MySQL Server 5.0 Demo Scenario

by Artem Chebotko

1. Installing and configuring MySQL Server 5.0

Go to http://www.mysql.com/, download and install MySQL Community Server 5.0 (e.g., Windows Essentials (x86)):

- Follow the Complete Type installation
- Select to configure the MySQL Server
  - Select detailed configuration
  - Carefully read descriptions for all the options and leave them all as defaults, except for:
    - Select *Include Bin Directory in Windows PATH*
    - Do not select *Modify Security Settings*

2. Using the MySQL client to execute SQL statements

Open a command line tool and start the MySQL client with the command *mysql –u root*. The client will prompt:

```
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 1
Server version: 5.0.67-community-nt MySQL Community Edition (GPL)
Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

Mysql>
```

Enter the following SQL statements one by one (letter case is not important) and understand the result of their execution:

```
- SHOW DATABASES;
- CREATE DATABASE CSCI4333;
- SHOW DATABASES;
- USE CSCI4333;
- SHOW TABLES;
- CREATE TABLE Student (id INT PRIMARY KEY, name VARCHAR(30) NOT NULL, age INT);
- SHOW TABLES;
- DESCRIBE Student;
- SELECT * FROM Student;
- INSERT INTO Student VALUES (1,'Edgar Codd', 20);
- SELECT * FROM Student;
- INSERT INTO Student (age, name, id) VALUES (21,'Jim Gray', 2);
- SELECT * FROM Student;
- INSERT INTO Student (name, id) VALUES ('John Smith', 3);
- SELECT * FROM Student;
- INSERT INTO Student VALUES (1,'Lily Smith', 28);
- SELECT * FROM Student;
- -- try to insert other tuples that violate integrity constraints
- DELETE FROM Student WHERE age IS NULL;
- SELECT * FROM Student;
- UPDATE Student SET age = 79 WHERE name = 'Edgar Codd';
- SELECT * FROM Student;
- UPDATE Student SET age = NULL WHERE id = 1;
- SELECT * FROM Student;
- BEGIN; -- starts transaction
- INSERT INTO Student VALUES (100,'ABC', 100);
- INSERT INTO Student VALUES (200,'ABC', 100);
- SELECT * FROM Student;
- ROLLBACK; -- ends transaction; also, try COMMIT
- SELECT * FROM Student;
- try other SQL statements that we studied (e.g., GRANT)
- QUIT;
```

3. Executing an SQL script
Using a text editor, create file *sample.sql* on disk *C:* with the following content:

```
USE CSCI4333;

CREATE TABLE Grade (code CHAR(1) PRIMARY KEY, description VARCHAR(50));

INSERT INTO Grade VALUES ('A','Excellent');
INSERT INTO Grade VALUES ('B','Good');

SELECT * FROM Grade;
```

Open a command line tool and execute the SQL script with the command *mysql –u root <c:/sample.sql*. Check that SQL statements have been executed.

4. Exploring the physical data level of DBMS MySQL Server 5.0
Go to the folder *c:\Program Files\MySQL\MySQL Server 5.0* using your favorite file manager software.
In the *bin* folder, find various utilities to work with the DBMS, including *mysql.exe*.
In the *data* folder, find the database *csci4333* and tables *Student* and *Grade*.

5. Exploring the system catalog
Open a command line tool and start MySQL client with the command *mysql –u root*.
Explore database *information_schema* (use statements `SHOW`, `USE`, `DESCRIBE`, and `SELECT`). Find information about tables *Student* and *Grade* and their columns in the *information_schema* database.