALTIME, 31948, NULL, FUTEX\_BITSET\_MATCH\_ANY) = -1 EAGAIN (Resource temporarily unavailable)

close(7) = 0

close(6) = 0

close(5) = 0

close(4) = 0

close(3) = 0

read(0, exec 3 b 321

"exec 3 b 321\n", 1024) = 13

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

read(3, "0-11\n", 1024) = 5

close(3) = 0

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

newfstatat(3, "", {st\_mode=S\_IFDIR|0755, st\_size=0, ...}, AT\_EMPTY\_PATH) = 0

getdents64(3, 0x557ec6991970 /\* 30 entries \*/, 32768) = 864

getdents64(3, 0x557ec6991970 /\* 0 entries \*/, 32768) = 0

close(3) = 0

getpid() = 31720

sched\_getaffinity(31720, 128, [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]) = 8

newfstatat(AT\_FDCWD, "/etc/nsswitch.conf", {st\_mode=S\_IFREG|0644, st\_size=542, ...}, 0) = 0

openat(AT\_FDCWD, "/etc/protocols", O\_RDONLY|O\_CLOEXEC) = 3

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=2932, ...}, AT\_EMPTY\_PATH) = 0

lseek(3, 0, SEEK\_SET) = 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

getpid() = 31720

getpid() = 31720

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

getpid() = 31720

epoll\_create1(EPOLL\_CLOEXEC) = 5

epoll\_ctl(5, EPOLL\_CTL\_ADD, 4, {events=0, data={u32=3331920416, u64=94002986160672}}) = 0

epoll\_ctl(5, EPOLL\_CTL\_MOD, 4, {events=EPOLLIN, data={u32=3331920416, u64=94002986160672}}) = 0

getpid() = 31720

rt\_sigprocmask(SIG\_BLOCK, ~[], [], 8) = 0

clone3({flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, child\_tid=0x7f40ab84d910, parent\_tid=0x7f40ab84d910, exit\_signal=0, stack=0x7f40ab04d000, stack\_size=0x7ffc80, tls=0x7f40ab84d640} => {parent\_tid=[32003]}, 88) = 32003

rt\_sigprocmask(SIG\_SETMASK, [], NULL, 8) = 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

getpid() = 31720

epoll\_create1(EPOLL\_CLOEXEC) = 7

epoll\_ctl(7, EPOLL\_CTL\_ADD, 6, {events=0, data={u32=3331920384, u64=94002986160640}}) = 0

epoll\_ctl(7, EPOLL\_CTL\_MOD, 6, {events=EPOLLIN, data={u32=3331920384, u64=94002986160640}}) = 0

rt\_sigprocmask(SIG\_BLOCK, ~[], [], 8) = 0

clone3({flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, child\_tid=0x7f40ab04c910, parent\_tid=0x7f40ab04c910, exit\_signal=0, stack=0x7f40aa84c000, stack\_size=0x7ffc80, tls=0x7f40ab04c640} => {parent\_tid=[32004]}, 88) = 32004

rt\_sigprocmask(SIG\_SETMASK, [], NULL, 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

getpid() = 31720

getpid() = 31720

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

getpid() = 31720

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

write(8, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

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

getpid() = 31720

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

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

getpid() = 31720

poll([{fd=8, events=POLLIN}], 1, -1) = 1 ([{fd=8, revents=POLLIN}])

getpid() = 31720

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

Node 3: key bwas saved with value 321

getpid() = 31720

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

getpid() = 31720

poll([{fd=8, events=POLLIN}], 1, -1) = 1 ([{fd=8, revents=POLLIN}])

getpid() = 31720

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

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

getpid() = 31720

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

write(4, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

getpid() = 31720

write(8, "\1\0\0\0\0\0\0\0", 8) = 8

futex(0x557ec698aca8, FUTEX\_WAKE\_PRIVATE, 1) = 1

getpid() = 31720

poll([{fd=3, events=POLLIN}], 1, -1) = 1 ([{fd=3, revents=POLLIN}])

getpid() = 31720

read(3, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

futex(0x7f40ab04c910, FUTEX\_WAIT\_BITSET|FUTEX\_CLOCK\_REALTIME, 32004, NULL, FUTEX\_BITSET\_MATCH\_ANY) = -1 EAGAIN (Resource temporarily unavailable)

close(7) = 0

close(6) = 0

close(5) = 0

close(4) = 0

close(3) = 0

read(0, print 3

"print 3\n", 1024) = 8

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

read(3, "0-11\n", 1024) = 5

close(3) = 0

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

newfstatat(3, "", {st\_mode=S\_IFDIR|0755, st\_size=0, ...}, AT\_EMPTY\_PATH) = 0

