

# 额外加分作业

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## 1 下载maridb源码

mriadb5.5.56 for centos7 rpm包 :

<http://rpm.pbone.net/index.php3/stat/26/dist/94/size/40850908/name/mariadb-5.5.56-2.el7.src.rpm>

## 2 将下载的源码rpm解压，将解压出的mariadb-5.5.56.tar.gz再解压

下载后使用`rpm2cpio mariadb-5.5.56-2.el7.src.rpm | cpio -div`解压rpm包

之后再用`tar -zxf mariadb-5.5.56.tar.gz`解压出mariadb的源码

## 3 编译mariadb的静态库

进入源码目录`cd mariadb-5.5.56`

使用`cmake . -DMYSQL_UNIX_ADDR=/var/lib/mysql/mysql.sock`将默认变编译的Mysql socket的文件位置从`/tmp/mysql.sock`改成Centos环境中的`/var/lib/mysql/mysql.sock`

编译`make`

将编译后得到的`libmysql/libmysqlclient.a`复制到`mysql_demo.cpp`的相同目录下

## 4 取得其他需要的静态库文件

下载`libstdc++-static`

[https://rpmfind.net/linux/centos/7.5.1804/os/x86\\_64/Packages/libstdc++-static-4.8.5-28.el7.x86\\_64.rpm](https://rpmfind.net/linux/centos/7.5.1804/os/x86_64/Packages/libstdc++-static-4.8.5-28.el7.x86_64.rpm)

解压

`rpm2cpio libstdc++-static-4.8.5-28.el7.x86_64.rpm | cpio -div`

将解压出来的`usr/lib/gcc/x86_64-redhat-linux/4.8.2/libstdc++.a`复制到`mysql_demo.cpp`的相同目录下

下载`zlib-static`

[https://rpmfind.net/linux/centos/7.5.1804/os/x86\\_64/Packages/zlib-static-1.2.7-17.el7.x86\\_64.rpm](https://rpmfind.net/linux/centos/7.5.1804/os/x86_64/Packages/zlib-static-1.2.7-17.el7.x86_64.rpm)

解压

`rpm2cpio zlib-static-1.2.7-17.el7.x86_64.rpm | cpio -div`

将解压出来的`usr/lib64/libz.a`复制到`mysql_demo.cpp`的相同目录下

## 5 准备makefile文件

编译`mysql_demo.cpp`的makefile文件 :

```
all : mysql_demo

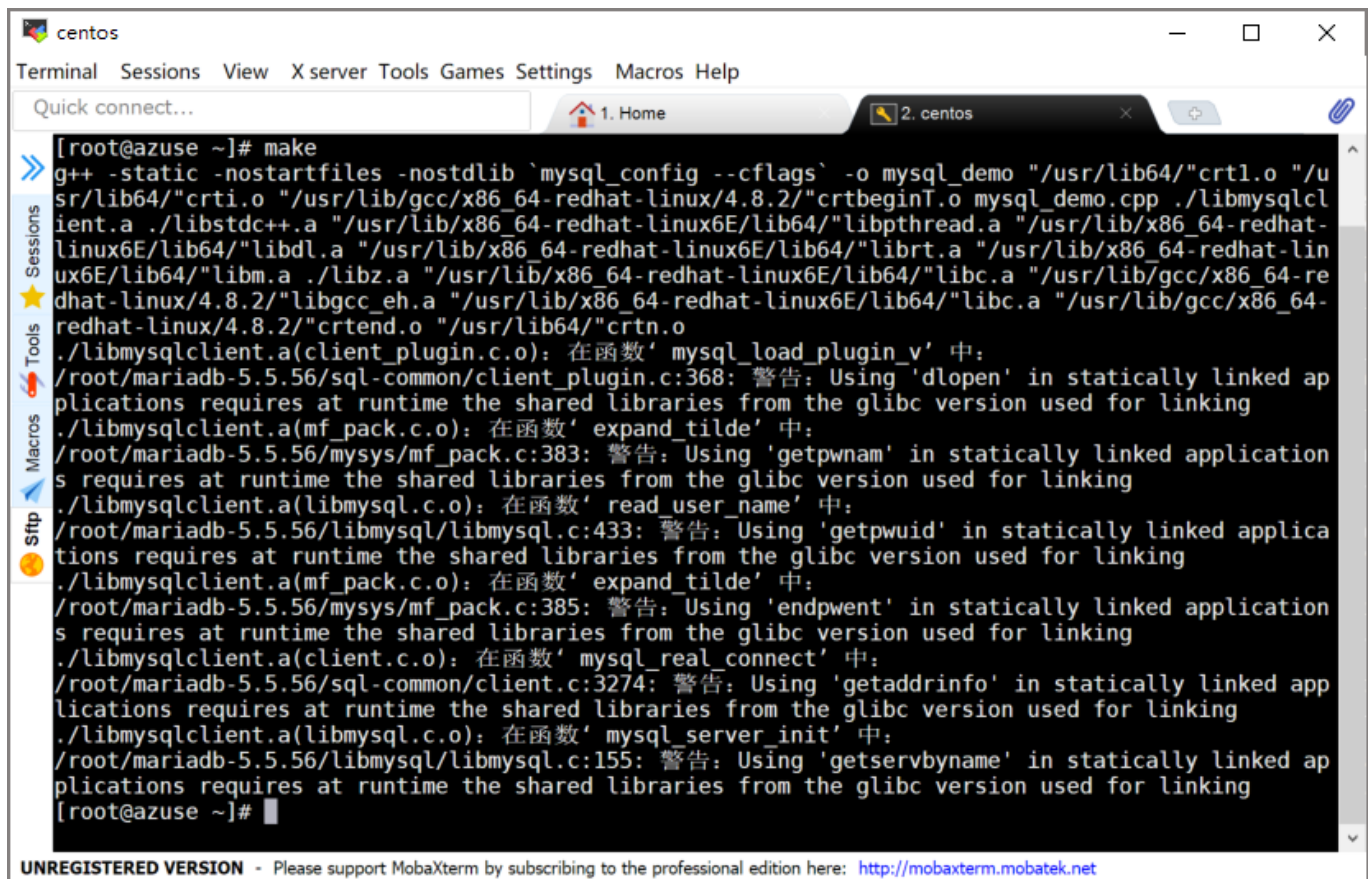
MYLIBDIR = "/usr/lib/x86_64-redhat-linux6E/lib64/"
MYLIBDIR2 = "/usr/lib/gcc/x86_64-redhat-linux/4.8.2/"
MYLIBDIR3 = "/usr/lib64/"
```

```
mysql_demo : mysql_demo.cpp
    g++ -static -nostartfiles -nostdlib `mysql_config --cflags` -o $@
$(MYLIBDIR3)crt1.o $(MYLIBDIR3)crti.o $(MYLIBDIR2)crtbeginT.o $^
./libmysqlclient.a ./libstdc++.a $(MYLIBDIR)libpthread.a $(MYLIBDIR)libdl.a
$(MYLIBDIR)librt.a $(MYLIBDIR)libm.a ./libz.a $(MYLIBDIR)libc.a
$(MYLIBDIR2)libgcc_eh.a $(MYLIBDIR)libc.a $(MYLIBDIR2)crtend.o $(MYLIBDIR3)crtn.o

.PHONY : clean
clean :
    rm -f mysql_demo mysql_demo.o
```

