



**Green University of Bangladesh**  
**Department of Computer Science and Engineering(CSE)**  
**Faculty of Sciences and Engineering**  
**Semester: (Spring, Year:2021), B.Sc. in CSE (Day)**

**LAB REPORT NO: 01 & 02**

**Course Title** : Database Lab  
**Course Code** : CSE 210  
**Section** : 221\_D9

**Experiment Name** : Introduction to Database and MySQL  
& Managing MySQL Databases and Tables in MySQL

**Student Details**

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[For Teachers use only: **Don't Write Anything inside this box**]

<b><u>Lab Report Status</u></b>	
<b>Marks:</b> .....	<b>Signature:</b> .....
<b>Comments:</b> .....	<b>Date:</b> .....

## **1. TITLE OF THE LAB EXPERIMENT [1]**

### **Introduction to Database and MySQL & Managing MySQL Databases and Tables in MySQL**

## **2. OBJECTIVES/AIM [1]**

The objective of this lab experiment is to design and implement a relational database system using a database management system (DBMS). The aim is to understand the process of database design, including entity-relationship modeling, normalization, and schema creation, and to implement the designed database system to store and manipulate data efficiently.

## **3. PROCEDURE / ANALYSIS / DESIGN [2]**

The procedure for creating and inserting information into a MySQL database involves the following steps:

1. Database Creation:
  - a. Launch the MySQL command-line interface or any MySQL client tool (e.g., MySQL Workbench).
  - b. Connect to the MySQL server using appropriate credentials.
2. Table Creation:
  - a. Use the USE command to select the newly created database.
  - b. Define the structure of the tables using the CREATE TABLE command, specifying the table name and column details (e.g., data types, constraints).
3. Data Insertion:
  - a. Use the INSERT INTO command to insert data into the tables, specifying the table name and column values.
  - b. Repeat the INSERT INTO command for each tuple (row) of data to be inserted into the table.

## **4. IMPLEMENTATION [2]**

We used XAMPP, which includes MySQL and phpMyAdmin, to create our database offline. With phpMyAdmin, we easily created tables, added data, and ran queries. XAMPP made the process simple and convenient.

## 5. TEST RESULT / OUTPUT [2]

The test results and output of the implemented database system were as follows:

- Successful creation of database tables without errors.
- Proper insertion of sample data into the tables.
- Successful execution of SQL queries to retrieve and manipulate data.

The Outputs are given through snapshot from the following page.

The Database name is : exp01\_lab\_report

It has 5 tables named **alumni**, **Canteen**, **student**, **teacher**, **transportation**

