浙江大学

实验一 DBMS的安装和使用

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一、实验目的

1. 安装MySQL和数据库管理软件Datagrip，初步了解DBMS运行环境
2. 了解MySQL的相关指令意义和使用，了解Datagrip的图形化交互界面，熟悉使用
3. 搭建本地实验平台

二、实验环境

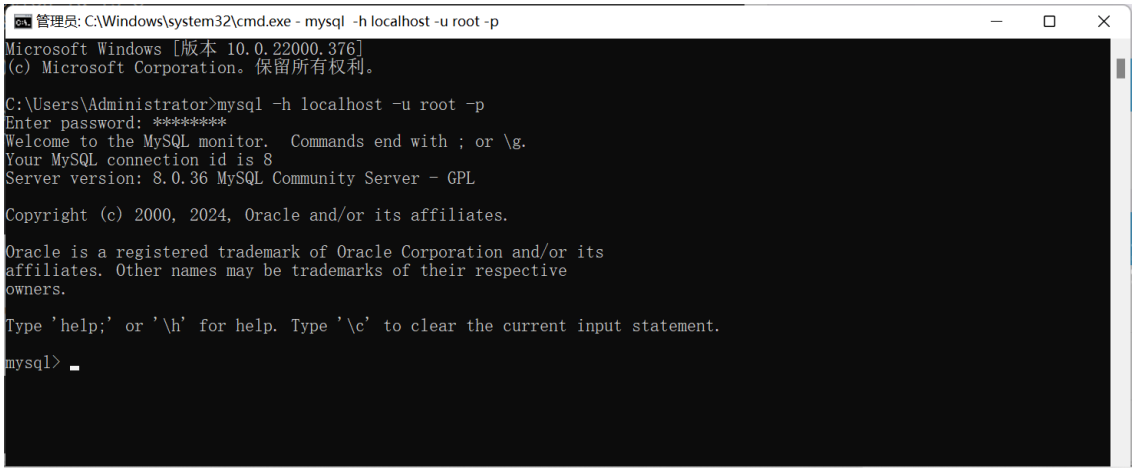
Windows11；

DBMS: MySQL

三、基本操作

0. **下载软件和配置环境变量进行省略，因为忘记截图了qwq，后面可以看到已经完成**

1. **登录：mysql -h localhost -u root -p**



2. **退出：quit;**

```
mysql> quit;
Bye
```

3. **查看日期和版本：SELECT VERSION(), CURRENT_DATE;**

```
mysql> SELECT VERSION(), CURRENT_DATE;
+-----------+--------------+
| VERSION() | CURRENT_DATE |
+-----------+--------------+
| 8.0.36    | 2024-03-08   |
+-----------+--------------+
1 row in set (0.00 sec)
```

4. **用作计算器：SELECT+计算的式子**

```
mysql> SELECT SIN(PI()/4), (2+1)*3+1;
+--------------------+-----------+
| SIN(PI()/4)        | (2+1)*3+1 |
+--------------------+-----------+
| 0.7071067811865476 |        10 |
+--------------------+-----------+
1 row in set (0.01 sec)
```

5. **接受自由格式的输入，直到看见分号才执行**

```
mysql> SELECT
    -> NOW()
    -> ,
    -> USER()
    -> ;
+---------------------+----------------+
| NOW()               | USER()         |
+---------------------+----------------+
| 2024-03-08 14:33:59 | root@localhost |
+---------------------+----------------+
1 row in set (0.00 sec)
```