## 6 编译C++静态mysql程序

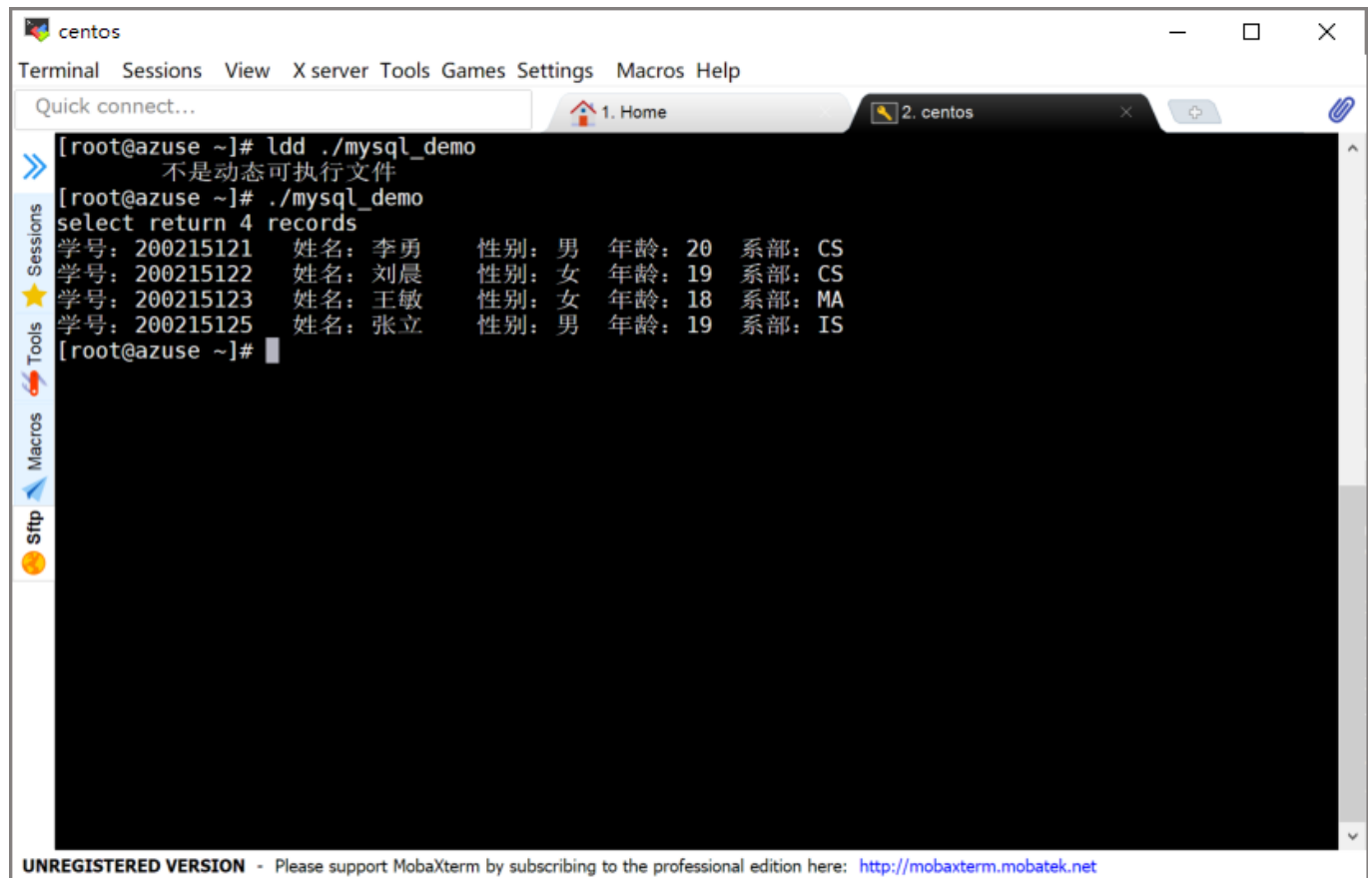
make



```
centos
Terminal Sessions View X server Tools Games Settings Macros Help
Quick connect... 1. Home 2. centos
[root@azuse ~]# make
g++ -static -nostartfiles -nostdlib `mysql_config --cflags` -o mysql_demo "/usr/lib64/"crt1.o "/u
sr/lib64/"crti.o "/usr/lib/gcc/x86_64-redhat-linux/4.8.2/"crtbeginT.o mysql_demo.cpp ./libmysqlcl
ient.a ./libstdc++.a "/usr/lib/x86_64-redhat-linux6E/lib64/"libpthread.a "/usr/lib/x86_64-redhat-
linux6E/lib64/"libdl.a "/usr/lib/x86_64-redhat-linux6E/lib64/"librt.a "/usr/lib/x86_64-redhat-lin
ux6E/lib64/"libm.a ./libz.a "/usr/lib/x86_64-redhat-linux6E/lib64/"libc.a "/usr/lib/gcc/x86_64-re
dhat-linux/4.8.2/"libgcc_eh.a "/usr/lib/x86_64-redhat-linux6E/lib64/"libc.a "/usr/lib/gcc/x86_64-
redhat-linux/4.8.2/"crtend.o "/usr/lib64/"crtn.o
./libmysqlclient.a(client_plugin.c.o): 在函数' mysql_load_plugin_v' 中:
/root/mariadb-5.5.56/sql-common/client_plugin.c:368: 警告: Using 'dlopen' in statically linked ap
plications requires at runtime the shared libraries from the glibc version used for linking
./libmysqlclient.a(mf_pack.c.o): 在函数' expand_tilde' 中:
/root/mariadb-5.5.56/mysys/mf_pack.c:383: 警告: Using 'getpwnam' in statically linked application
s requires at runtime the shared libraries from the glibc version used for linking
./libmysqlclient.a(libmysql.c.o): 在函数' read_user_name' 中:
/root/mariadb-5.5.56/libmysql/libmysql.c:433: 警告: Using 'getpwuid' in statically linked applica
tions requires at runtime the shared libraries from the glibc version used for linking
