

数据库Lab1 DBMS的安装和使用

实验目的

1. 通过安装某个数据库管理系统，初步了解DBMS的运行环境
2. 了解DBMS交互界面、图形界面和系统管理工具的使用
3. 搭建实验平台。

实验内容

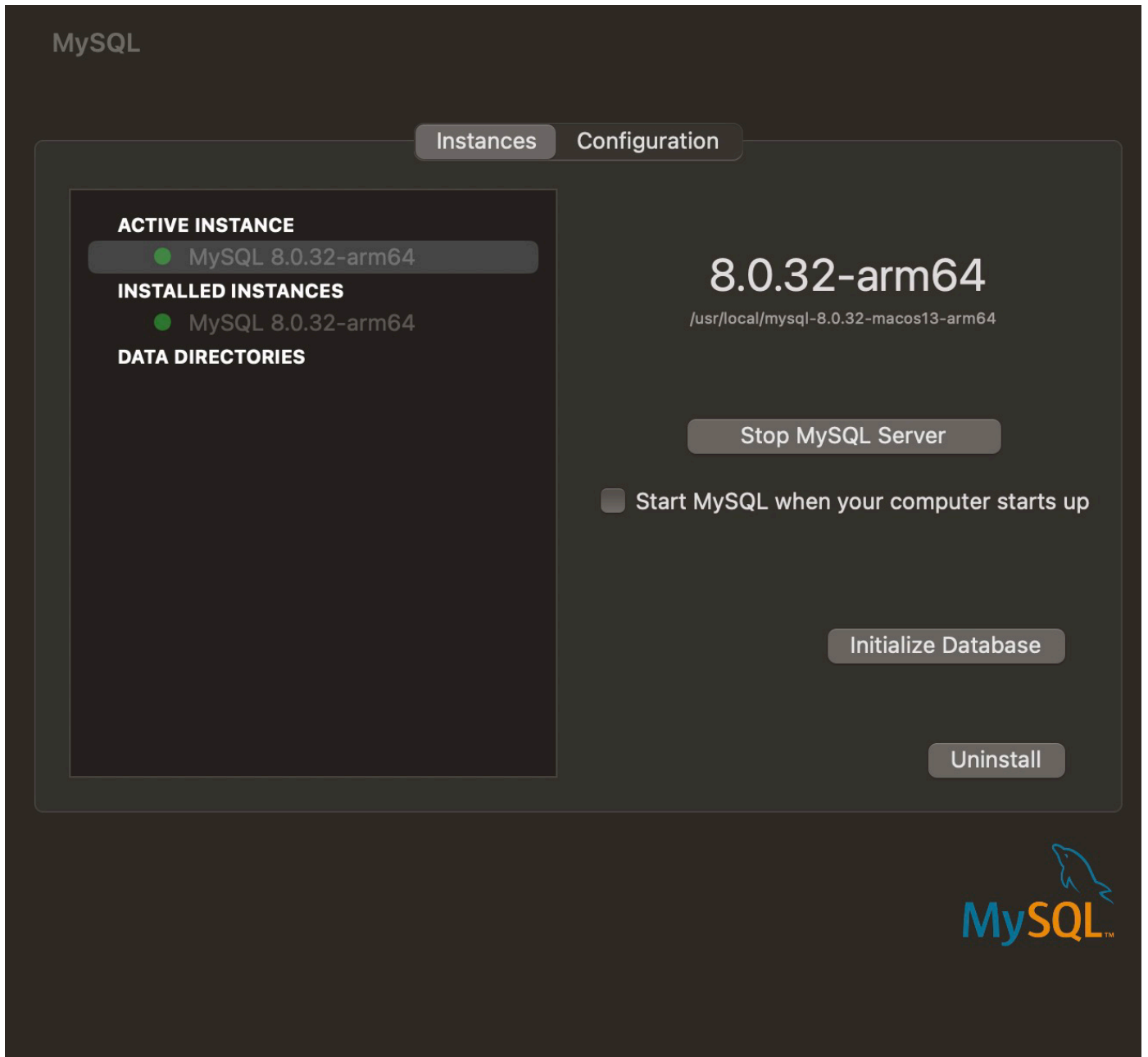
mysql的安装（win已装好，以macOS为例）

这里使用homebrew，使用命令：

```
$ brew install mysql
```

```
# jly @ jianglinyideMacBook-Air in ~ [16:20:25] C:1  
$ brew install mysql
```

