University of Maryland Global Campus

Library Management System (LMS)

User's Guide

CMSC 495 7380

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Version 1.4

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Revision History

REVISION	DATE	DESCRIPTION	Author
1.0	4/30/2023	Initial	Ben Ramos
1.1	5/1/2023	Modification to Requirements	Ben Kus
1.2	5/4/2023	Modifications to Add Books, Remove Books, and Issue Books Addition of display windows	Brandon Durham Ben Kus
1.3	5/5	Modification to Module Installation	Ben Ramos
1.4	5/6	Final Revisions	Ben Ramos Brandon Durham Ben Kus

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1. Introduction

A library management system is a project which aims in developing an application to maintain the book catalog of a library. The purpose of this is to provide administrators with the ability to conduct daily maintenance to its book catalog. It will provide an easy and administrator-friendly way to track books, add and remove users, as well as track overdue books and numerous other functions. ***Initial setup of MySQL Community is required for this Library Management System Application.***

2. Requirements

System Requirements

The following are the minimum required system and software to support the Library Management System:

- Processors:
  - Intel Core 2 Duo 1.8 GHz
- Memory:
  - 2 GB of RAM
- Disk space:
  - 150 GB
- Operating Systems:
  - Windows 10
- Applications:
  a. Eclipse IDE
  b. Java
  c. Java Swing
  d. MySQL Community Server
  e. MySQL JDBC Connector

The Library Management System is maintained on the Social Software Development Site GitHub and can be retrieved at Library Management System To install the LMS for initial use, please follow the below Installation guidelines.

3. Installation

To install the Library Management System, Eclipse IDE along with JDK X.X or higher. Please refer to Eclipse Install Downloads and Overview of JDK Installation prior to installing the LMS.

Downloading Source Code

1. Download the Source Code (src folder) from
   https://github.com/kusbenjamin/LibraryManagementSystem
2. The contents should be the following: (LMS Java Files)
     i. Main.java
    ii. LoginLogoutUI.java
   iii. AddBook.java
    iv. RemoveBook.java
     v. SystemUI.java
    vi. SearchBook.java
   vii. IssueBook.java
  viii. LMSSQL.sql (Found in LMS SQL File Folder)

Installing Modules

Java provides default packages such as Abstract Window Toolkit (AWT) & Swing packages to create user interfaces (UI) for desktop applications. Also, we need to add this library: Mysql-JDBC-connector.

1. Download MySQL-connector
   a. To Import:
        i. Right-click on LMS and select Build Path >> Configure Build Path.
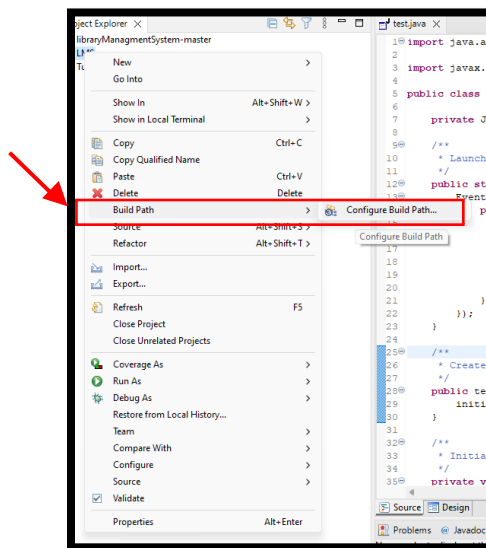
       ii. Select "Libraries"
      iii. Select "Add External Libraries" on the left-hand side
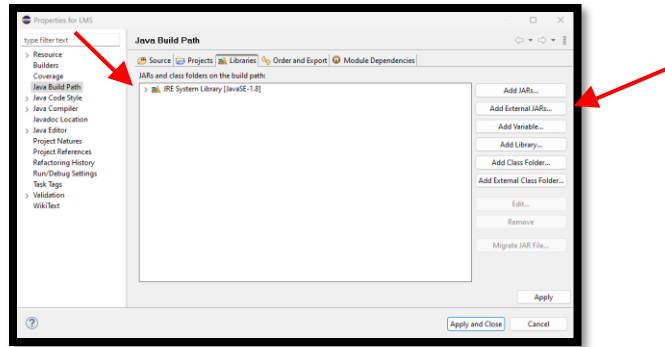
iv. Navigate to the location on your system where the MySQL Connector file is located and select that file

v. Select "Apply and Close"
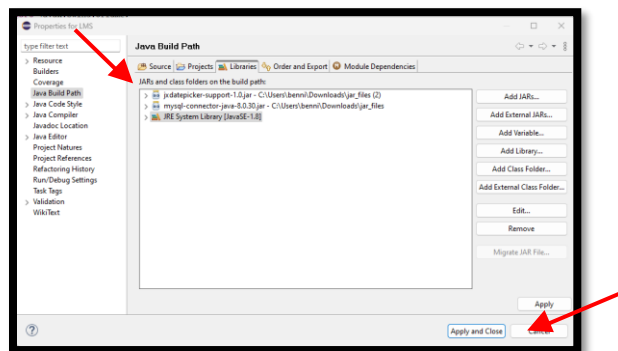
Installing MySQL Community

1. [Download the MySQL Community Installer](#)