./libmysqlclient.a(mf_pack.c.o): 在函数' expand_tilde' 中:
/root/mariadb-5.5.56/mysys/mf_pack.c:385: 警告: Using 'endpwent' in statically linked application
s requires at runtime the shared libraries from the glibc version used for linking
./libmysqlclient.a(client.c.o): 在函数' mysql_real_connect' 中:
/root/mariadb-5.5.56/sql-common/client.c:3274: 警告: Using 'getaddrinfo' in statically linked app
lications requires at runtime the shared libraries from the glibc version used for linking
./libmysqlclient.a(libmysql.c.o): 在函数' mysql_server_init' 中:
/root/mariadb-5.5.56/libmysql/libmysql.c:155: 警告: Using 'getservbyname' in statically linked ap
plications requires at runtime the shared libraries from the glibc version used for linking
[root@azuse ~]#
```

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正常编译出静态可执行文件



The screenshot shows a MobaXterm terminal window titled 'centos'. The terminal displays the following commands and output:

```
[root@azuse ~]# ldd ./mysql_demo
不是动态可执行文件
[root@azuse ~]# ./mysql_demo
select return 4 records
学号: 200215121  姓名: 李勇      性别: 男   年龄: 20   系部: CS
学号: 200215122  姓名: 刘晨      性别: 女   年龄: 19   系部: CS
学号: 200215123  姓名: 王敏      性别: 女   年龄: 18   系部: MA
学号: 200215125  姓名: 张立      性别: 男   年龄: 19   系部: IS
[root@azuse ~]#
```

The output displays a table of student records with columns for ID (学号), Name (姓名), Gender (性别), Age (年龄), and Department (系部). The table contains 4 records.

At the bottom of the terminal window, there is a message: **UNREGISTERED VERSION** - Please support MobaXterm by subscribing to the professional edition here: <http://mobaxterm.mobatek.net>