6. **不想执行某命令，输入\c取消**

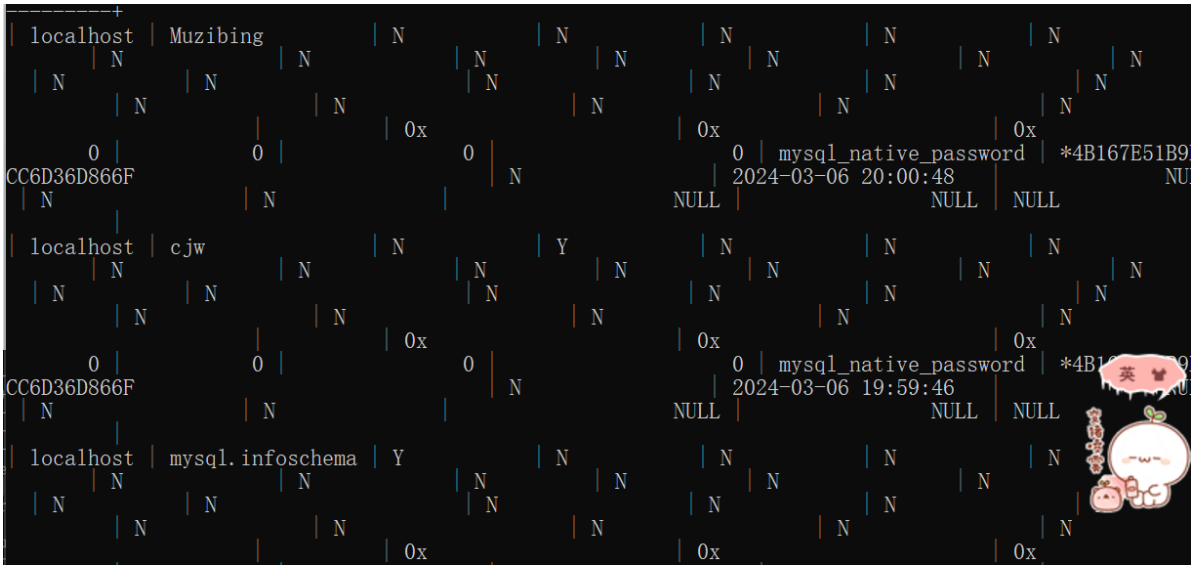
7. **使用SHOW语句找出当前服务器上存在的数据库：SHOW DATABASES;**

```
mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
| test1              |
+--------------------+
5 rows in set (0.04 sec)
```

8. **访问某个数据库：USE test1;**

```
mysql> USE test1;
Database changed
```

9. **查看数据库用户名和密码：SELECT * FROM mysql.user;**



10. **创建数据库xx：CREATE DATABASE xx;**

```
mysql> CREATE DATABASE test2;
Query OK, 1 row affected (0.01 sec)
```

11. **使用xx这个数据库，让它变成当前数据库：USE xx;**

```
mysql> use test2
Database changed
```

12. **查看有哪些表：SHOW TABLES;**

```
mysql> SHOW TABLES;
Empty set (0.03 sec)
```

13. **创建表格：CREATE TABLE pet(name VARCHAR(20), species VARCHAR(20), sex CHAR(1), birth DATE);**

```
mysql> CREATE TABLE pet(name VARCHAR(20), species VARCHAR(20), sex CHAR(1), birth DATE)
    -> ;
Query OK, 0 rows affected (0.03 sec)
```

14. **查看创建的表：SHOW TABLES;**

```
mysql> SHOW TABLES;
+----------------+
| Tables_in_test2 |
+----------------+
| pet            |
+----------------+
1 row in set (0.00 sec)
```

15. **查看某个表内容：DESCRIBE xx;**

```
mysql> DESCRIBE pet;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| name    | varchar(20) | YES  |     | NULL    |       |
| species | varchar(20) | YES  |     | NULL    |       |
| sex     | char(1)     | YES  |     | NULL    |       |
| birth   | date        | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

16. **插入数据：INSERT INTO xx VALUES('xx','xx');**

```
mysql> INSERT INTO pet
    -> VALUES('baby','dog','f','2004-5-17');
Query OK, 1 row affected (0.02 sec)
```

17. **通过文件插入：先show global variables like 'local_infile'; 再set global local_infine='ON'; 最后重启,通过mysql --local-infile=1 -u root -p登录； 然后LOAD DATA LOCAL INFILE ‘D:/test/pet.txt' INTO TABLE xx LINES TERMINATED BY '\r\n';**
18. **检索信息：SELECT * FROM xx;**