getdents64(3, 0x557ec699e0d0 /\* 30 entries \*/, 32768) = 864

getdents64(3, 0x557ec699e0d0 /\* 0 entries \*/, 32768) = 0

close(3) = 0

getpid() = 31720

sched\_getaffinity(31720, 128, [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]) = 8

newfstatat(AT\_FDCWD, "/etc/nsswitch.conf", {st\_mode=S\_IFREG|0644, st\_size=542, ...}, 0) = 0

openat(AT\_FDCWD, "/etc/protocols", O\_RDONLY|O\_CLOEXEC) = 3

newfstatat(3, "", {st\_mode=S\_IFREG|0644, st\_size=2932, ...}, AT\_EMPTY\_PATH) = 0

lseek(3, 0, SEEK\_SET) = 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

getpid() = 31720

getpid() = 31720

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

getpid() = 31720

epoll\_create1(EPOLL\_CLOEXEC) = 5

epoll\_ctl(5, EPOLL\_CTL\_ADD, 4, {events=0, data={u32=3331956720, u64=94002986196976}}) = 0

epoll\_ctl(5, EPOLL\_CTL\_MOD, 4, {events=EPOLLIN, data={u32=3331956720, u64=94002986196976}}) = 0

getpid() = 31720

rt\_sigprocmask(SIG\_BLOCK, ~[], [], 8) = 0

clone3({flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, child\_tid=0x7f40ab84d910, parent\_tid=0x7f40ab84d910, exit\_signal=0, stack=0x7f40ab04d000, stack\_size=0x7ffc80, tls=0x7f40ab84d640} => {parent\_tid=[32046]}, 88) = 32046

rt\_sigprocmask(SIG\_SETMASK, [], NULL, 8) = 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

getpid() = 31720

epoll\_create1(EPOLL\_CLOEXEC) = 7

epoll\_ctl(7, EPOLL\_CTL\_ADD, 6, {events=0, data={u32=3331916624, u64=94002986156880}}) = 0

epoll\_ctl(7, EPOLL\_CTL\_MOD, 6, {events=EPOLLIN, data={u32=3331916624, u64=94002986156880}}) = 0

rt\_sigprocmask(SIG\_BLOCK, ~[], [], 8) = 0

clone3({flags=CLONE\_VM|CLONE\_FS|CLONE\_FILES|CLONE\_SIGHAND|CLONE\_THREAD|CLONE\_SYSVSEM|CLONE\_SETTLS|CLONE\_PARENT\_SETTID|CLONE\_CHILD\_CLEARTID, child\_tid=0x7f40ab04c910, parent\_tid=0x7f40ab04c910, exit\_signal=0, stack=0x7f40aa84c000, stack\_size=0x7ffc80, tls=0x7f40ab04c640} => {parent\_tid=[32047]}, 88) = 32047

rt\_sigprocmask(SIG\_SETMASK, [], NULL, 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

getpid() = 31720

getpid() = 31720

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

getpid() = 31720

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

write(8, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

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

getpid() = 31720

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

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

getpid() = 31720

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

getpid(Node 3: content of the dictionary:

[a] = 123;

[b] = 321;

) = 31720

poll([{fd=8, events=POLLIN}], 1, -1) = 1 ([{fd=8, revents=POLLIN}])

getpid() = 31720

read(8, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

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

getpid() = 31720

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

write(4, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

getpid() = 31720

write(8, "\1\0\0\0\0\0\0\0", 8) = 8

futex(0x557ec698aca8, FUTEX\_WAKE\_PRIVATE, 1) = 1

getpid() = 31720

poll([{fd=3, events=POLLIN}], 1, -1) = 1 ([{fd=3, revents=POLLIN}])

getpid() = 31720

read(3, "\1\0\0\0\0\0\0\0", 8) = 8

getpid() = 31720

write(6, "\1\0\0\0\0\0\0\0", 8) = 8

futex(0x7f40ab04c910, FUTEX\_WAIT\_BITSET|FUTEX\_CLOCK\_REALTIME, 32047, NULL, FUTEX\_BITSET\_MATCH\_ANY) = -1 EAGAIN (Resource temporarily unavailable)

close(7) = 0

close(6) = 0

close(5) = 0

close(4) = 0

close(3) = 0

read(0, pingall

"pingall\n", 1024) = 8

write(1, "Ok: -1\n", 7Ok: -1

) = 7

read(0, exit

"exit\n", 1024) = 5

lseek(0, -1, SEEK\_CUR) = -1 ESPIPE (Illegal seek)

exit\_group(0) = ?

+++ exited with 0 +++

**Вывод**

В результате выполнения данной лабораторной работы я узнал такую важную вещь, как брокер сообщений. Я научился передавать данные между процессами, что очень важно для проектирования систем клиент-сервер. Этот навык очень поможет мне в будущем.