安装成功后，在设置中启动mysql的server



接下来连接到数据库，验证是否能用（我习惯用root测试）

```
$ mysql -u root -p
```

```
# jly @ jianglinyideMacBook-Air in ~ [16:20:25] C:1
$ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.32 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> 
```

可以看出，顺利安装

图形界面：官网安装

MySQL Workbench 8.0.32

Select Operating System:

macOS



Packages support latest version Ventura (13) and are deemed compatible with Monterey (12)

macOS (x86, 64-bit), DMG Archive

8.0.32

124.9M

[Download](#)

(mysql-workbench-community-8.0.32-macos-x86_64.dmg)

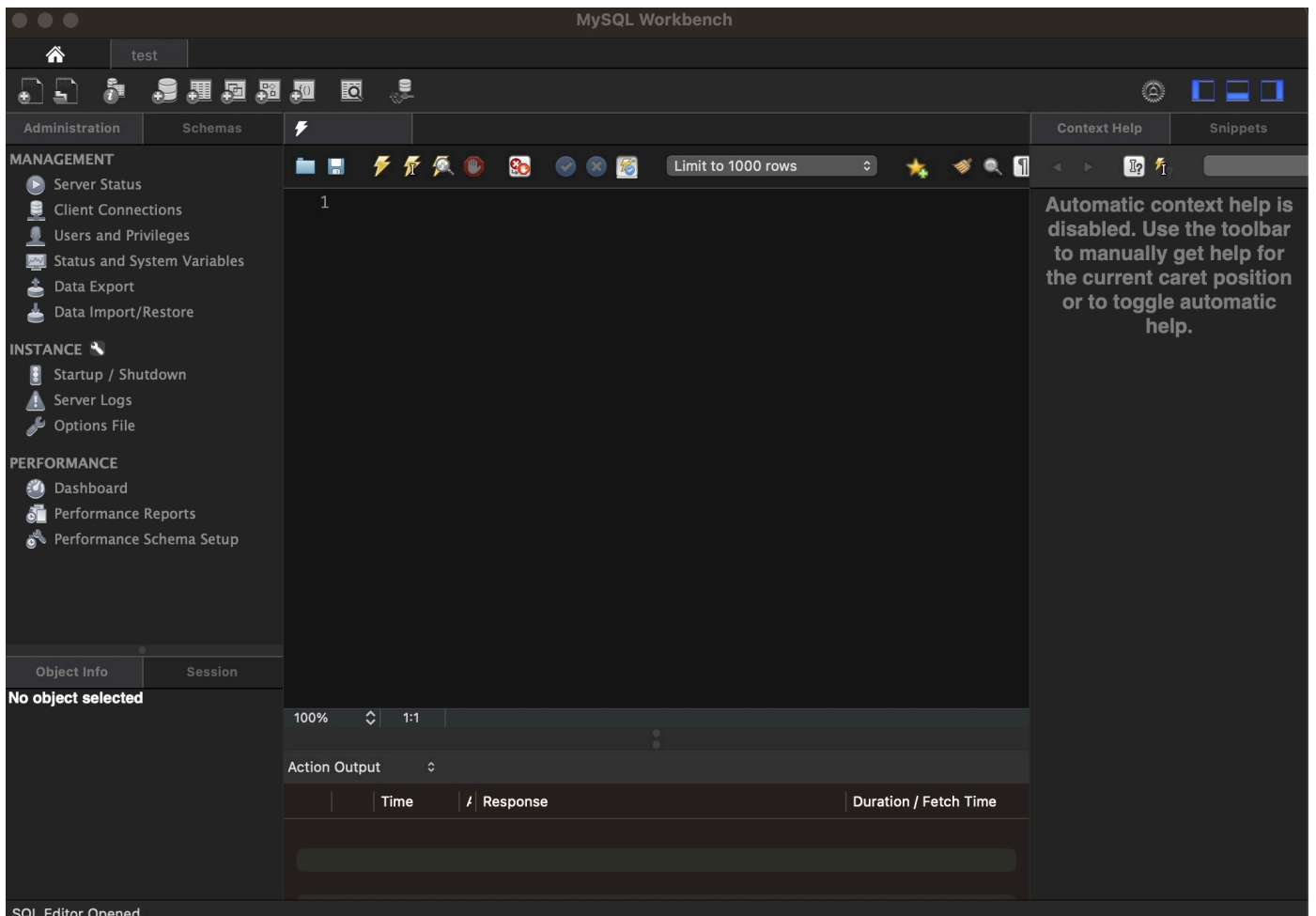
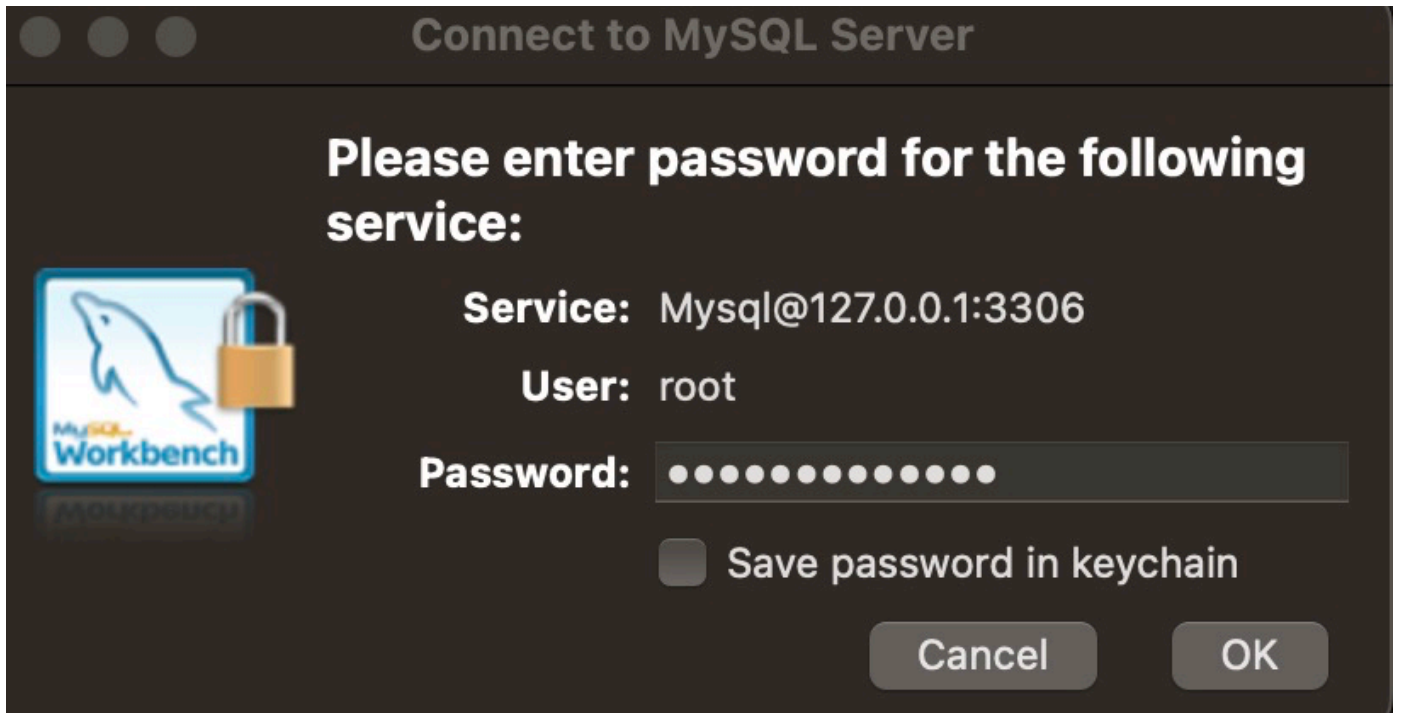
MD5: 496c6367ae625253eed30862911b029e | [Signature](#)