2. Launch the MySQL Community Installer, Select the 1st option (Developer Default) then click "next"
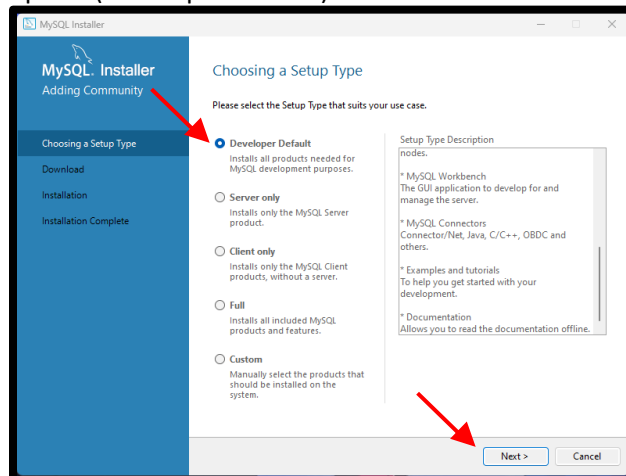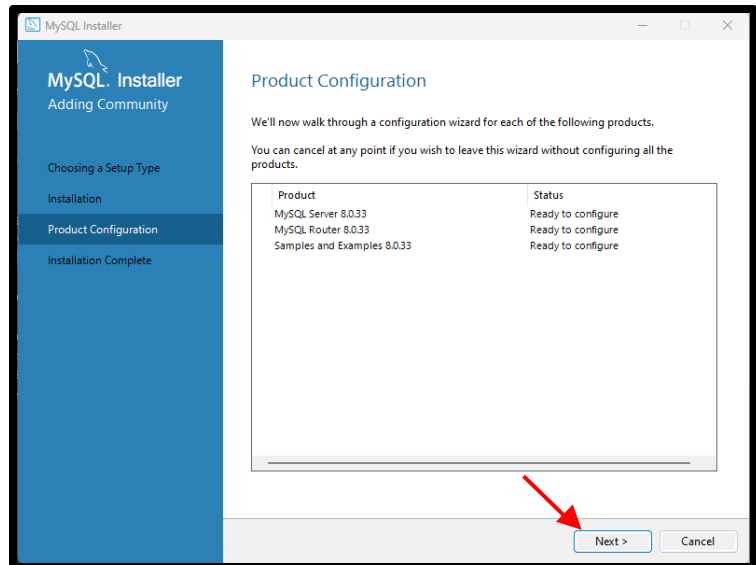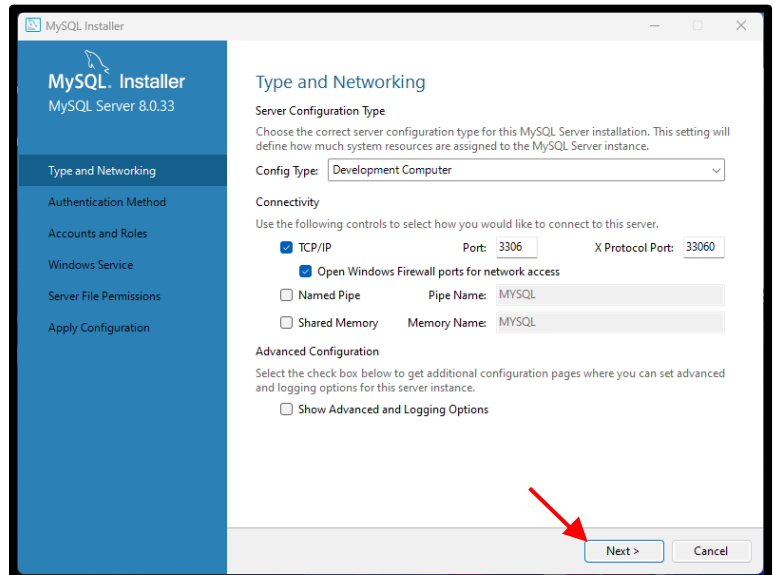

