

lab1：DBMS的安装与使用

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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。

实验平台：

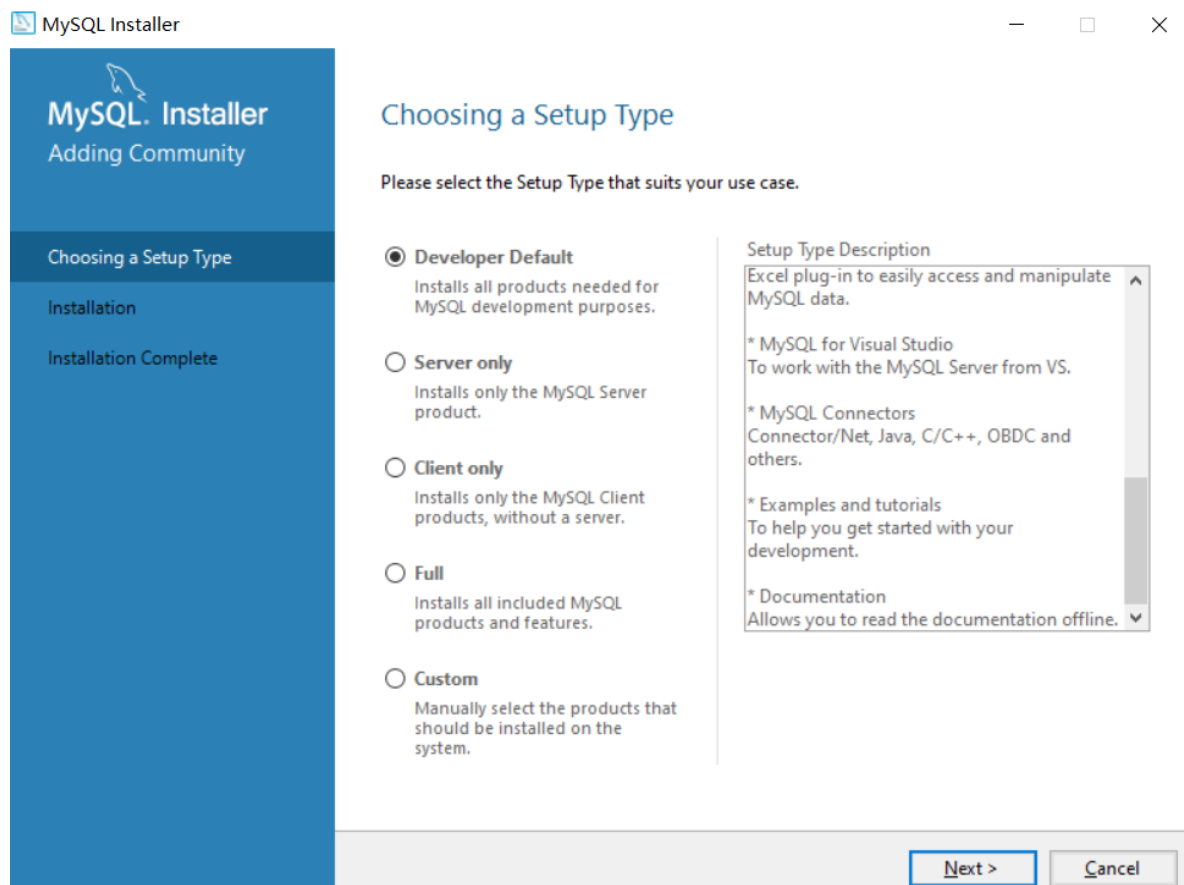
1. 操作系统：Windows 10
2. 数据库管理系统：MySQL

实验内容和要求：

1. 安装DBMS。
 - 在官方网站dev.mysql.com/downloads/mysql/中下载Mysql的安装包，下载安装包花费了较长时间

Windows (x86, 32-bit), MSI Installer	8.0.19	398.9M	Download
(mysql-installer-community-8.0.19.0.msi)		MD5: 1a882015da7fb93f20c4717e63b6817c Signature	

- 安装包下载成功后，解压并安装Mysql



- 安装成功之后设置root密码

Accounts and Roles

Root Account Password

Enter the password for the root account. Please remember to store this password in a secure place.