```
mysql> SELECT * FROM pet;
+------+---------+------+------------+
| name | species | sex  | birth      |
+------+---------+------+------------+
| baby | dog     | f    | 2004-05-17 |
| 乐乐 | pig     | m    | 2024-03-10 |
+------+---------+------+------------+
2 rows in set (0.01 sec)
```

19. **修改内容：UPDATE pet SET name='mybaby' where name='baby';**

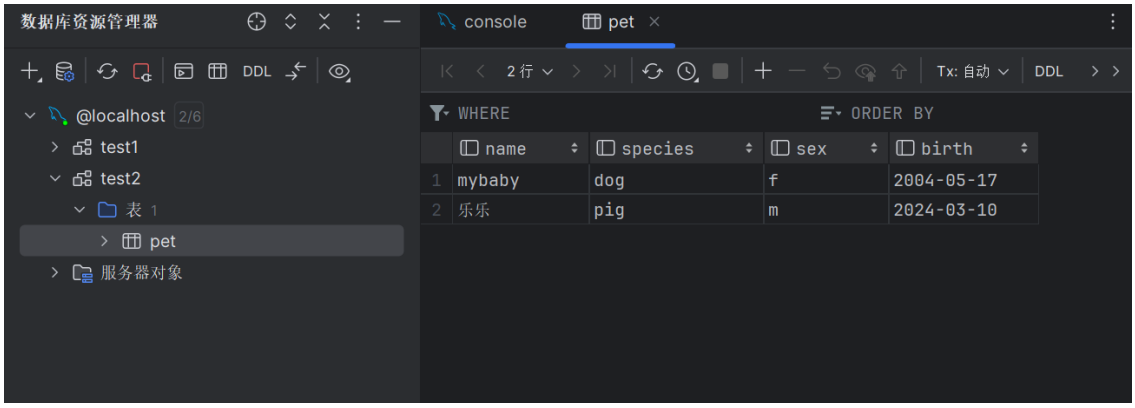
```
mysql> update pet set name='mybaby' where name='baby';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

20. **可以通过AND OR等选择查询的要求，DISTINCT选择不同的**
21. **排序：SELECT name, birth from pet order by birth;**

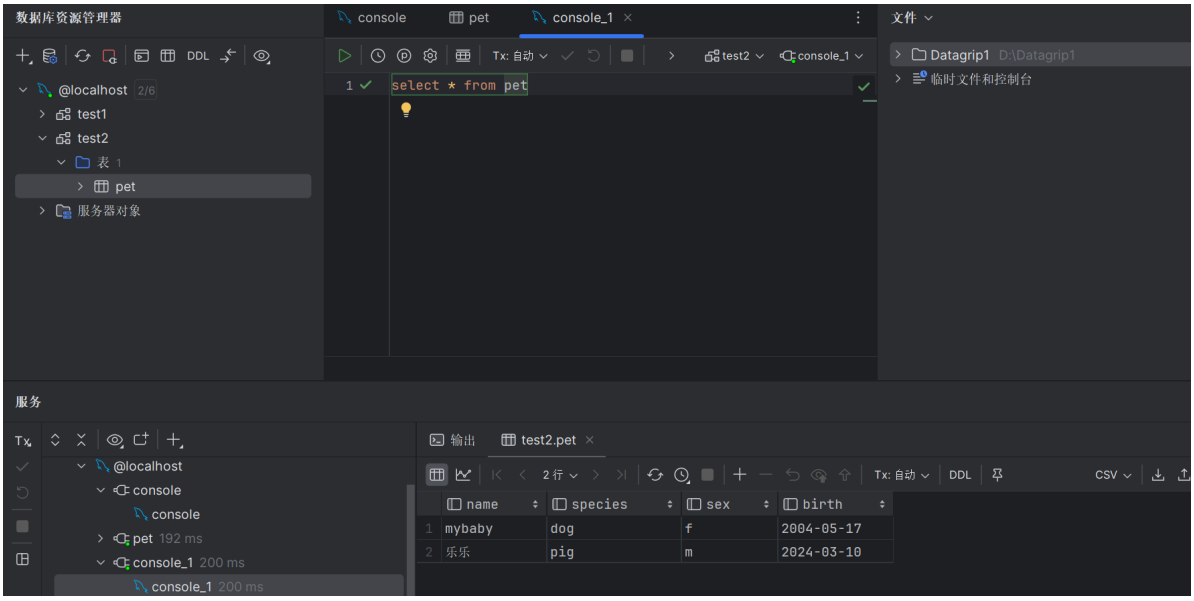
```
mysql> select name, birth from pet order by birth
    -> ;
+--------+------------+
| name   | birth      |
+--------+------------+
| mybaby | 2004-05-17 |
| 乐乐   | 2024-03-10 |
+--------+------------+
2 rows in set (0.00 sec)
```