We suggest that you use the [MD5 checksums and GnuPG signatures](#) to verify the integrity of the packages you download.

不是原生适配M系列芯片，需要转译，差评！

接下来尝试连接到数据库



连接成功。

至此，mysql以及workbench均安装成功。

DBMS用户管理（以mysql为例）

（之前web开发的时候搞在win上的，重新创个号吧x）

添加一个用户并赋权

```
create user jianglinyi identified by 'jianglinyi';
grant all privileges on *.* to jianglinyi@'%';
flush privileges;
```

然后利用show grants查看权限

```
show grants for jianglinyi;
```

```
-----+
GRANT SELECT, INSERT, UPDATE, DELETE, CREATE, DROP, RELOAD, SHUTDOWN, PROCESS
FILE, REFERENCES, INDEX, ALTER, SHOW DATABASES, SUPER, CREATE TEMPORARY TABLES,
LOCK TABLES, EXECUTE, REPLICATION SLAVE, REPLICATION CLIENT, CREATE VIEW, SHOW
VIEW, CREATE ROUTINE, ALTER ROUTINE, CREATE USER, EVENT, TRIGGER, CREATE TABLESP
ACE, CREATE ROLE, DROP ROLE ON *.* TO `jianglinyi`@`%`

|

GRANT APPLICATION_PASSWORD_ADMIN,AUDIT_ABORT_EXEMPT,AUDIT_ADMIN,AUTHENTICATION
POLICY_ADMIN,BACKUP_ADMIN,BINLOG_ADMIN,BINLOG_ENCRYPTION_ADMIN,CLONE_ADMIN,CONN
ECTION_ADMIN,ENCRYPTION_KEY_ADMIN,FIREWALL_EXEMPT,FLUSH_OPTIMIZER_COSTS,FLUSH_ST
ATUS,FLUSH_TABLES,FLUSH_USER_RESOURCES,GROUP_REPLICATION_ADMIN,GROUP_REPLICATION
STREAM,INNODB_REDO_LOG_ARCHIVE,INNODB_REDO_LOG_ENABLE,PASSWORDLESS_USER_ADMIN,P
ERSIST_RO_VARIABLES_ADMIN,REPLICATION_APPLIER,REPLICATION_SLAVE_ADMIN,RESOURCE_G
ROUP_ADMIN,RESOURCE_GROUP_USER,ROLE_ADMIN,SENSITIVE_VARIABLES_OBSERVER,SERVICE_C
ONNECTION_ADMIN,SESSION_VARIABLES_ADMIN,SET_USER_ID,SHOW_ROUTINE,SYSTEM_USER,SYS
TEM_VARIABLES_ADMIN,TABLE_ENCRYPTION_ADMIN,XA_RECOVER_ADMIN ON *.* TO `jianglinyi`
@`%` |
-----
```

用户添加成功

删除用户并查看是否删除成功

```
drop user jianglinyi@'%';
```

```
mysql> select user from user;
+-----+
| user                |
+-----+
| mysql.infoschema    |
| mysql.session       |
| mysql.sys           |
| root                |
+-----+
4 rows in set (0.00 sec)
```

删除成功

熟悉交互界面的基本交互命令

用户操作刚才操作过了，接下来建库建表插入删除等

```
create database lab01;
use lab01

CREATE TABLE IF NOT EXISTS `test_table` (
  `id` INT UNSIGNED AUTO_INCREMENT,
  `name` VARCHAR(100) NOT NULL,
  `email` VARCHAR(40) NOT NULL,
  `login_date` DATE,
  PRIMARY KEY ( `id` )
)ENGINE=InnoDB DEFAULT CHARSET=utf8;

insert into test_table
(name,email,login_date)
values
("jly","1@qq.com",'2023-03-22');

select * from test_table;

drop table test_table;

drop database lab1;
```

```
mysql> select * from test_table;
+-----+-----+-----+-----+
| id | name | email | login_date |
+-----+-----+-----+-----+
| 1 | jly | 1@qq.com | 2023-03-22 |
+-----+-----+-----+-----+
1 row in set (0.00 sec)
```


```
mysql> select * from test_table;
ERROR 1146 (42S02): Table 'lab1.test_table' doesn't exist
```

```
mysql> select * from lab1;
ERROR 1046 (3D000): No database selected
```

删库跑路成功！

熟悉图形界面的功能和操作

查看user



test
Users and Privileges

User Accounts

User	From Host
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
root	localhost

Select an account to edit or click [Add Account] to create a new one

Login

Account Limits

Administrative Roles

Schema Privileges

Login Name:

You may create multiple accounts to connect from different hosts.

Authentication Type:

SHA256 Password

For the standard password authentication select 'Standard'.

Limit to Hosts Matching:

% and _ wildcards may be used.

Password:

Type a password to reset the account's password.

