

# **Project Title : Learning Management System (LMS)**

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**BSSE-3rd-E1**  
**CS-409-OOP**

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Link to Repository : <https://github.com/ahmad-maqsood/Learning-Management-System-CPP.git>

**QR CODE**



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# **Project Description**

The Learning Management System (LMS) is a console-based application designed to manage student and administrative data within an educational environment. It serves as a digital portal for both students and faculty to interact with academic records and feedback systems.

## **Purpose:-**

The project was developed for the CS-409: Object-Oriented Programming course (Fall 2025) to demonstrate the practical application of OOP principles in C++.

## **Main Features:-**

- Dual-Portal System: Separate interfaces and functionalities for Students and Admins.
- Student Capabilities: Users can create accounts, view profile information, check academic results (GPA/CGPA), view course dashboards, change passwords, and submit teacher/course reviews.
- Admin Capabilities: The admin (modeled after Sir Saeed Rasheed) can view and edit all student records, manage concerning student figures, remove student accounts, and view all submitted course reviews.
- Data Persistence: Uses file handling to read from and write to .txt files (e.g., studentsNames.txt, studentsAgNums.txt), ensuring data is saved between sessions.
- Security Features: Includes login credential validation, a password recovery system using recovery keys, and a security question to edit admin details.

## **Technologies Used:-**

- Programming Language: C++.
  - OOP Concepts: Inheritance, Encapsulation, Constructors/Destructors, etc.
  - Standard Libraries: <iostream>, <vector> (for dynamic data storage), <fstream> (for file handling), and <random> (for ID/password generation).
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## How to Run this project on Your PC?

Open the GitHub Repository by clicking the link given above or scanning the QR code.  
You will see an icon with “Code” written on it, as :

A screenshot of a GitHub repository page for 'ahmad-maqsood / Learning-Management-System-CPP'. The page shows a list of commits. A red arrow points to the green 'Code' button in the top right corner of the main content area.

File	Description	Date
ahmad-maqsood Delete LMS.exe	Update student numbers and LMS executable	5 days ago
DATA	Clean LMS Project with added privacy for students' data	5 days ago
LMS.cpp	Fix default student deletion and count logic	5 days ago

Click on it. Then :

A screenshot of the GitHub 'Clone' modal. It displays four options for cloning the repository:

- HTTPS
- GitHub CLI
- Open with GitHub Desktop
- Download ZIP

The 'Download ZIP' option is highlighted with a red box.

Click Download ZIP. All the Repository's files will be downloaded in the form of a ZIP file, extract the ZIP file and **Enjoy the Code**.

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