MySQL Root Password:

Repeat Password:

Password strength: **Weak**

2. 了解DBMS的用户管理。

- 输入root账户的密码之后可以从命令行界面开始使用Mysql

 MySQL 8.0 Command Line Client

```
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 14
Server version: 8.0.19 MySQL Community Server - GPL

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owners.

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

mysql> _
```

3. 熟悉交互界面的基本交互命令。

- 创建测试数据库

```
mysql> CREATE DATABASE test;
Query OK, 1 row affected (0.02 sec)
```

- 使用新建的数据库test并在其中建立一张表格

```
mysql> USE test;
Database changed
mysql> CREATE TABLE test (name VARCHAR(20),value VARCHAR(20));
Query OK, 0 rows affected (0.07 sec)
```

- 在这张表格中插入一条新的数据

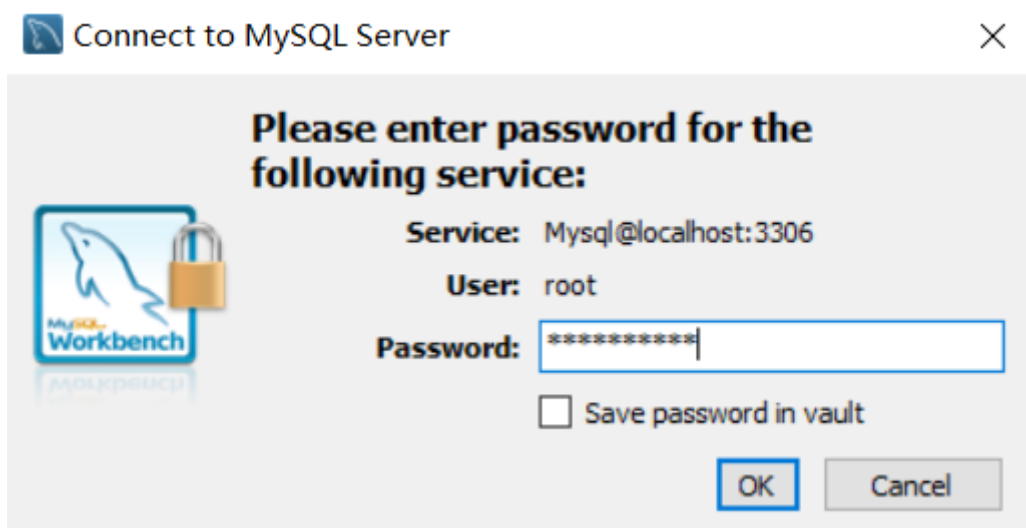
```
mysql> INSERT INTO test VALUES('ZHANG-YiChi','RandomStar');
Query OK, 1 row affected (0.02 sec)
```

- 显示当前数据表中的数据

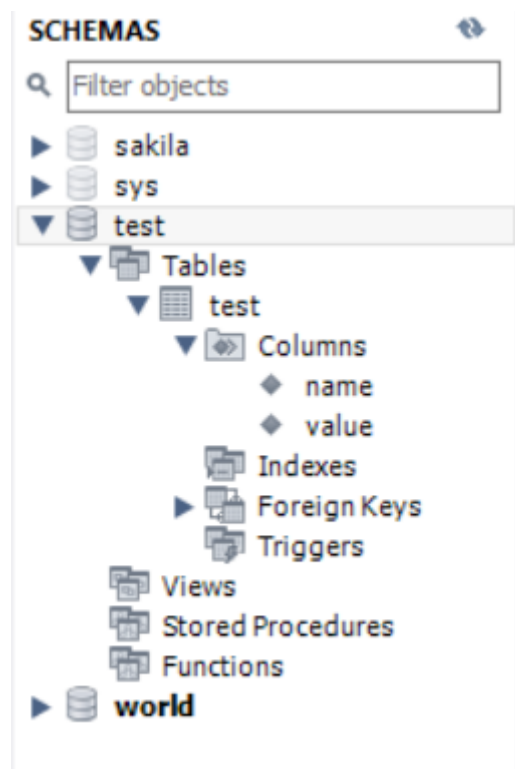
```
mysql> SELECT *FROM test;
+-----+-----+
| name      | value      |
+-----+-----+
| ZHANG-YiChi | RandomStar |
+-----+-----+
1 row in set (0.00 sec)
```