Confirm Password:

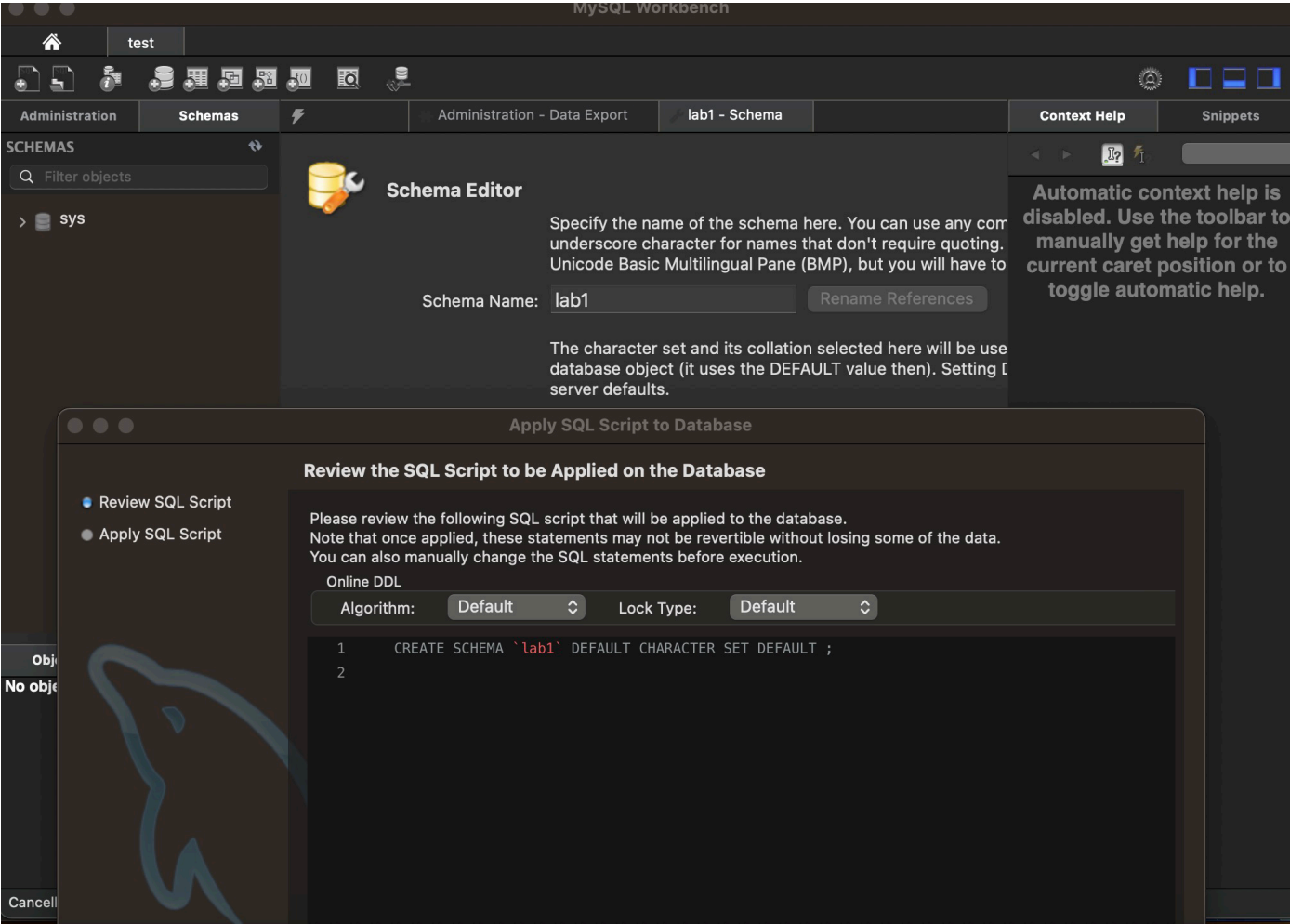
Enter password again to confirm.

