

Hướng dẫn cài đặt

Chương trình được chia ra làm 2 phần gồm có:

- Phía client
- Phía server

Source code được code trên ubuntu 18.04 với các bộ công cụ phát triển phần mềm trên linux. Có thể được cài đặt với lệnh

```
sudo apt-get install build-essential
```

Server

Với phía server để thực hiện build chương trình,

1. Mở terminal và truy cập vào thư mục server
2. Thực thi file build.sh



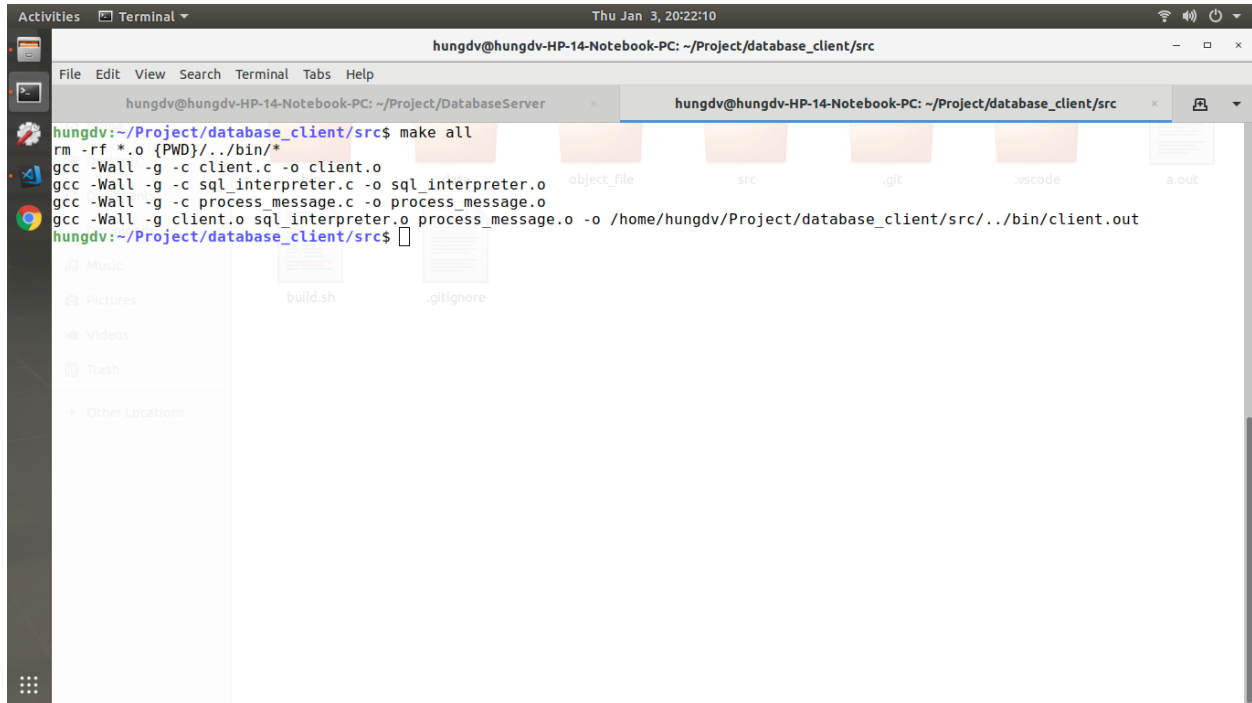
```
hungdv@hungdv-HP-14-Notebook-PC: ~/Project/DatabaseServer
hungdv@hungdv-HP-14-Notebook-PC: ~/Project/DatabaseServer$ ./build.sh
=====
gcc -Wall -g -c db_open.c -o db_open.o
gcc -Wall -g -c db_close.c -o db_close.o
gcc -Wall -g -c db_create_table.c -o db_create_table.o
gcc -Wall -g -c db_global.c -o db_global.o
gcc -Wall -g -c db_core_funcs.c -o db_core_funcs.o
gcc -Wall -g -c db_hash_function.c -o db_hash_function.o
gcc -Wall -g -c db_remove_table.c -o db_remove_table.o
gcc -Wall -g -c db_insert.c -o db_insert.o
gcc -Wall -g -c db_search.c -o db_search.o
gcc -Wall -g -c db_update.c -o db_update.o
gcc -Wall -g -c db_delete.c -o db_delete.o

BUILD_T_DB_OPEN
BUILD_T_DB_CREATE_TABLE
BUILD_T_DB_DEF
BUILD_T_DB_CREATE_TABLE
BUILD_T_DB_REMOVE_TABLE
BUILD_T_DB_INSERT
BUILD_T_DB_COMMON TEST
BUILD_T_DB_SEARCH
BUILD_T_DB DELETE
BUILD_T_DB UPDATE
BUILD_SERVER
=====
gcc -c /home/hungdv/Project/DatabaseServer/src/server/server.c -o /home/hungdv/Project/DatabaseServer/object_file/server.o -lpthread
gcc -c /home/hungdv/Project/DatabaseServer/src/server/server_global.c -o /home/hungdv/Project/DatabaseServer/object_file/server.o
```

