MySQL - RDBMS

Agenda

- Module Overview
- DBMS vs RDBMS
- SQL
- Getting started
- Create Table
- Insert records
- Select records

Module Overview

- Syllabus
  - RDBMS (MySQL)
  - NoSQL Introduction (Mongo)
- Evaluation
  - Theory: 40 marks MCQ (CCEE)
  - Lab: 40 marks - SQL queries & PSM
    - 15-Oct / 16-Oct
  - Internals: 20 marks - Will be updated by CoCo.
- Module plan
  - C-DAC Source Book -- 72 hrs (Theory 36 hrs + Lab 36 hrs).
  - Sunbeam Database Technologies
    - 10 days (2 weeks) - 4-Oct to 16-Oct.
    - Theory: 40 hrs
      - 9.00 am to 1.30 pm.
      - Break: 11.00 am to 11.30 am.
      - Q & A: 8.45 am, 1.30 pm, 3.30 pm.
    - Lab: 36 hrs.
      - 4.00 pm to 7.00 pm.

DBMS vs RDBMS

SQL

MySQL

Installation

- Server = mysqld.exe
  - C:\Program Files\MySQL\MySQL Server 8.0\bin
- Client = mysql.exe
  - C:\Program Files\MySQL\MySQL Server 8.0\bin
- MySQL data directory/folder

    - C:\ProgramData\MySQL\MySQL Server 8.0
- Default user of MySQL = "root" (administrator).
    - Password is given during installation = "manager".
- Set PATH.
    - Windows explorer.
    - This PC (right click) --> Properties --> Advanced System Settings --> Advanced --> Environment Variables
        - User Variables --> PATH --> EDIT
        - Click New --> Add MySQL PATH at the end "C:\Program Files\MySQL\MySQL Server 8.0\bin".
- Open "Command Prompt"
    - cmd> mysql --version

Getting started

- step 1. Login with "root" user.
    - cmd> mysql -u root -p
        - Password: manager
- step 2. Create a new user.
    - mysql> CREATE USER sunbeam@localhost IDENTIFIED BY 'sunbeam';
- step 3. Create a new database/schema.
    - mysql> CREATE DATABASE classwork;
    - mysql> SHOW DATABASES;
- step 4. Give all permissions to the new user on the new database.
    - mysql> GRANT ALL PRIVILEGES ON classwork.* TO sunbeam@localhost;
    - mysql> FLUSH PRIVILEGES;
- step 5. mysql> EXIT
- step 1. Login with new user and password on MySQL CLI.
    - cmd> mysql -u sunbeam -p
        - Password: sunbeam
- step 2. Execute queries -- DDL, DML, DQL, ...
    - mysql> SHOW DATABASES;
    - mysql> SELECT USER(), DATABASE();
    - mysql> USE classwork;
    - mysql> SELECT USER(), DATABASE();
    - mysql> SHOW TABLES;
- MySQL screen clear.
    - mysql> ! cls

- CREATE TABLE
  - CREATE TABLE tablename (col1 DATATYPE, col2 DATATYPE, col3 DATATYPE, ...);
- INSERT
  - INSERT INTO tablename VALUES (v1, v2, v3, ...);
  - INSERT INTO tablename VALUES (v1, v2, v3, ...), (v1, v2, v3, ...), (v1, v2, v3, ...), ..;
- SELECT
  - SELECT * FROM tablename;
    - means All columns.

```
SHOW TABLES;

CREATE TABLE stud(id INT, name CHAR(20), marks DOUBLE);

SHOW TABLES;

DESCRIBE stud;

INSERT INTO stud VALUES (1, 'Soham', 98.20);

INSERT INTO stud VALUES (2, 'Sakshi', 97.40);

INSERT INTO stud VALUES (3, 'Prisha', 99.30), (4, 'Madhura', 96.29), (5, 'Om',
97.45);

SELECT * FROM stud;

INSERT INTO stud(name, marks, id) VALUES ('Pratham', 95.39, 6);
INSERT INTO stud(id, name) VALUES (7, 'Vedant');

SELECT * FROM stud;
```

```
CREATE TABLE students(id INT, name CHAR(20), marks DOUBLE);

SHOW TABLES;

SELECT * FROM students;

INSERT INTO students SELECT * FROM stud;

SELECT * FROM students;
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```
DROP TABLE students;
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```
SHOW TABLES;
```