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BSCpE 2A1
Database Management System

Chapter 1: Relational Database Concepts
Laboratory Activity 1:

Laboratory Title: Installing MySQL and Setting Up the Database
Chapter No. and Topic: Chapter 1 - Relational Database Concepts
Discussions:
This activity will guide students through installing MySQL on their system and setting up a basic library management system database.

Activity Description:
Install MySQL, create a new database, and establish connections using MySQL Workbench or command line.

Objectives:

- Install MySQL on a local machine.
- Set up a MySQL database for the Library Management System.

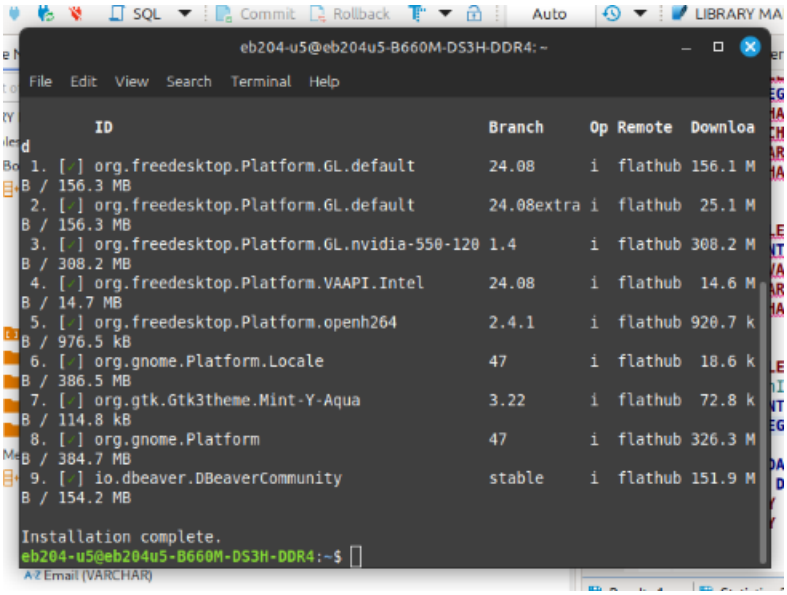
Materials:

- MySQL Installer
- MySQL Workbench (or any preferred MySQL client)
- Laptop or computer with administrative rights

Procedure:

1. Download MySQL Installer from the official website.
2. Run the installer and follow the installation steps.
3. Once MySQL is installed, open MySQL Workbench.
4. Connect to MySQL using the root user.
5. Create a new database named `LibraryManagement`.
6. Verify that the database was created successfully.

INSTALLATION PROCESS SUCCEEDED:



Result:

A running MySQL instance with a database called `LibraryManagement`.

Additional Questions/Discussions:

- Why is MySQL popular for DBMS?

ANSWER:

MySQL is widely used because it is open-source and free, scalable for both small and large projects, and highly reliable with optimized performance. It supports multiple platforms (Windows, macOS, Linux), offers strong security features like encryption, and integrates well with popular technologies.

- What are the advantages of using MySQL for a library management system?

ANSWER:

Benefits of Using MySQL for a Library Management System (LMS) ensures data integrity, fast query execution, and multi-user access for librarians, students, and administrators. It provides backup & recovery features, supports relationship management with foreign keys for loans and returns, and offers GUI tools like MySQL Workbench for easier administration.

Conclusions:

- MySQL was successfully installed and integrated with DBeaver for database management. The process involved creating a Library Management System (LMS) with tables such as Books, Members, and Transactions, ensuring structured data storage. This setup highlights MySQL's effectiveness in handling relational data, supporting multi-user access, and enabling efficient queries, making it an ideal choice for managing library records.