

CSCD 327 Lab #1 (18 points)

Due: Jan 15, 2014 before class

Section 1 - Basic Concepts:

1. (2 points)
 - a. Explain the following terms in the context of the relational data model.
 - Relation
 - Attribute
 - Domain
 - Tuple
 - Degree
 - Cardinality
 - b. Use Employee-Department database from Appendix 1 (at the end of this handout) to provide examples of each term.
2. (2 points)
 - a. Explain the following terms in the context of the relational data model.
 - Candidate Key
 - Primary Key
 - Foreign Key
 - b. Use the Employee-Department database from Appendix 1 to provide examples of each term.

Section 2 - Warm-up Exercise:

You can either use phpMyAdmin or Toad for MySQL to do the exercises. Note that to access the server off-campus, you need to access it via Eastern VPN network.

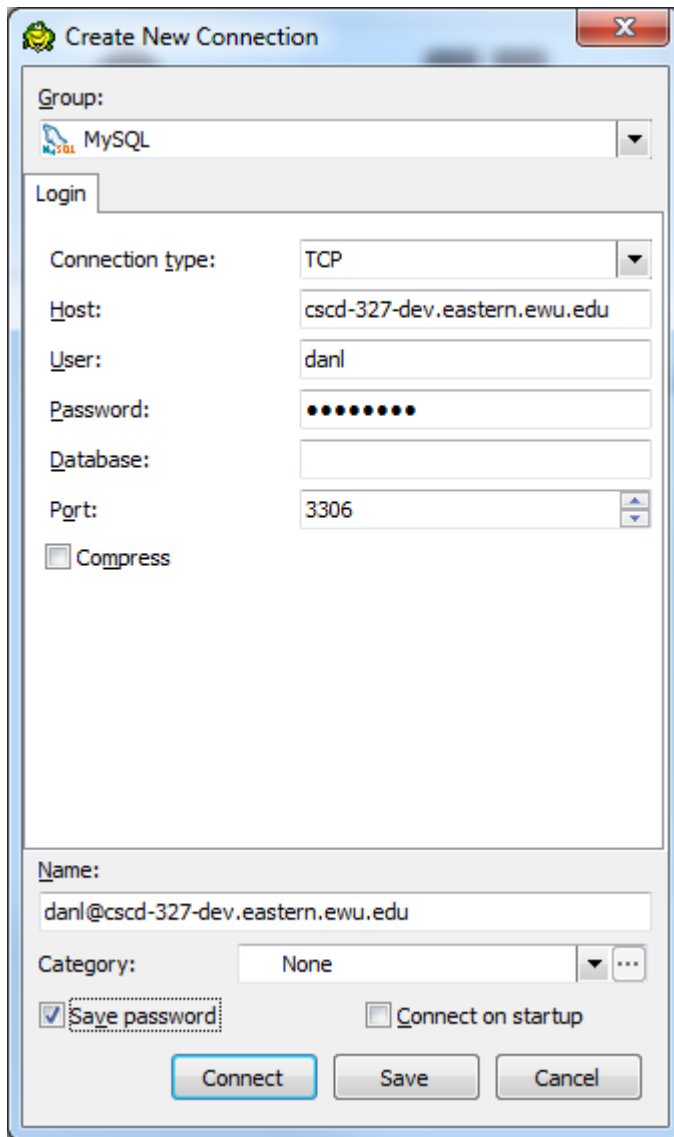
DB/Application Server: cscd-327-dev.eastern.ewu.edu

DB Username: w1401YourLastName or w1402YourLastName

DB Password: 1234

[Option 1] phpmyadmin URL: <http://cscd-327-dev.eastern.ewu.edu/phpmyadmin> or <https://cscd-327-dev.eastern.ewu.edu/phpmyadmin>

[Option 2] Open up Toad for MySQL. Click “create new connection” button, and fill in the following form with ***your*** username and password. You may want to save the connection for future use.



No matter which tool you would like to use, the first thing you want to do is to change your password. In SQL editor, enter the following statement to re-set your password:

set password = PASSWORD('new_password');

Now, create your first database named as *YourUsername_DDL*:

create database *YourUsername_DDL*;

After creating the database, type “**use *YourUsername_DDL***” to use this database.