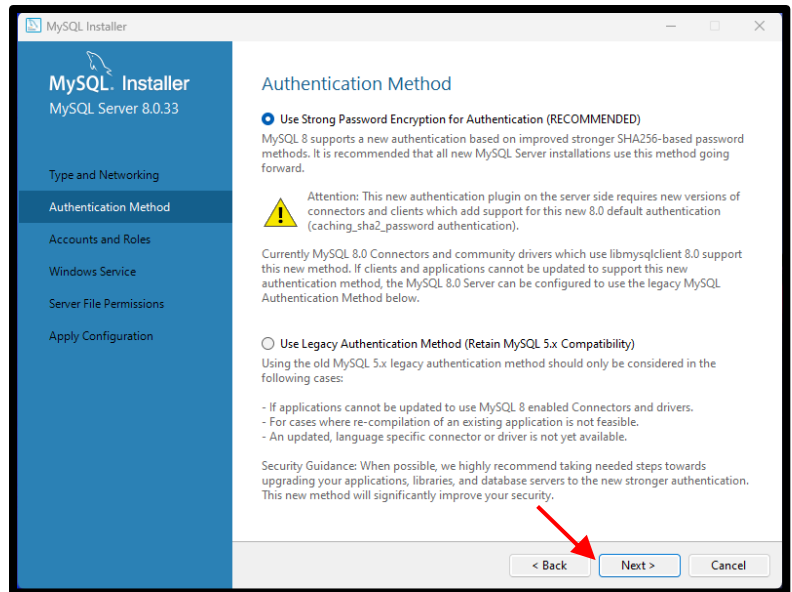3. Select Execute
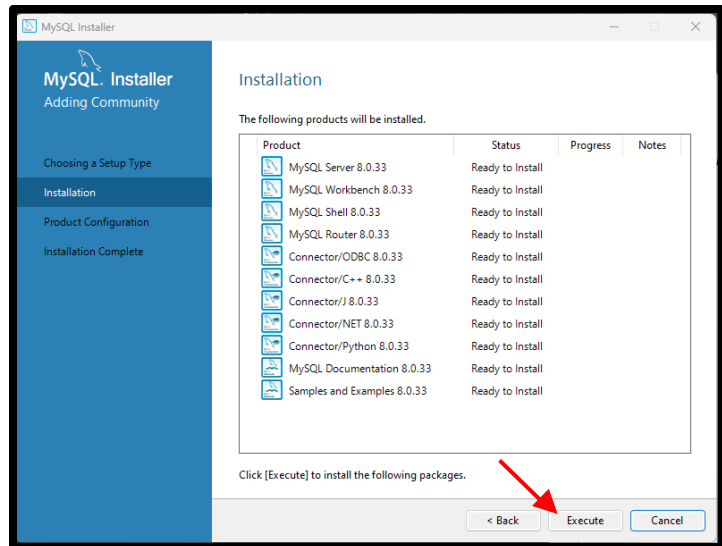
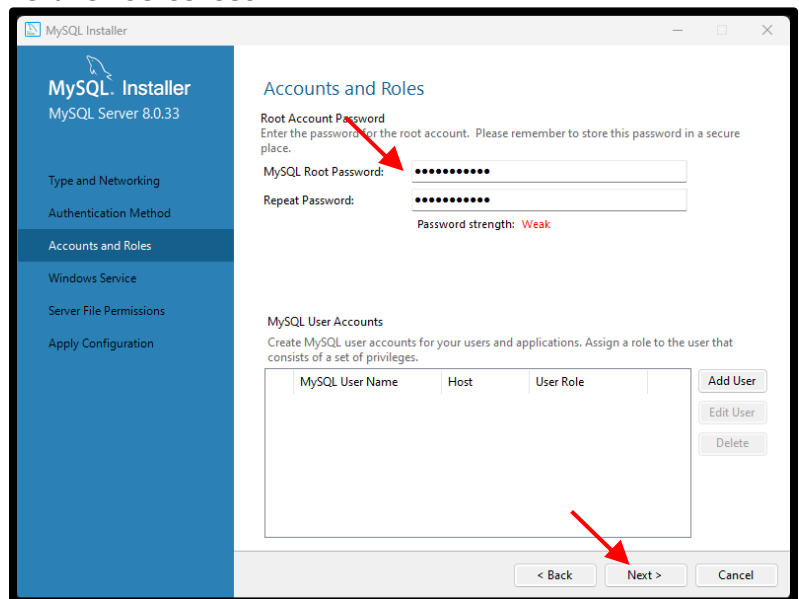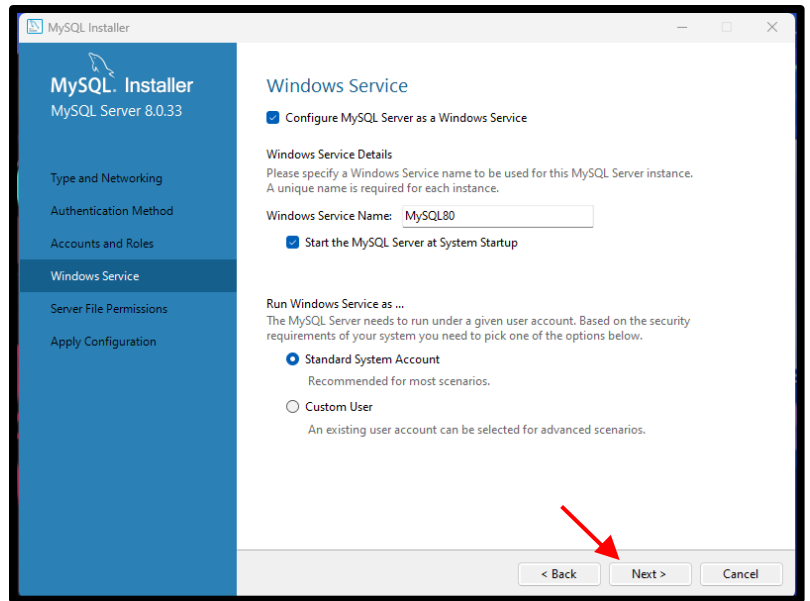4. Wait for Installation to finish
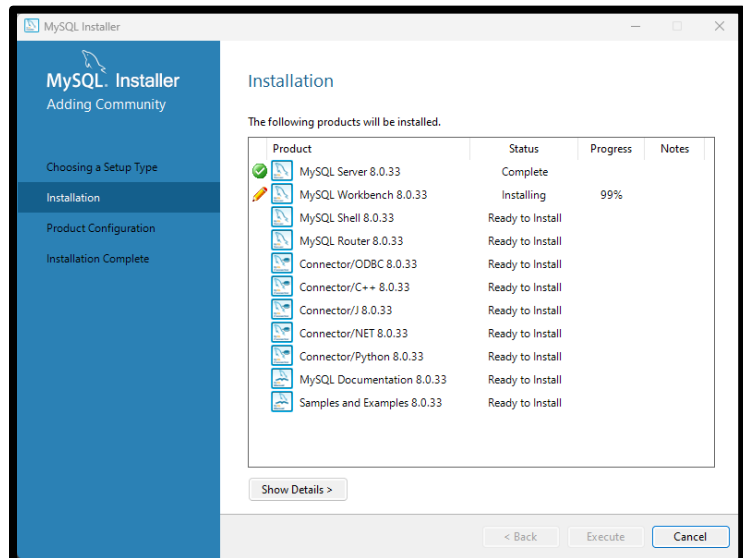
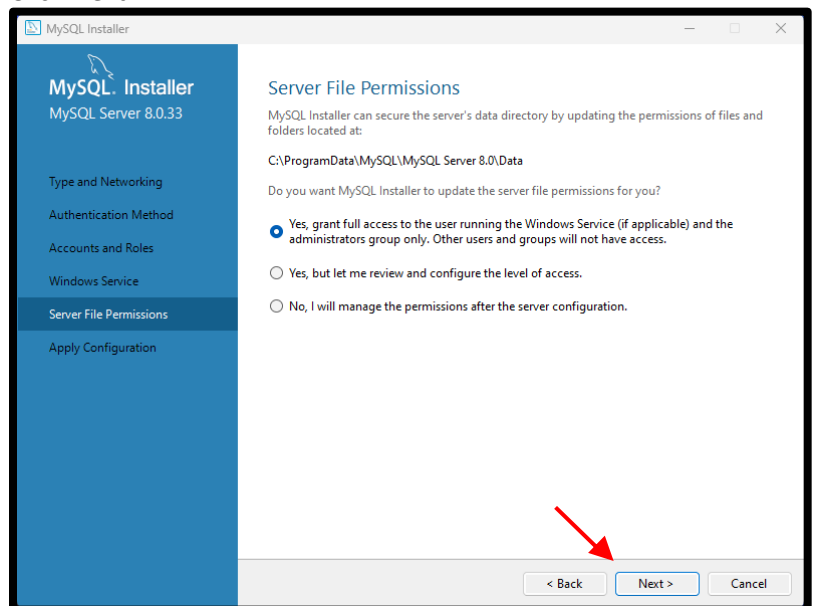5. Click next

