Lab 7 MySQL安装以及简单数据库操作

实验目的

- 1) 学习在 windows 环境中安装 MySql 数据库
- 2) 根据需求建立满足三个范式的数据库表
- 3) 学习 INSERT, DELETE, UPDATE, SELECT 等几中常用的 SQL 命令及用法

实验任务

安装 MySQL 数据库,并且按照需求建立数据库表,使用 SQL 语句进行表 内容的增、删、修改 和查询

实验环境

- 操作系统: Windows xp 或以上
- 数据库: MySQL Community Server5.0 或以上

实验检查

将所有 sql 语句导出到 txt 文件并且上传到 <u>10.132.141.33</u> 用户名: 学号 密码 java

实验步骤

1 试验工具的安装

1) MySQL 的安装及配置,从 ftp:/classes/07/072 Web 应用基础 II//software 上下载相应的安装文件,按照如下步骤安装 MySQL 数据库

2)点击 NEXT 按钮



3) 选择安装类型为"Typical", 点击"Next" 按钮

🙀 MySQL Serve	r 5.0 - Setup Wizard			×
Setup Type Choose the se	etup type that best suits	your needs.		0
Please select	a setup type.			
• Typical	Common program feati general use.	ures will be installed	d. Recommended fo	r
C <u>C</u> omplet	e All program features w space.)	ill be installed. (Red	quires the most disk	
C Cu <u>s</u> tom	Choose which program will be installed. Recom	features you wan mended for advan	t installed and wher ced users.	e they
		< <u>B</u> ack	Next >	Cancel

4) 点击"Install" 按钮进行安装

MySQL Server 5.0 - Setup Wizard		ļ
Ready to Install the Program The wizard is ready to begin installation		
If you want to review or change any of exit the wizard. Current Settings:	your installation settings, click Back. Click Cancel to	
Setup Type:		
Typical		
Destination Folder:		
C:\Program Files\MySQL\MySQL Set	rver 5.0\	
	< <u>B</u> ack <u>Install</u> Cancel	

5) 点击几次"Next"按钮后, 到类似下图的步骤, 选中"Configure the MySQL

Server now",然后点击"Finish",按钮进行 MySQL 的配置



6) 选择 "Detailed Configuration", 点击 "Next" 按钮

MySQL Server Instance Configuration Wizard	×
MySQL Server Instance Configuration	
Configure the MySQL Server 5.0 server instance.	
Please select a configuration type.	
Detailed Configuration	
Choose this configuration type to create the optimal server setup fo this machine.	
C Standard Configuration	
Use this only on machines that do not already have a MySQL server installation. This will use a general purpose configuration for the server that can be tuned manually.	
< Back Next > 0	Cancel

7) 由于我们安装 MySQL 是为了做实验和项目,所以选择"Developer

Machine", 点击"Next" 按钮



8) 由于我们安装 MySQL 没有特殊的要求,所以选择"Multifunction

Database",点击"Next" 按钮

MySQL Server In	stance Configuration Wizard	×
MySQL Server Configure the I	Instance Configuration MySQL Server 5.0 server instance.	
Please select t	ne database usage.	
Multifunct	tional Database	
	General purpose databases. This will optimize the server for the use of the fast transactional InnoDB storage engine and the high speed MyISAM storage engine.	
C Transacti	onal Database Only	
	Optimized for application servers and transactional web applications. This will make InnoDB the main storage engine. Note that the MyISAM engine can still be used.	
O Non-Trans	sactional Database Only	
2	Suited for simple web applications, monitoring or logging applications as well as analysis programs. Only the non-transactional MyISAM storage engine will be activated.	
	< Back Next > Cancel	

9) 选择数据库文件的存放文件夹位置,这个可以根据需要自行设定。设定后点

击"Next"按钮

IySQL Server Instance Configuration Wizard	X
MySQL Server Instance Configuration Configure the MySQL Server 5.0 server instance.	
Please select the drive for the InnoDB datafile, if you do not want to use the default s InnoDB Tablespace Settings Please choose the drive and directory where the InnoDB tablespace should be placed. C: MySQL Datafiles C: InnoDE Info Volume Name: C File System: NTFS Intervention 14.6 GB Diskspace Used 4.9 GB Free Diskspace	ettings.
< Back Next > Ca	ancel

10) 下面是并发设置,按照默认设置选择"Decision Support (DSS) / OLAP"

即可,点击"Next 按钮

ySQL Server In	Istance Configuration Wizard
MySQL Server Configure the	Instance Configuration Image: Configuration MySQL Server 5.0 server instance. Image: Configuration
Please set the	approximate number of concurrent connections to the server.
• Decision	Support (DSS)/OLAP
2	Select this option for database applications that will not require a high number of concurrent connections. A number of 20 connections will be assumed.
C Online Tr	ansaction Processing (OLTP)
8	Choose this option for highly concurrent applications that may have at any one time up to 500 active connections such as heavily loaded web servers.
C Manual S	etting
32	Please enter the approximate number of concurrent connections.
	Concurrent connections: 15
	< Back Next > Cancel