四、利用Datagrip管理数据库

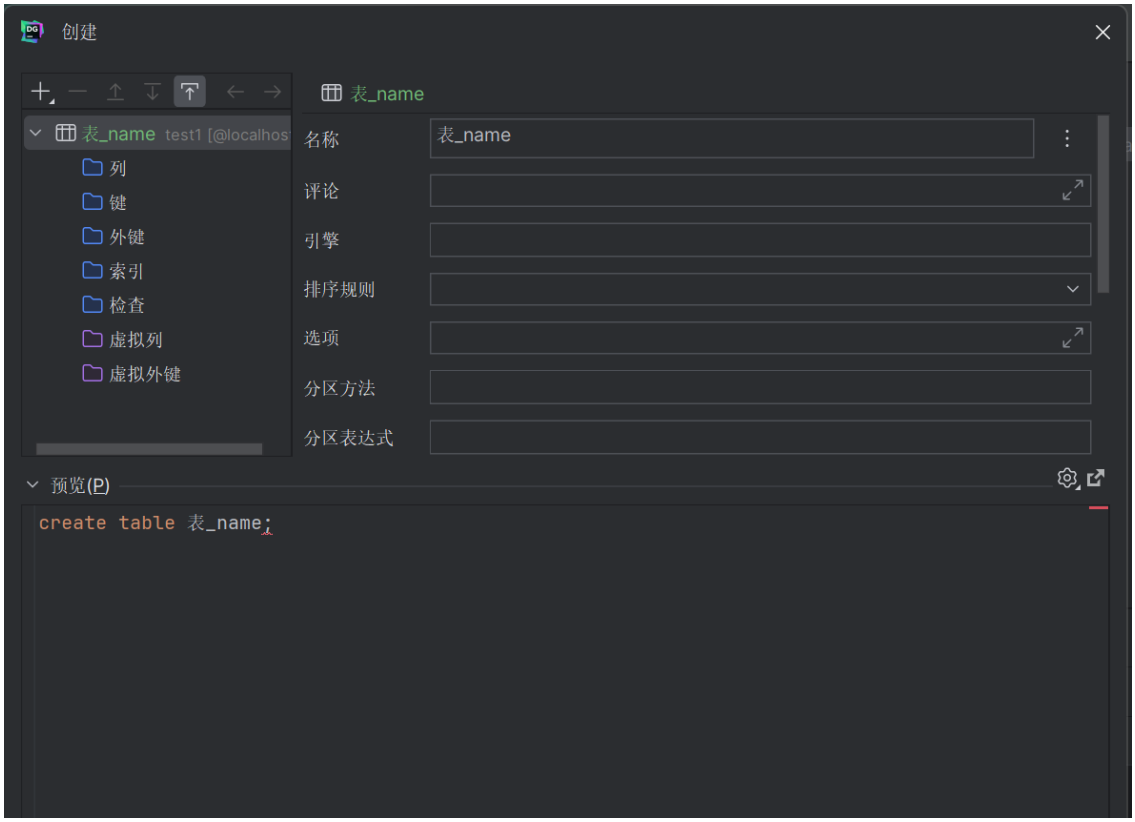
1. **这是利用datagrip打开刚刚创建的表**



2. **利用ctrl+enter快捷键执行语句**



3. **也可以在datagrip里面进行表的创建等操作**



五、总结

本次实验，我阅读了学在浙大上助教gg的文档并在自己的电脑上尝试执行。通过本次实验，我感受到数据库系统的用处非常广泛和设计非常精妙，也熟悉了相关操作。