4. 熟悉图形界面的功能和操作。

- 安装Mysql的图形界面管理系统Mysql Workbench（这一步在第一步的下载中已经与Mysql一起安装）
- 登录root账户



- 可以从左侧的Schemas中看到自己建立的数据库和数据表



- 查看数据表的基本信息



Local instance MySQL80

test.test

Table Details

Engine:	InnoDB
Row format:	Dynamic
Column count:	2
Table rows:	1
AVG row length:	16384
Data length:	16.0 KiB
Index length:	0.0 bytes
Max data length:	0.0 bytes
Data free:	0.0 bytes
Table size (estimate):	16.0 KiB
File format:	
Data path:	C:\ProgramData\MySQL\MySQL Server 8.0\Data\test\test.ibd
Update time:	2020-03-05 17:16:52
Create time:	2020-03-05 17:14:44
Auto increment:	
Table collation:	utf8mb4_0900_ai_ci

Info	Columns	Indexes	Triggers	Foreign keys	Partitions	Grants	DDL
Column	Type	Default Value	Nullable	Character Set	Collation	Privileges	
name	varchar(20)		YES	utf8mb4	utf8mb4_0900_...	select,insert,upd	
value	varchar(20)		YES	utf8mb4	utf8mb4_0900_...	select,insert,upd	

- 使用Workbench对刚才新建的test数据库和数据表的操作，编写SQL脚本并运行，可以看到成功查询到了表中数据

The screenshot shows a database management tool interface. At the top, a SQL query is entered: `SELECT *FROM test.test`. Below the query, a table displays the results:

name	value
ZHANG-YiChi	RandomStar

On the right side, there are buttons for 'Result Grid', 'Form Editor', and 'Field Types'. At the bottom, an 'Output' section shows the execution details:

#	Time	Action	Message
1	17:37:43	SELECT *FROM test.test LIMIT 0, 1000	1 row(s) returned

5. 了解基本的DBMS管理功能和操作。

- 重新复习了lecture PPT中关于DBMS的相关知识
- 了解官方文档<https://dev.mysql.com/doc/refman/5.7/en/>的存在并进行阅读

6. 熟悉在线帮助系统的使用。

- 仔细阅读了<https://dev.mysql.com/doc/refman/5.7/en/>中的说明文档，知道了如何在遇到困难时查阅官方文档来解决问题

MySQL 5.7 Reference Manual

version 5.7

Including MySQL NDB Cluster 7.5 and NDB Cluster 7.6

Abstract

This is the MySQL™ Reference Manual. It documents MySQL 5.7 through 5.7.30, as well as NDB Cluster releases based on version 7.5 of [MySQL](#) through 5.7.29-ndb-7.5.17, respectively. It may include documentation of features of MySQL versions that have not yet been released. For information about which versions have been released, see the [MySQL 5.7 Release Notes](#).

MySQL 5.7 features. This manual describes features that are not included in every edition of MySQL 5.7; such features may not be included in the edition of MySQL 5.7 licensed to you. If you have any questions about the features included in your edition of MySQL 5.7, refer to your MySQL 5.7 license agreement or contact your Oracle sales representative.

For notes detailing the changes in each release, see the [MySQL 5.7 Release Notes](#).

For legal information, including licensing information, see the [Preface and Legal Notices](#).

For help with using MySQL, please visit the [MySQL Forums](#), where you can discuss your issues with other MySQL users.

Document generated on: 2020-03-05 (revision: 65228)