11) 下一步进行网络设置,选中"Enable TCP/IP Networking",端口号选用 默认的 3306 即可,选中"Add firewall exception for this port"复选框;选

中"Enable Strict Mode"点击"Next"按钮

ySQL Server Instance Configuration Wizard	<
MySQL Server Instance Configuration Configure the MySQL Server 5.0 server instance.	
Please set the networking options.	
✓ Enable TCP/IP Networking	
Enable this to allow TCP/IP connections. When disabled, only local connections through named pipes are allowed.	
Port Number: 3306 Add firewall exception for this port	
Please set the server SQL mode.	
✓ Enable Strict Mode	
This option forces the server to behave more like a traditional database server. It is recommended to enable this option.	
< Back Next > Cancel	

12) 下一步选择默认编码,由于我们的学习中经常会运用到中文,为了方便中文的处理和实现,在这一步中选择"Best Support For Multilingualism",这个选项使用 UTF8 编码, UTF8 编码支持几乎所有语言的编码。点击"Next"按钮

MySQL Server Ins	tance Configurat	tion Wizard		×
MySQL Server	Instance Configu	ration		
Configure the M	1ySQL Server 5.0 se	erver instance.		
Please select th	e default character	set.		
C Standard	Character Set			
Hello!	Makes Latin 1 the d English and other \	lefault charset. Th West European lan	is character set is suited fi guages.	or
Best Supp	ort For Multilingu	alism		
	Make UTF8 the det character set for s	fault character set toring text in many	. This is the recommended y different languages.	I
C Manual Se	lected Default Ch	haracter Set / C	ollation	
(?)	Please specify the	character set to u	se.	
	Character Set:	latin 1	-	
		< Back	Next >	Cancel

13) 下一步设置 Windows 选项,选中"Install As Windows Service",设置 服务名称为"MySQL"。如果需要在开机是自动启动 MySQL,则勾选"Launch 他和 MySql Server automatically"。选中"Include Bin Directory in Windows PATH",使得 MySQL 的路径添加到 Windows 路径

MySQL Server Ins	tance Configuration Wizard
MySQL Server I Configure the M	Instance Configuration IySQL Server 5.0 server instance.
Please set the V	Nindows options.
🔽 Install As	Windows Service This is the recommended way to run the MySQL server
Cont	on Windows.
	Service Name: MySQL Launch the MySQL Server automatically
🔽 Include Bir	Directory in Windows PATH
MySQLs	Check this option to include the directory containing the server / dient executables in the Windows PATH variable so they can be called from the command line.
	< Back Next > Cancel

14) 下一步,先选中"Modify Security Setting"设定用户(root)密码, MySQL 中的 root 帐户相当于超级用户。为了系统安全,不用选中"Enable root access from remote machines"复选框。不用选中"Create An Anonymous Account" 创建匿名账号。设定完毕后,点击"Next"按钮

MySQL Server I	instance Configuration	Wizard		×
MySQL Serve Configure the	er Instance Configuration e MySQL Server 5.0 server	on instance.		\bigcirc
Please set th	e security options.			
Modify S	Security Settings			
	New root password:	*****	Enter the root pass	sword.
root	Confirm:	*****	Retype the passwo	ord.
		🔲 Enable root a	access from remote m	achines
Create Ar	n Anonymous Account			
?	This option will create ar note that this can lead t	n anonymous accour to an insecure system	nt on <mark>t</mark> his server. Plea m.	se
		< Back	Next >	Cancel

15) 以上步骤完成后即可以进行安装,点击 Execute 按钮进行安装

ySQL Server Instance Configuration Wizard	×
MySQL Server Instance Configuration	
Ready to execute	<u></u>
Prepare configuration	
O Write configuration file	
 Start service 	
 Apply security settings 	
Please press [Execute] to start the configuration	tion.
< Back	Execute Cancel

16) 安装完毕后, 界面类似下图, 点击"Finish"按钮完成安装配置

s\MySQL\MySQL Server 5.0\my.in)
ıs\MySQL\MySQL Server 5.0\my.inî)
:s\MySQL\MySQL Server 5.0\my.ini)
ıs\MySQL\MySQL Server 5.0\my.ini)

17) 如果出现安装错误,一般有两个原因

A 系统防火墙或其他安全软件设置问题,导致 MySQL 无法打开相应的端口

B 如果重新安装 MySQL 后,无法配置成功,可以使用 ftp 卸载软件彻底卸

载 mysql 软件

卸载后重新启动电脑后再重装

2 使用 mysql 命令行进行《武侠小说》论坛网站数据库的建立

需求:

《武侠小说》论坛网站有两个讨论区,三个论坛讨论区:流金岁月、萍踪侠影、 影音视频。分别有自己的管理员。论坛网站有一个最终管理员可以管理讨论区管 理员以及注册用户和用户的留言。论坛中的注册用户有 4 个级别分别是:游侠