6. Click Next

7. Click Next

8. Enter this password for the Root (Admin) Account then click next: **CMSC4957380**
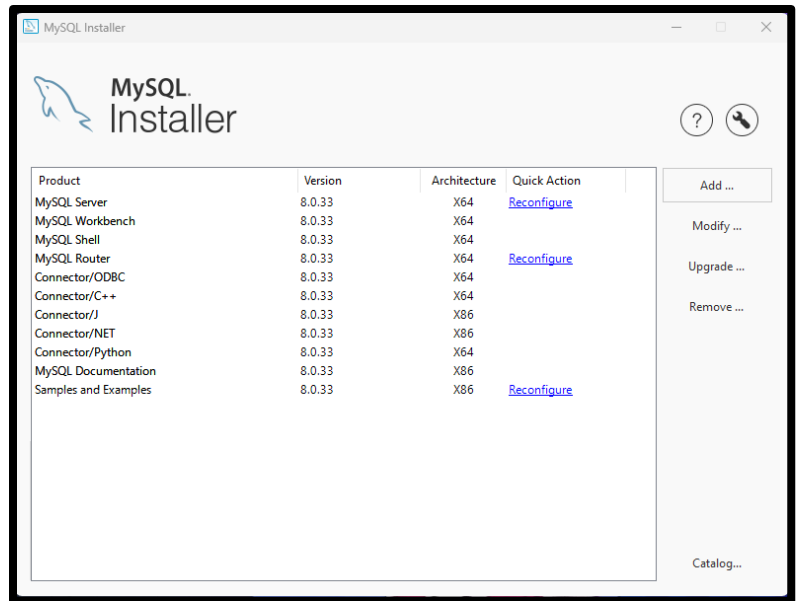