Expire Password

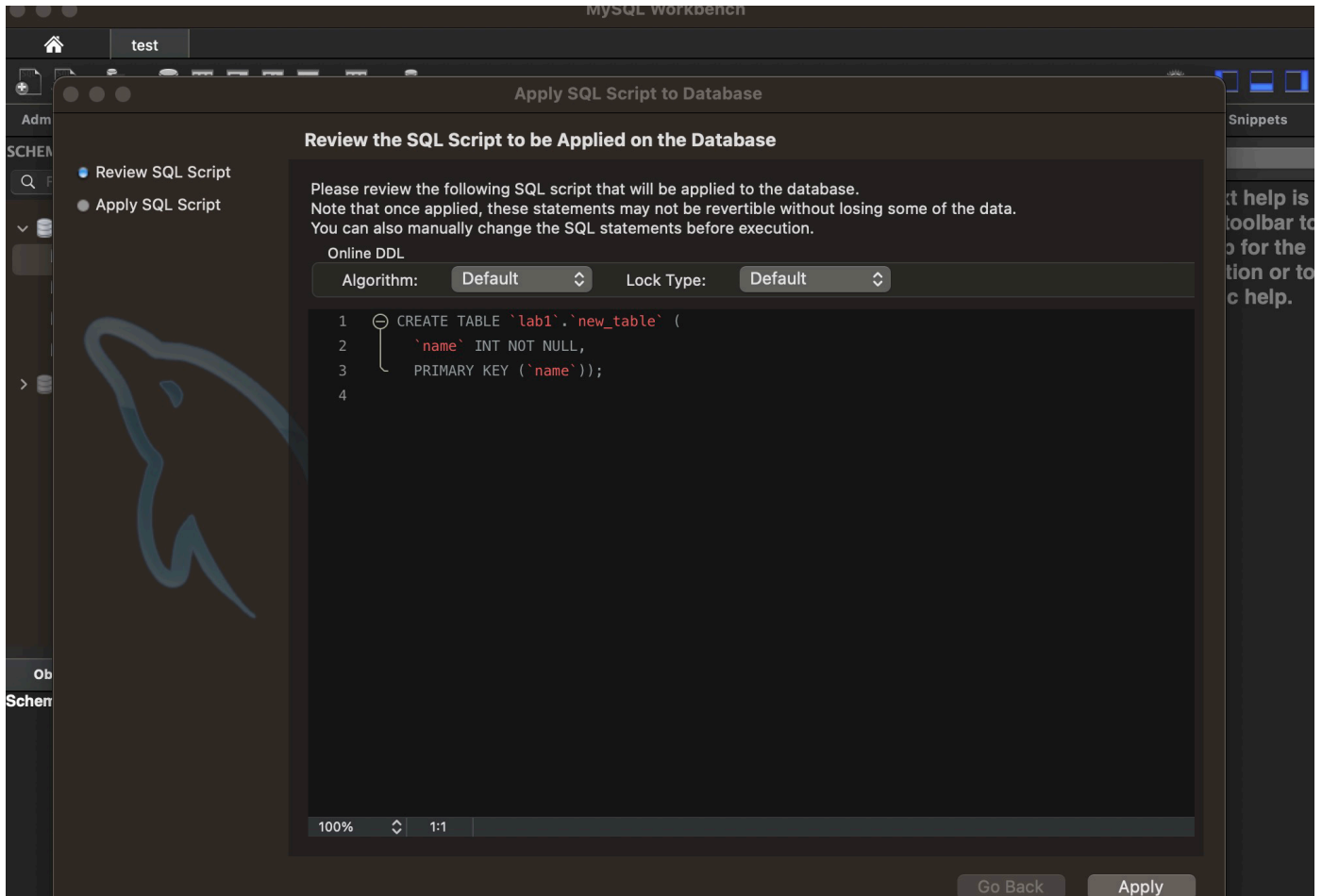
Authentication String:

Authentication plugin specification.

创建schema（数据库）



建表



了解基本的DBMS管理功能和操作

上面操作过了

熟悉在线帮助系统的使用

```
mysql> help
```

For information about MySQL products and services, visit:

<http://www.mysql.com/>

For developer information, including the MySQL Reference Manual, visit:

<http://dev.mysql.com/>

To buy MySQL Enterprise support, training, or other products, visit:

<https://shop.mysql.com/>

List of all MySQL commands:

Note that all text commands must be first on line and end with ';'.

? (\?) Synonym for `help`.

clear (\c) Clear the current input statement.

connect (\r) Reconnect to the server. Optional arguments are db and host.

delimiter (\d) Set statement delimiter.

edit (\e) Edit command with \$EDITOR.

ego (\G) Send command to mysql server, display result vertically.

exit (\q) Exit mysql. Same as quit.

go (\g) Send command to mysql server.

help (\h) Display this help.

nopager (\n) Disable pager, print to stdout.

notee (\t) Don't write into outfile.

pager (\P) Set PAGER [to_pager]. Print the query results via PAGER.

print (\p) Print current command.