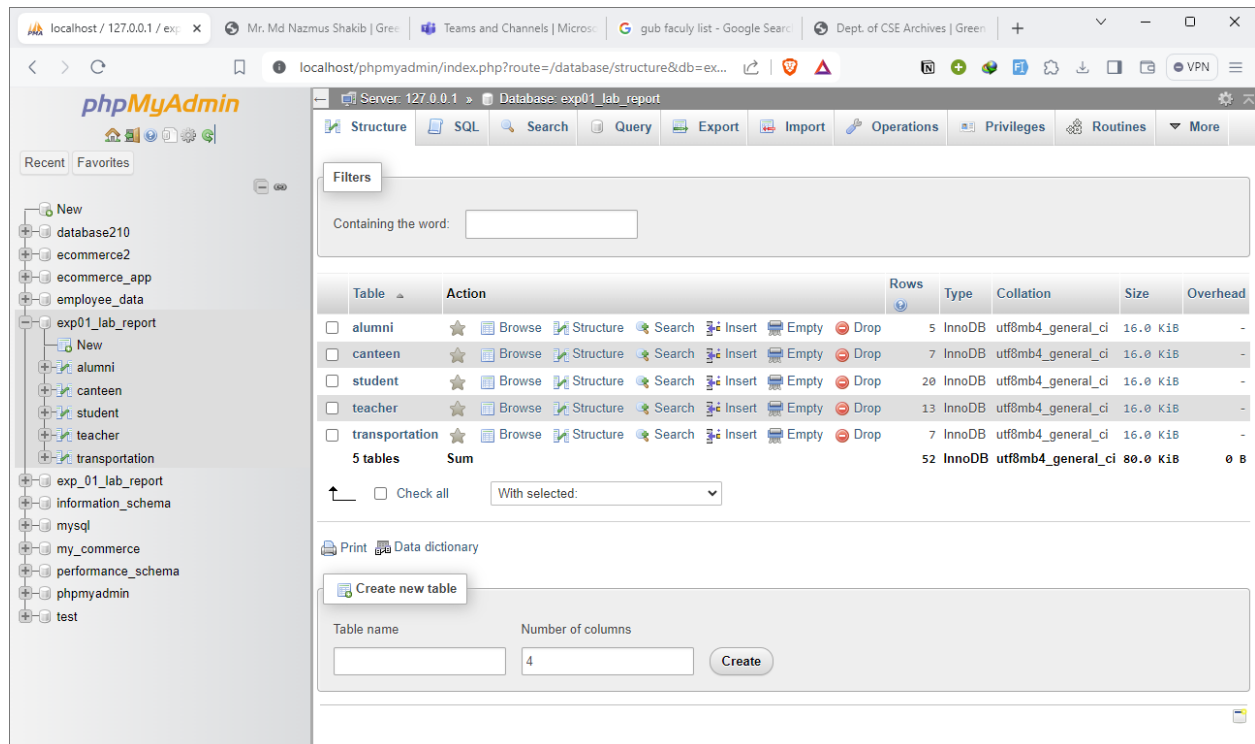


Figure 01: Database Named: exp01\_lab\_report

Showing rows 0 - 12 (13 total. Query took 0.0001 seconds.)

```
SELECT * FROM `teacher`
```

Number of rows: 25 | Filter rows: Search this table | Sort by key: None

TeacherID	LastName	FirstName	Subject	Email	Address
6	Shakib	Md. Nazmus	CSE	nazmus_shakib@cse.green.edu.bd	Bogura
7	Rahaman	Dr. Muhammad Aminur	Computer Science	aminur@cse.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...
8	Azad	Prof. Dr. Md. Saiful	Engineering	dean@fsa.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...
9	Habib	Professor Dr. Md. Ahsan (Tareq)	Computer Science	mahabib@cse.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...
10	Kabir	Mr. Syed Ahsanul	Computer Science	kabir@cse.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...
11	Rahman	Dr. Md. Mostafizur	Computer Science	mostafizur@cse.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...
12	Hasan	Dr. Muhammad Abul	Computer Science	muhammad.hasan@cse.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...
13	Ruman	Ms. Umme	Computer Science	ruman@cse.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...
14	Mahmud	Mr. Tamim Al	Computer Science	tamim@cse.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...
15	Akter	Ms. Shamima	Computer Science	shamima_akter@cse.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...
16	Mia	Md. Solaiman	Computer Science	solaiman@cse.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...
17	Faisal	Dr. Faiz Al	Computer Science	faisal@cse.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...
18	Islam	Ms. Shamima	Computer Science	shamima@cse.green.edu.bd	Green University of Bangladesh, 43/A Green Road, D...

Figure 02: Table Named Teachers and information of some GUB Faculty.

Showing rows 0 - 19 (20 total. Query took 0.0001 seconds.)

```
SELECT * FROM `student`
```

Number of rows: 25 | Filter rows: Search this table | Sort by key: None

StudentID	LastName	FirstName	Address	City
1021	Chakma	Chinmoy	House No. 12, Road No. 5, Block: A, Banani, Dhaka	Dhaka
1022	Hasan	Mehedi	Flat No. 101, Building: 3, Lake View Residence, Dh...	Dhaka
1023	Islam	Jahidul	House No. 25, Road No. 10, Sector: 7, Uttara, Dhak...	Dhaka
1024	Halder	Shuvo	House No. 15, Road No. 8, Block: C, Khulshi, Chitt...	Chittagong
1025	Hasan	Md. Mahmudul	Flat No. 301, Building: 5, Orchid Plaza, Agrabad, ...	Chittagong
1026	Miah	Md. Ismail	House No. 7, Road No. 3, Block: D, Mirpur, Dhaka	Dhaka
1027	Islam	Samiul	House No. 102, Road No. 6, Block: B, Mirpur, Dhaka	Dhaka
1028	Shihab	Ashiful Haque	Flat No. 501, Building: 10, Lake Side Tower, Gulsh...	Dhaka
1029	Jayed	Md. Ibne	House No. 30, Road No. 12, Block: E, Bashundhara R...	Dhaka
1030	Ziku	Ashik Arman	Flat No. 402, Building: 7, Dreamland Apartments, U...	Dhaka
1031	Zim	B. M.	House No. 20, Road No. 4, Block: F, Dhanmondi, Dha...	Dhaka
1032	Mithi	Most. Sadia Afrose	House No. 5, Road No. 1, Block: G, Gulshan, Dhaka	Dhaka
1033	Ahmed	Md. Shawon	Flat No. 203, Building: 2, Green Park Residence, M...	Dhaka
1034	Sarker	Md. Mahtuz	House No. 8, Road No. 9, Block: H, Baridhara, Dhak...	Dhaka
1035	Abir	Nazmul Alam	Flat No. 103, Building: 4, Green Valley, Nikunja, ...	Dhaka
1036	Hassan	Hasibul	House No. 10, Road No. 7, Block: I, Uttara, Dhaka	Dhaka
1037	Alif	Rim Islam	House No. 15, Road No. 12, Block: J, Rampura, Dhak...	Dhaka
1038	Esratjahan	Mst.	Flat No. 502, Building: 1, Dreamland Heights, Bana...	Dhaka
1039	Hasan	Md. Mehedi	House No. 25, Road No. 8, Block: K, Mirpur, Dhaka	Dhaka
1040	Rahman	Naimur	Flat No. 202, Building: 6, Lake View Tower, Gulsha...	Dhaka