9. Click Next

10. Click Next

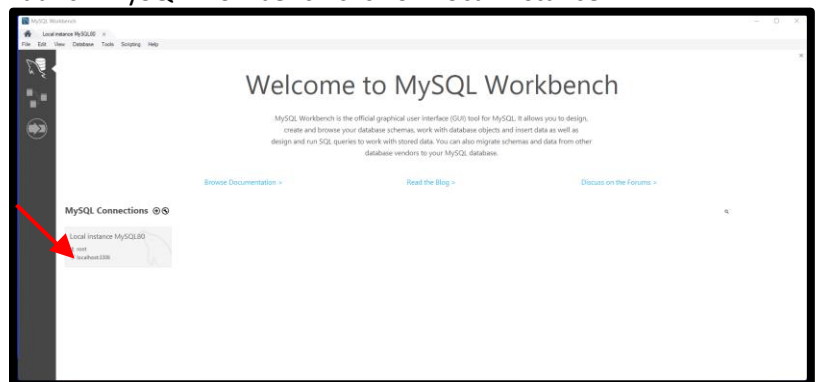11. Click Execute and wait for installer to finish
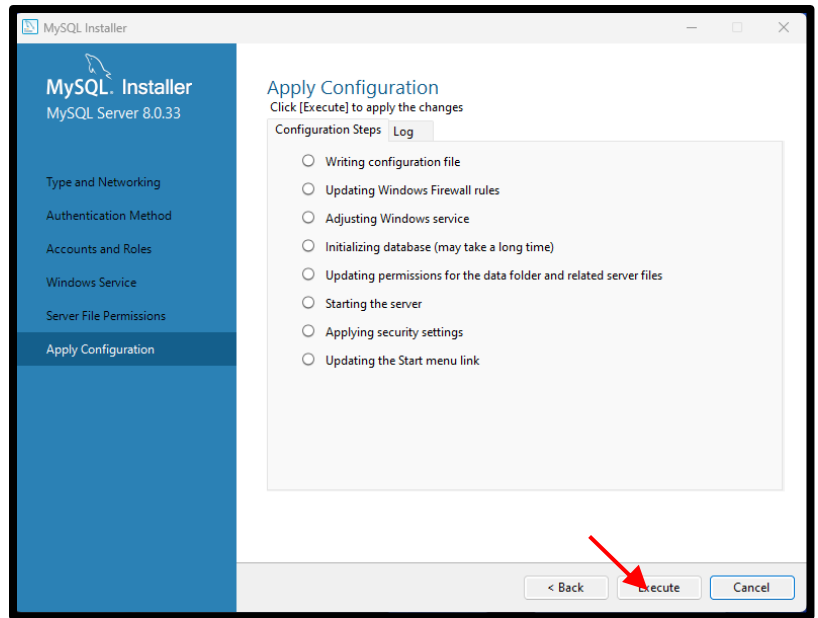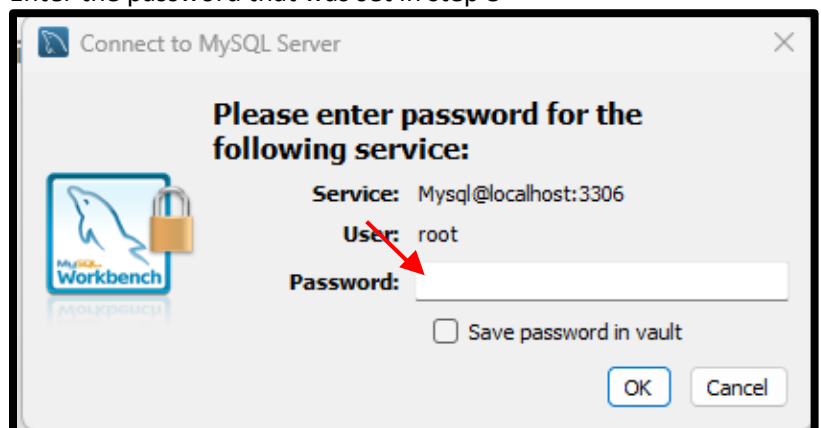
12. Click Finish
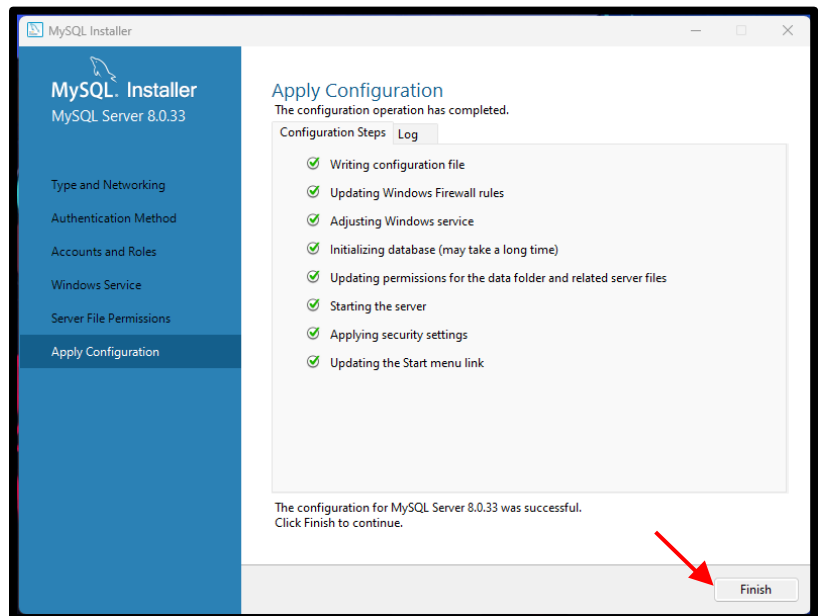
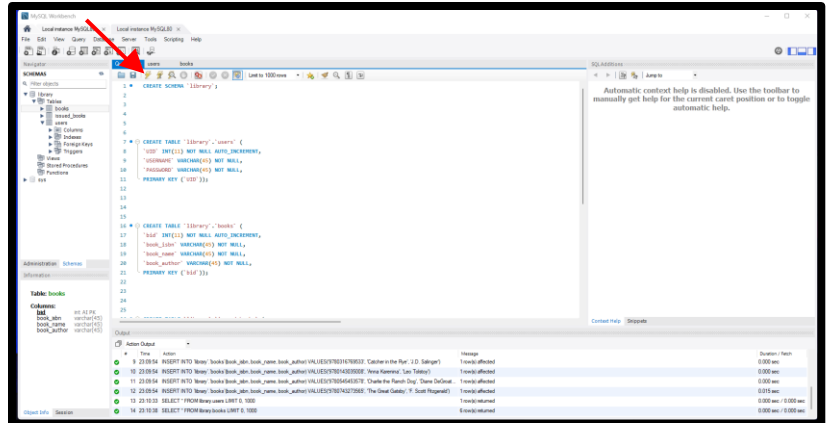13. Click Cancel for Router and Samples and Examples to get here:

14. Launch MySQL Workbench click on Local Instance

15. Enter the password that was set in step 8

16. Run the provided SQL Script (GitHub) within Query 1 Window by clicking the lightning bolt
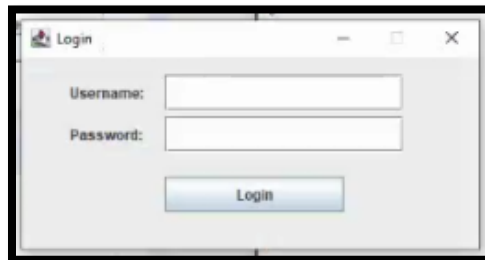
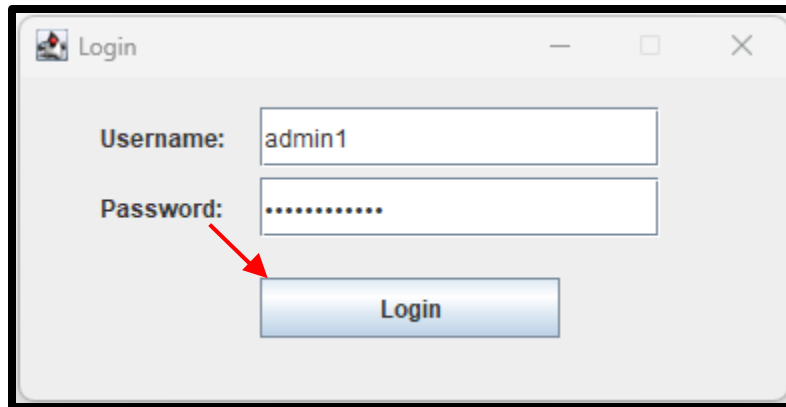# 4.   Operations

LMS Start-Up

- From the src directory type: Main.java

Log In

- The LMS application has started when you see the following screen.