Client

Với phía client để thực hiện chương trình

1. Mở terminal và truy cập vào thư mục client/src
2. Chạy lệnh make file



The screenshot shows a terminal window titled 'hungdv@hungdv-HP-14-Notebook-PC: ~/Project/database_client/src'. The user has entered the command 'make all'. The output shows the compilation of three C files: 'client.c', 'sql_interpreter.c', and 'process_message.c'. The first two are compiled into 'client.o' and 'sql_interpreter.o' respectively, and then linked into 'client.out' in the directory '/home/hungdv/Project/database_client/src/../bin/'. The terminal also shows a file explorer on the left with folders like Music, Pictures, Videos, and Trash.

```
hungdv@~/Project/database_client/src$ make all
rm -rf *.o {PWD}/../bin/*
gcc -Wall -g -c client.c -o client.o
gcc -Wall -g -c sql_interpreter.c -o sql_interpreter.o
gcc -Wall -g -c process_message.c -o process_message.o
gcc -Wall -g client.o sql_interpreter.o process_message.o -o /home/hungdv/Project/database_client/src/../bin/client.out
hungdv@~/Project/database_client/src$
```

Hướng dẫn khởi chạy chương trình

Server

Để khởi chạy server

1. Mở terminal và truy cập vào thư mục server/bin
2. Thực thi file server.out

Client

Để khởi chạy client

1. Mở terminal và truy cập vào thư mục client/bin
2. Thực thi file client.out
3. Dấu nhắc lệnh “Input command:” xuất hiện

4. Để thực hiện truy vấn với cơ sở dữ liệu trong server. Viết các câu lệnh theo đúng cú pháp SQL.

```
Thu Jan 3, 20:24:58
hungdv-HP-14-Notebook-PC 0 1 ./client.out

hungdv@hungdv-HP-14-Notebook-PC: ~/Project/database_client/bin$ ./client.out
Start connect to server!
Connect to 127.0.0.1:6969 successful!
Input command:

hungdv@hungdv-HP-14-Notebook-PC: ~/Project/DatabaseServer/bin$ ./server.out
server started!
Start wait event from sub_thread!
Have a new client!
```

