

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.

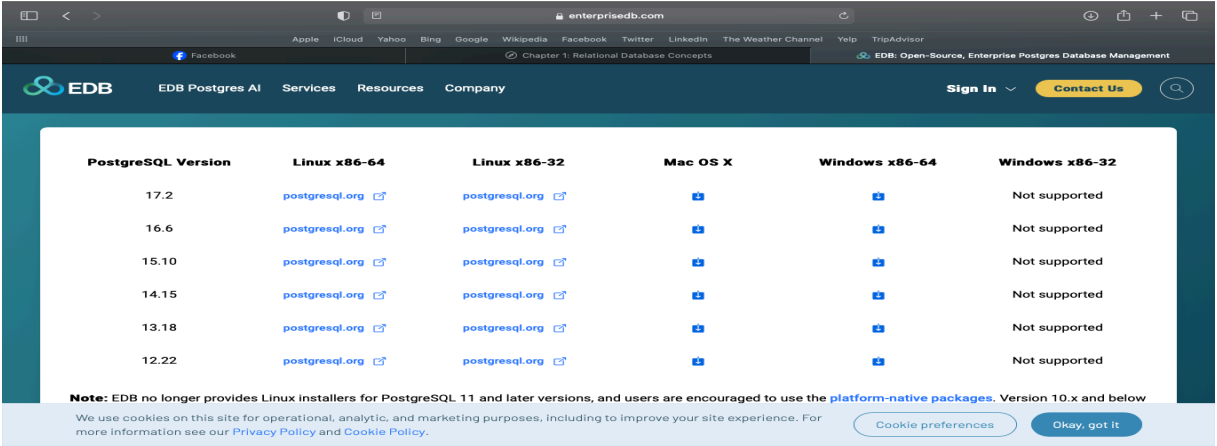
Activity Description:
Install MySQL, create a new database, and establish connections using MySQL Workbench or command line.

- 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.

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

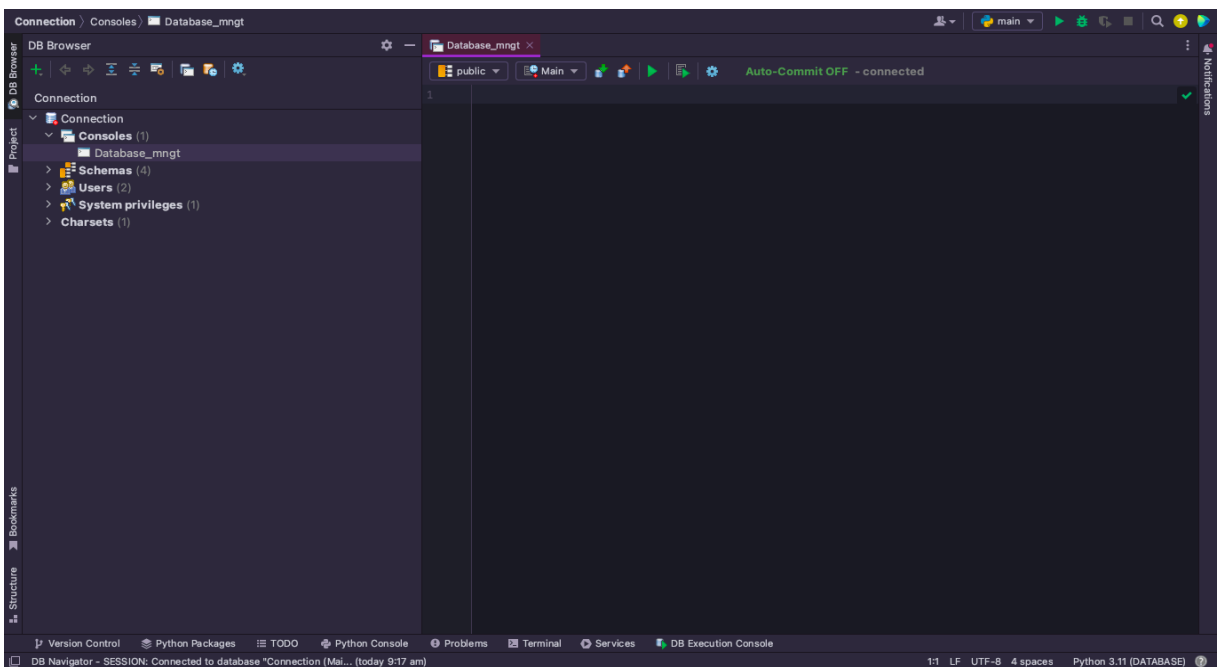
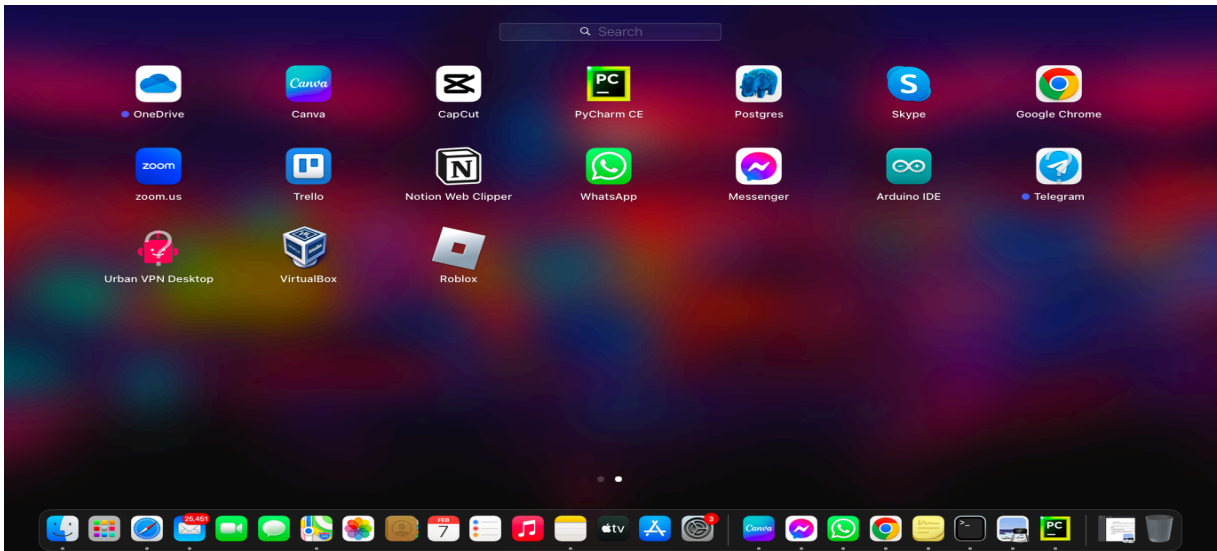