- Enter the Username "admin1" in the designated "Username" block.
- Enter the Password "GummyBear973" in the designated "Password" block.
- When Username and Password are entered correctly the System menu screen will be displayed
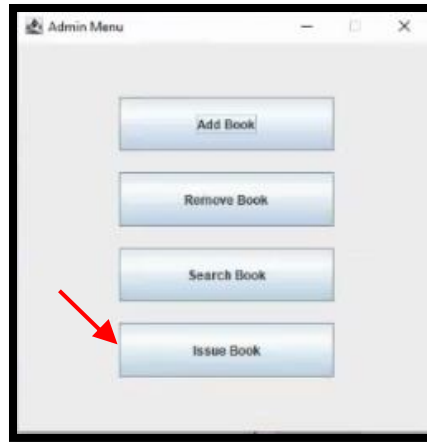
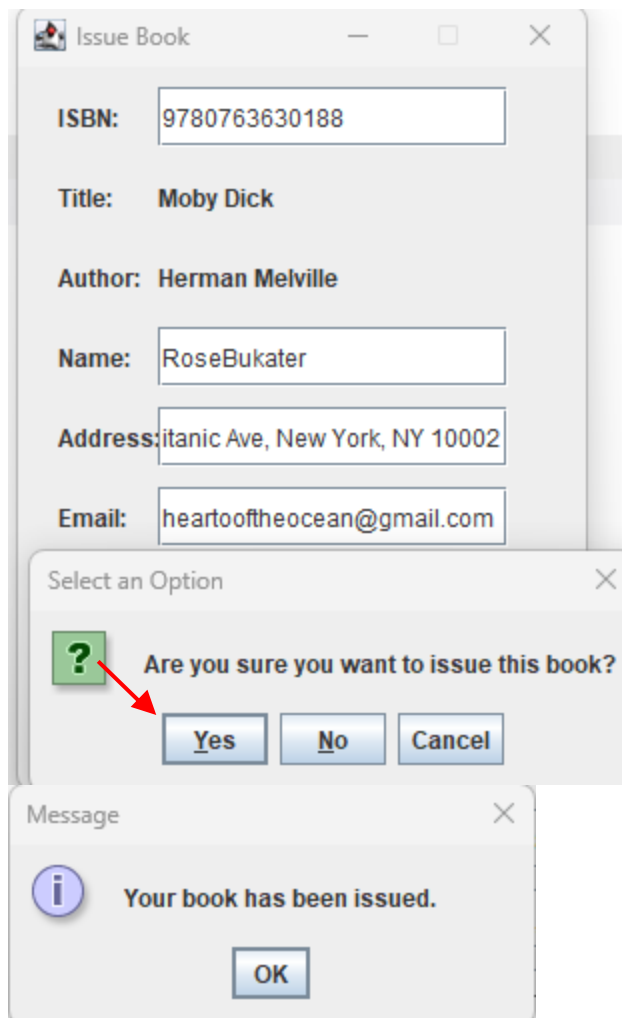- A message will be displayed if an incorrect Username or Password is entered incorrectly.
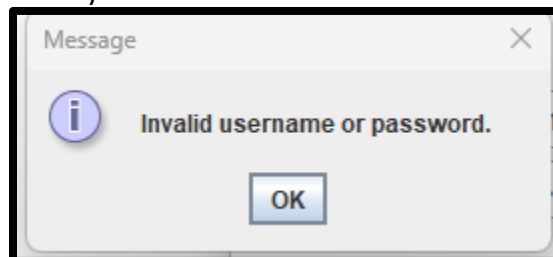
Issuing a Book

- From the Librarian's Screen, click on Issue Book

- Enter the ISBN in the designated "ISBN" block, followed by the Title and Author

- Enter the Borrower's First Name and Last in the designated block.
- Enter the Borrower's Home Address in the "Address" block.
- Enter the Borrower's Email Address in the "Email" block.
- Click "Issue" to Issue the Book. The book will then be entered into the database and a message will be displayed that the book was issued will be displayed.
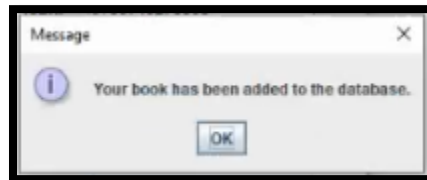
Adding a Book

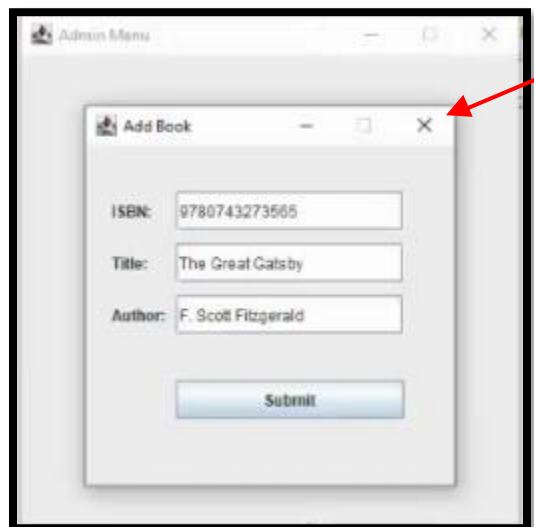- From the Librarian's Screen, click on "Add Book".

- Enter the ISBN in the designated "ISBN" block. The ISBN can only be numbers. Symbols (ex. !@#^) or letters are not valid inputs
- Enter the Book Title in the designated "Title" block.
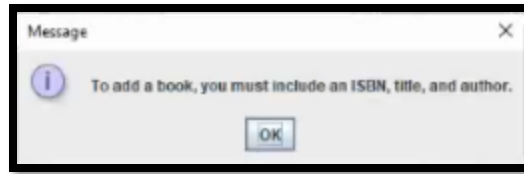- Enter the Author's Name in the designated "Author" block.

- Click "Submit" to add the book. The book will then be entered into the database and a message will be displayed that the book was added.