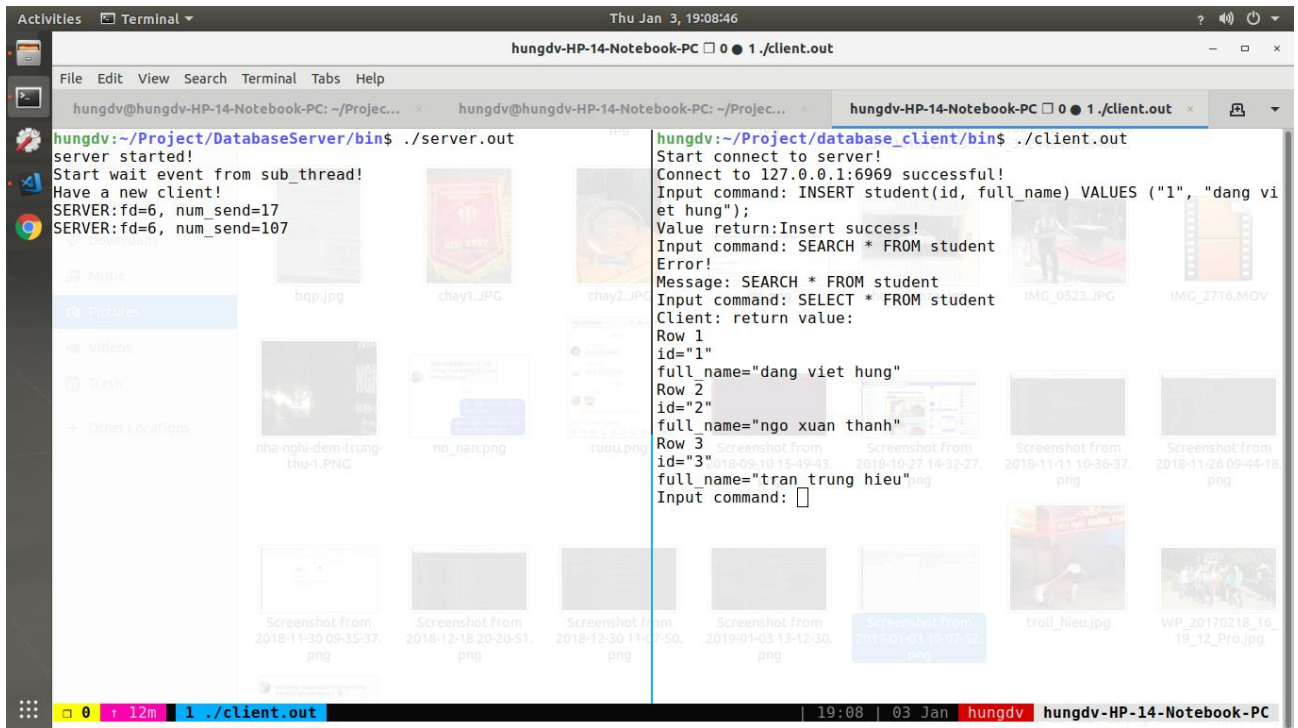
Thêm

```
Thu Jan 3, 19:07:52
hungdv-HP-14-Notebook-PC 0 1 ./client.out

hungdv@hungdv-HP-14-Notebook-PC: ~/Project/DatabaseServer/bin$ ./server.out
server started!
Start wait event from sub_thread!
Have a new client!
SERVER:fd=6, num_send=17

hungdv@hungdv-HP-14-Notebook-PC: ~/Project/database_client/bin$ ./client.out
Start connect to server!
Connect to 127.0.0.1:6969 successful!
Input command: INSERT student(id, full_name) VALUES ("1", "dang viet hung");
Value return: Insert success!
Input command:
```

