College of Information Technology and Computer Science

SQL Individual Lab Activity No. 2

ICS 5 Lab - Section 2a – 5:30 – 6:45 MWF

Creating Database Tables

Objectives:

- To demonstrate how to access a database and create tables following a data dictionary
- To demonstrate how to create a database backup

Activity:

1. Open the Xampp Control Panel and start the MySQL module.
2. Open Windows Command Prompt and access the MySQL Database using the root account.
3. Once inside MySQL prompt, create a database and name it BUS_DB_*TerminalNo*
   Note: *TerminalNo* is the terminal number of the computer you are using. Refer to Activity No.1 on how to create a database.
4. Grant all privileges to the database you have just created in item no.3 to the user account you have created in Activity #1. Enter **GRANT ALL PRIVILEGES ON BUS_DB_*TerminalNo*.* TO 'foo-2a2t1718'@'localhost' IDENTIFIED BY 'foo123';**
5. Exit MySQL. You should be in C:\xampp\mysql\bin\.
6. Login to the user account you have created in activity no. 1 by typing **mysql –u foo-2a2t1718 –p** and press enter.
7. Enter the password and press enter.
8. You are now again inside the MySQL with the **foo-2a2t1718** account. Access the database you have created in no.3. by typing **USE BUS_DB_*TerminalNo*;**
   Note: Always enter first the USE <database_name> command to access a database.

   Below is the Data Dictionary for the tables that you will create for the BUS database. Use it as your reference for nos. 9 and 10.

BUS TRIP MONITORING SYSTEM
DATA DICTIONARY

Table Name	Column	Description	Data Type and Length	Required	PK or FK
PASSENGER	PASSENGER_ID	Passenger's ID number	VARCHAR(10)	YES	PK
	PASSENGER_FNAME	Passenger's First Name	VARCHAR(20)	YES	N/A
	PASSENGER_LNAME	Passenger's Last Name	VARCHAR(20)	YES	N/A
	PASSENGER_BDATE	Passenger's Birth Date	DATE	YES	N/A
	PASSENGER_ADDRESS_NO_STREET	Passenger's Street/ House No.	VARCHAR(10)	YES	N/A
	PASSENGER_ADDRESS_CITY_MUN	Passenger's City or Municipality	VARCHAR(15)	YES	N/A
	PASSENGER_ADDRESS_PROVINCE	Passenger's Province	VARCHAR(15)	YES	N/A
	PASSENGER_ADDRESS_ZIP	Passenger's Zip Code	VARCHAR(4)	YES	N/A
	PASSENGER_CONTACT_NO	Passenger's Contact Number	VARCHAR(15)	YES	N/A

BUS	BUS_NO	Bus' identification number	INT(5)	YES	PK
	BUS_MAKE	Bus' type and model	VARCHAR(20)	YES	N/A
	BUS_PLATE_NO	Bus' plate number	VARCHAR(8)	YES	N/A
	BUS_CAP	Bus' seating capacity	INT(2)	YES	N/A
	BUS_ACQ	Bus' acquisition date	DATE	YES	N/A
DRIVER	DRIVER_ID	Driver's ID number	INT(6)	YES	PK
	DRIVER_FNAME	Driver's First Name	VARCHAR(20)	YES	N/A
	DRIVER_LNAME	Driver's Last Name	VARCHAR(20)	YES	N/A
	DRIVER_BDATE	Driver's Birthdate	DATE	YES	N/A
ROUTE	ROUTE_NO	Route's number	INT(3)	YES	PK
	ROUTE_FROM_TO	Route's Origin and Destination	VARCHAR(40)	YES	N/A
	ROUTE_SCHEDULE	Route's Trip Schedule	DATE	YES	N/A

9. Create the first table named PASSENGER by using the CREATE TABLE command. Follow the format below:

```
mysql>CREATE TABLE PASSENGER (
          PASSENGER_ID VARCHAR(10) NOT NULL,
          PASSENGER_FNAME VARCHAR(20) NOT NULL,
          PASSENGER_LNAME VARCHAR(20) NOT NULL,
          PASSENGER_BDATE DATE NOT NULL,
          PASSENGER_ADDRESS_NO_STREET VARCHAR(10) NOT NULL,
          PASSENGER_ADDRESS_CITY_MUN VARCHAR(15) NOT NULL,
          PASSENGER_ADDRESS_PROVINCE VARCHAR(15) NOT NULL,
          PASSENGER_ADDRESS_ZIP VARCHAR(4) NOT NULL,
          PASSENGER_CONTACT_NO VARCHAR(15) NOT NULL,
          PRIMARY KEY (PASSENGER_ID));
```

Notice on the last line of the code that when you create the PASSENGER table, you are assigning a column as the primary key:

```
          PRIMARY KEY (PASSENGER_ID));
```

Also notice that the NOT NULL constraint is used to ensure that all the columns does not accept nulls.

10. Create the BUS, DRIVER and ROUTE tables by following the CREATE TABLE command format in no.9.
11. While inside MySQL, type the command `SHOW TABLES;` This command is will list all the tables that you have created inside the database. Use this method to check if you have created all the tables needed.
12. Exit from mysql and make sure you are in C:\xampp\mysql\bin.
13. Save a backup of your database in Drive Z by typing **mysqldump –u foo-2a2t1718 –p BUS_DB_*TerminalNo* > Z:\LastName_FirstName_Act2.sql**
14. Enter the password when prompted.
15. Check your drive Z to verify if you have successfully saved a backup of your database.