Figure 03: Table Named Student containing the student of CSE 210 Students in D9 section.

Recent Favorites

- New
- database210
- ecommerce2
- ecommerce\_app
- employee\_data
- exp01\_lab\_report
  - New
  - alumni
  - canteen
  - student
  - teacher
  - transportation
- exp\_01\_lab\_report
- information\_schema
- mysql
- my\_commerce
- performance\_schema
- phpmyadmin
- test

Showing rows 0 - 6 (7 total, Query took 0.0001 seconds.)

`SELECT * FROM `canteen``

☐ Profiling [\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Explain SQL \]](#) [\[ Create PHP code \]](#) [\[ Refresh \]](#)

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	ItemID	ItemName	Category	Price
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	1	Chicken Biriyani	Full	180.00
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	2	Vegetable Fried Rice	Main	100.00
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	3	Chicken Burger	Fast Food	90.00
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	4	Khicuri	fast food	80.00
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	5	Vegetable Soup	Appetizer	50.00
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	6	Cold Coffee	Beverage	15.00
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	7	Tea	Beverage	10.00

☐ Check all | With selected: [Edit](#) [Copy](#) [Delete](#) [Export](#)

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

[Print](#) [Copy to clipboard](#) [Export](#) [Display chart](#) [Create view](#)

[Bookmark this SQL query](#)

☐ Let every user access this bookmark

Figure 04: Table Named canteen.

Recent Favorites

- New
- database210
- ecommerce2
- ecommerce\_app
- employee\_data
- exp01\_lab\_report
  - New
  - alumni
  - canteen
  - student
  - teacher
  - transportation
- exp\_01\_lab\_report
- information\_schema
- mysql
- my\_commerce
- performance\_schema
- phpmyadmin
- test

Showing rows 0 - 6 (7 total, Query took 0.0001 seconds.)

`SELECT * FROM `transportation``

☐ Profiling [\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Explain SQL \]](#) [\[ Create PHP code \]](#) [\[ Refresh \]](#)

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	VehicleID	VehicleName	Capacity	DriverName	ContactNumber
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	1	Bus	50	Md. Rahim	01712345678
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	2	Van	15	Md. Karim	01787654321
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	3	Auto Rickshaw	3	Md. Rahman	01923456789
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	4	Car	4	Md. Ali	01671234567
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	5	Motorcycle	2	Md. Hasan	01898765432
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	6	Cycle Rickshaw	1	Md. Rahman	01576543210
<input type="checkbox"/> <a href="#">Edit</a> <a href="#">Copy</a> <a href="#">Delete</a>	7	Rickshaw Van	2	Md. Karim	01987654321

☐ Check all | With selected: [Edit](#) [Copy](#) [Delete](#) [Export](#)

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

[Print](#) [Copy to clipboard](#) [Export](#) [Display chart](#) [Create view](#)

Figure 05: Table Named Transportation.

## **6. ANALYSIS AND DISCUSSION [2]**

- The design phase ensured that the database schema was well-structured and normalized to minimize redundancy and ensure data integrity.
- The implementation phase demonstrated the practical application of database design concepts in a real-world scenario.
- The test results confirmed the functionality and accuracy of the implemented database system.
- Possible areas for improvement include optimizing query performance, implementing additional features, and enhancing security measures.

This lab experiment provided valuable insights into the process of designing and implementing a database system and its significance in managing and manipulating data efficiently.

## **7. SUMMARY:**

The experiment began with the creation of a new database named `exp01_lab_report` using MySQL. Subsequently, tables were designed and created to represent entities such as student, teacher, canteen, transportation, and alumni.

The experiment provided valuable hands-on experience in database design and implementation using MySQL.