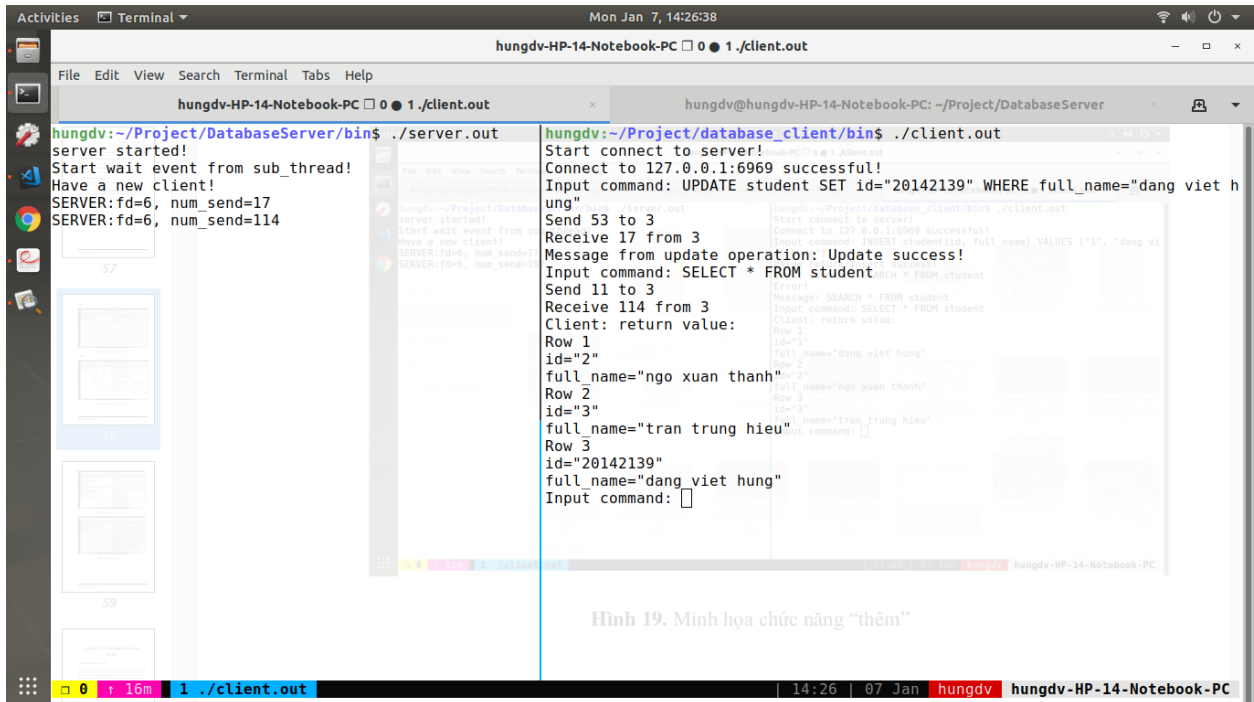
Tìm kiếm



```
hungdv@~/Project/DatabaseServer/bin$ ./server.out
server started!
Start wait event from sub_thread!
Have a new client!
SERVER:fd=6, num_send=17
SERVER:fd=6, num_send=107

hungdv@~/Project/database_client/bin$ ./client.out
Start connect to server!
Connect to 127.0.0.1:6969 successful!
Input command: INSERT student(id, full_name) VALUES ("1", "dang viet hung");
Value return:Insert success!
Input command: SEARCH * FROM student
Error!
Message: SEARCH * FROM student
Input command: SELECT * FROM student
Client: return value:
Row 1
id="1"
full_name="dang viet hung"
Row 2
id="2"
full_name="ngo xuan thanh"
Row 3
id="3"
full_name="tran trung hieu"
Input command: 
```

Cập nhật



```
hungdv@~/Project/DatabaseServer/bin$ ./server.out
server started!
Start wait event from sub_thread!
Have a new client!
SERVER:fd=6, num_send=17
SERVER:fd=6, num_send=114

hungdv@~/Project/database_client/bin$ ./client.out
Start connect to server!
Connect to 127.0.0.1:6969 successful!
Input command: UPDATE student SET id="20142139" WHERE full_name="dang viet h
ung"
Send 53 to 3
Receive 17 from 3
Message from update operation: Update success!
Input command: SELECT * FROM student
Client: return value:
Row 1
id="1"
full_name="dang viet hung"
Row 2
id="2"
full_name="ngo xuan thanh"
Row 3
id="3"
full_name="tran trung hieu"
Row 3
id="20142139"
full_name="dang viet hung"
Input command: 
```

Hình 19. Minh họa chức năng “thêm”

Xóa