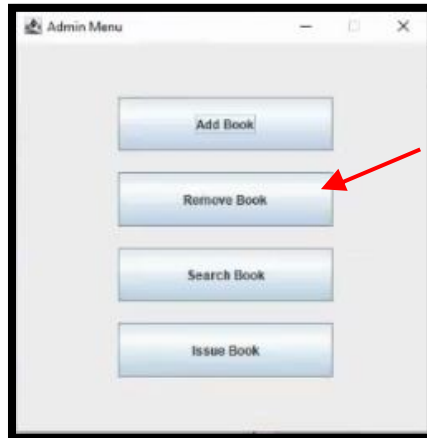- To cancel adding a book, click "X" in the upper right corner of the Add Book Window.

- If the book was not added to the library a message will be displayed "Failure to Add Book".
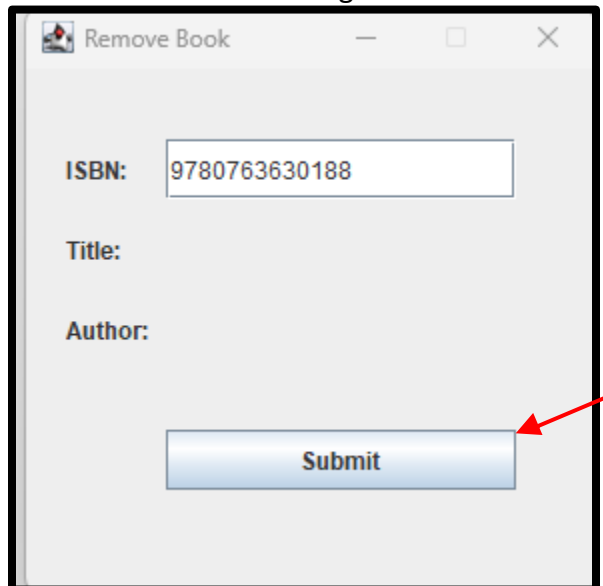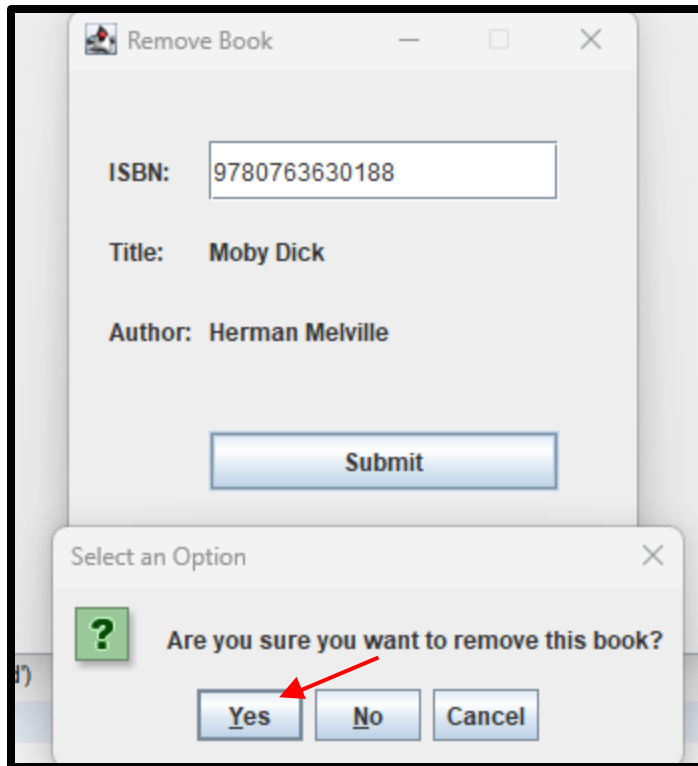
Message — To add a book, you must include an ISBN, title, and author.
OK

Removing a Book

- From the Librarian's Screen, click on "Remove Book."

- Enter the ISBN in the designated "ISBN" block.