PostgreSQL Version	Linux x86-64	Linux x86-32	Mac OS X	Windows x86-64	Windows x86-32
17.2	postgresql.org	postgresql.org	postgresql.org	postgresql.org	Not supported
16.6	postgresql.org	postgresql.org	postgresql.org	postgresql.org	Not supported
15.10	postgresql.org	postgresql.org	postgresql.org	postgresql.org	Not supported
14.15	postgresql.org	postgresql.org	postgresql.org	postgresql.org	Not supported
13.18	postgresql.org	postgresql.org	postgresql.org	postgresql.org	Not supported
12.22	postgresql.org	postgresql.org	postgresql.org	postgresql.org	Not supported

Note: EDB no longer provides Linux installers for PostgreSQL 11 and later versions, and users are encouraged to use the [platform-native packages](#). Version 10.x and below

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Additional Questions/Discussions:

- Why is MySQL popular for DBMS?
 - MySQL is popular because it's **free, fast, easy to use, and highly scalable**. It works well with web applications, supports multiple platforms, and integrates smoothly with languages like PHP, Python, and Java. Big companies like **Facebook and YouTube** use it due to its reliability, security features, and strong community support. MySQL also offers **ACID compliance (with InnoDB)** for data integrity and supports replication for backups. Its **user-friendly tools** and wide adoption make it a top choice for websites, applications, and businesses worldwide.

- What are the advantages of using MySQL for a library management system?
 - MySQL is a popular choice for a library management system because it is free, open-source, and highly scalable, allowing efficient handling of large amounts of data, such as books, members, and transactions. It ensures data integrity with ACID compliance (InnoDB), supports multiple users accessing the system simultaneously, and provides strong security features like authentication and access control. MySQL also offers reliable backup and recovery options, preventing data loss, and integrates easily with various programming languages like PHP, Python, and Java, making it a flexible and efficient solution for library management.

Conclusions:

In conclusion, MySQL is a powerful and efficient database management system for library management. It ensures data integrity, security, and scalability while supporting multiple users. With its flexibility and ease of integration, MySQL is a great choice for managing library records.