3. (2 points) Use appropriate DDL to create a new table containing the category code and description for the categories of books sold by a bookstore. The table should be called *CATEGORY*, and the columns should be *CatCode* and *CatDesc*. The *CatCode*

column should store a maximum of 2 characters, and the *CatDesc* column should store a maximum of 10 characters. **(Include your DDL statements in your submission.)**

4. (2 points) Use appropriate DDL to create a new table containing these four columns: *Emp_num*, *Lastname*, *Firstname*, and *Job_class*. The table name should be *EMPLOYEES*. The *Job_class* column should be able to store character strings up to a maximum length of four. The *Emp_num* column contains a numeric ID and should allow a five-digit number. Use column sizes you consider suitable for the *Firstname* and *Lastname* columns. **(Include your DDL statements in your submission.)**
5. (1 point) Use appropriate DDL to add two columns to the *EMPLOYEES* table. One column, named *EmpDate*, contains the date of employment for each employee. The second column, named *EndDate*, contains employees' date of termination. **(Include your DDL statements in your submission.)**
6. (1 point) Use appropriate DDL to modify the *Job_class* column of the *EMPLOYEES* table so that it allows storing a maximum width of two characters. **(Include your DDL statements in your submission.)**
7. (1 point) Use appropriate DDL to delete the *EndDate* column from the *EMPLOYEES* table. **(Include your DDL statements in your submission.)**
8. (1 point) Use appropriate DDL to rename the *EMPLOYEES* table as *JL_EMPS*. **(Include your DDL statements in your submission.)**

Section 3 – More Exercises:

Create a new database named as *YourUsername_1*:

create database *YourUsername_1*;

9. (4 points) Use appropriate DDL to create two new tables *EMP* and *DEPT*. Please make sure to choose appropriate data type for each attribute. **(Include your DDL statements in your submission.)**
10. (1 point) Now you are ready to add new tuples into your tables.
 - a. Insert all 14 tuples listed in Appendix 1 into *EMP* table.
 - b. Insert all 4 tuples listed in Appendix 1 into *DEPT* table.

Section 4 – Get Ready for Future:

11. (1 point) Let's create three more databases and tables for future use. Name these three databases as *YourUsername_2*, *YourUsername_3*, and *YourUsername_4*. Now import three databases from the script files posted on Canvas:
 - a. Select database ***YourUsername_2***, import ***database2.sql*** file. **Five** tables will be added to your *YourUsername_2* database (If you are using Toad, you can

copy the content of the script file, paste it into SQL editor, and then execute the script).

- b. Select database ***YourUsername_3***, import ***database3.sql*** file. **Eight** tables will be added to your *YourUsername_3* database.
- c. Select database ***YourUsername_4***, import ***database4.sql*** file. **11** tables will be added to your *YourUsername_4* database.

Appendix 1

Employee - Department Database

EMP

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	1980-12-17	800		20
7499	ALLEN	SALESMAN	7698	1981-02-20	1600	300	30
7521	WARD	SALESMAN	7698	1981-02-22	1250	500	30
7566	JONES	MANAGER	7839	1981-04-02	2975		20
7654	MARTIN	SALESMAN	7698	1981-09-28	1250	1400	30
7698	BLAKE	MANAGER	7839	1981-05-01	2850		30
7782	CLARK	MANAGER	7839	1981-06-09	2450		10
7788	SCOTT	ANALYST	7566	1982-12-09	3000		20
7839	KING	PRESIDENT		1981-11-17	5000		10
7844	TURNER	SALESMAN	7698	1981-09-08	1500	0	30
7876	ADAMS	CLERK	7788	1983-01-12	1100		20
7900	JAMES	CLERK	7698	1981-12-03	950		30
7902	FORD	ANALYST	7566	1981-12-03	3000		20
7934	MILLER	CLERK	7782	1982-01-23	1300		10

DEPT

DEPTNO	DNAME	LOC
10	ACCOUNTING	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIONS	BOSTON