儿、保镖、太保、江湖中人、盟主。

根据需求建立满足三个范式的关系数据库

使用工具: MySQL Command Line Client

实验步骤:

1) 阅读需求,在并命行中输入如下建表语句建立数据库表

其中 (DEFAULT CHARSET= UTF8 表示当前表的字符集,以方便用户插入

中文数据到相应的表中)

UserLevel 表 (用户的角色级别):

CREATE TABLE bbs.userlevel (ID INTEGER UNSIGNED NOT NULL AUTO_INCREMENT, name VARCHAR(45) NOT NULL DEFAULT ", PRIMARY KEY(ID)) ENGINE = InnoDB, DEFAULT CHARSET=utf8;

User 表 (用户表): (其中 gender 的默认属性 0 代表'男性')

CREATE TABLE bbs.user (ID INTEGER UNSIGNED NOT NULL AUTO_INCREMENT, username VARCHAR(45) NOT NULL DEFAULT ", psw VARCHAR(45) NOT NULL DEFAULT ", realname VARCHAR(45) NOT NULL DEFAULT ", gender INTEGER UNSIGNED NOT NULL DEFAULT o, level INTEGER UNSIGNED NOT NULL, PRIMARY KEY(ID),

CONSTRAINT FK_user_userlevel FOREIGN KEY FK_user_userlevel(level) REFERENCES userlevel (ID) ON DELETE RESTRICT ON UPDATE RESTRICT

DEFAULT CHARSET=utf8;

Modular 表 (论坛讨论区):

CREATE TABLE bbs.modular (ID INTEGER UNSIGNED NOT NULL AUTO_INCREMENT, userID INTEGER UNSIGNED NOT NULL , name VARCHAR(45) NOT NULL DEFAULT ", PRIMARY KEY(ID), CONSTRAINT FK_modular_user FOREIGN KEY FK_modular_user (userID) REFERENCES user (ID) ON DELETE RESTRICT ON UPDATE RESTRICT) ENGINE = InnoDB, DEFAULT CHARSET=utf8;

Message 表 (用户留言):

CREATE TABLE bbs.message (ID INTEGER UNSIGNED NOT NULL AUTO_INCREMENT, content VARCHAR(500) NOT NULL DEFAULT ", userID INTEGER UNSIGNED NOT NULL DEFAULT O, modularID INTEGER UNSIGNED NOT NULL DEFAULT O, PRIMARY KEY(ID), CONSTRAINT FK_message_user FOREIGN KEY FK_message_user (userID) **REFERENCES user (ID)** ON DELETE RESTRICT ON UPDATE RESTRICT, CONSTRAINT FK_message_modular FOREIGN KEY FK_message_modular (modularID) **REFERENCES** modular (ID) ON DELETE RESTRICT ON UPDATE RESTRICT ENGINE = InnoDB, DEFAULT CHARSET=utf8;

2) 在数据库中插入以下数据

UserLevel 表数据

ID	Name
1	管理员
2	论坛管理员
3	盟主
4	太保
5	保镖
6	江湖中人
7	游侠儿

User 表数据

ID Username	Psw	Realname	Gender	Level
-------------	-----	----------	--------	-------

1	Admin	Admin	管理员	0	1
2	Lixuan	Lx	李璇	1	2
3	Maji	Mj	马计	0	2
4	Luwenhao	Lwh	陆文豪	0	2
5	User1	1	用户 1	1	3
6	User2	1	用户 2	1	3
7	User3	1	用户 3	0	4
8	User4	1	用户 4	0	5
9	User5	1	用户 5	1	7

Modular 表数据

ID	Name	userID
1	流金岁月	2
2	萍踪侠影	3
3	影音视频	4

Message 表数据

ID	Content	UserID	ModularID
1	大家好我是用户1	5	1
2	不知道大家最近都	5	2

在干什么 2 3 人好少啊 6 7 3 4 论坛怎么下载视频 啊 5 挖坑 8 2

3)按照要求写 SQL 语句

- a 查询'萍踪侠影'讨论区的所有留言
- b 查询 '用户 1'的所有留言
- c 查询'用户 1'在'流金岁月'讨论区的所有留言
- d 查询 '影音视频'讨论区管理员的姓名

- e 更新'用户3'的 realname 为自己的姓名

f 更新'用户 4'的密码为自己的学号

g删除'用户5'的所有信息

使用 mysqldump 导出数据库

命令行格式下进入到 mysql 安装文件夹

如 D:\Program Files\MySQL\MySQL Server 5.0\bin

- default-character-set=utf8 [数据库名称] > 路径名+文件名.sql

使用 mysqldump.exe -u [用户名] -p -c -add-drop-table

mysqldump.exe – u root – p – c – add-drop-table

4) 导出数据库 schema 和数据

如

- default-character-set=utf8 test > d:test.sql

将数据库 test 的 schema 以及表中的数据导入到 d 盘下 test.sql 文件中

5) 提交.sql 文件