- Click "Submit" to remove the book. The book will then be removed from the database and a message will be displayed that the book was removed will be displayed.
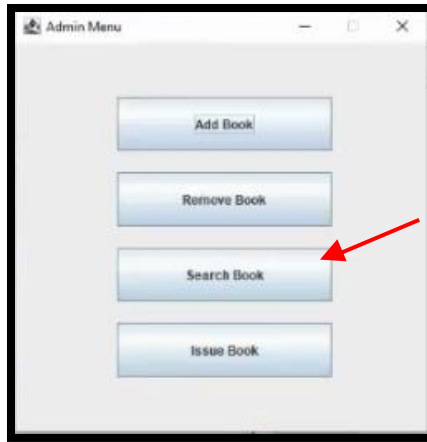
- If the book cannot be found, an error message will be displayed indicating the book could not be found and removed.
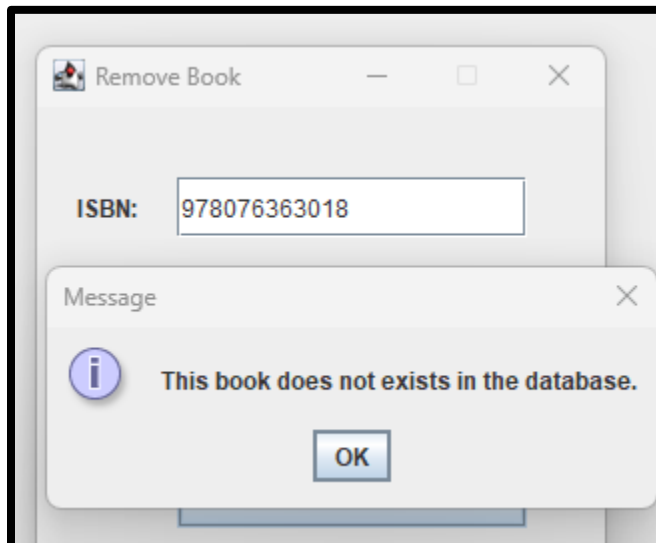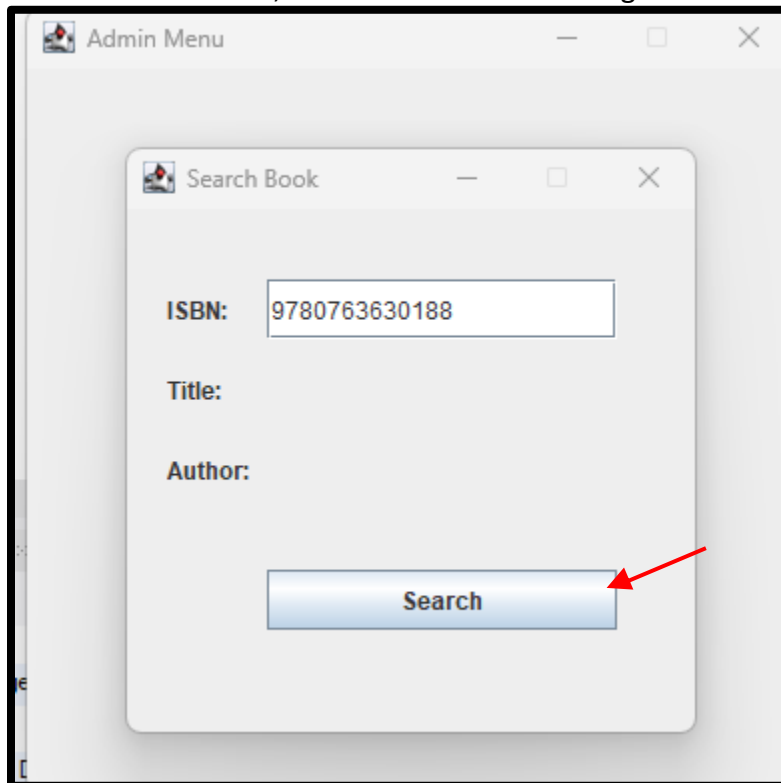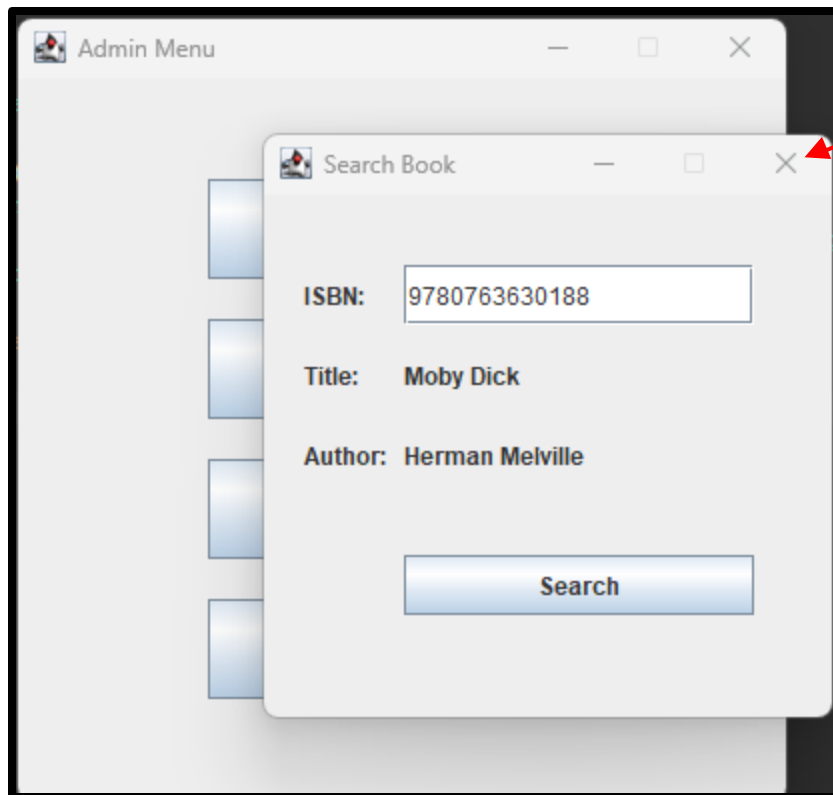

Searching for a Book

- From the Librarian's Screen, click on "Search Book."

- To Search for a book, enter the ISBN in the designated "ISBN" block.

- Click "Submit" to search for the book. The administrator to then be given a choice to remove or issue the book. The administrator will also have the option to close the window and return the Librarian's menu.

- If the book cannot be found, an error message will be displayed indicating the book could not be found.
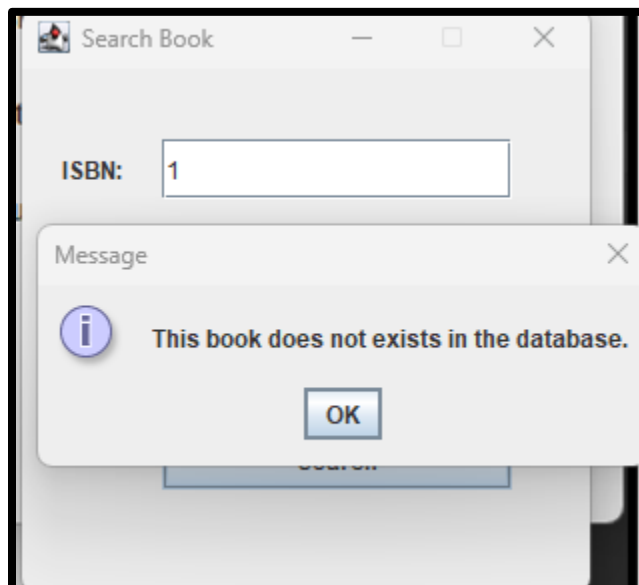
Log Out

- From the admin Menu click the X.

- A message will appear stating you've been logged out.