

Learning Management System (LMS) Documentation

1. Introduction

The Learning Management System (LMS) is a scalable and centralized platform tailored for modern organizations to manage and monitor employee training, upskilling, and development. It provides a structured environment for tracking learning journeys, evaluating progress, and aligning training efforts with strategic goals.

Designed to support Admin, Manager, and Employee roles, the LMS allows seamless course management, real-time progress tracking, and data-backed insights that drive continuous improvement.

2. Vision

Track Employee Learning Progress: Visual dashboards help monitor completion rates, time spent, and course outcomes at individual, group, and bundle levels

Optimize Training Costs & Efforts: Reduce reliance on physical training by digitizing learning content and automating assignments and reminders.

Boost Productivity: Upskilled employees perform better and reduce recruitment and training costs.

Personalized Learning Paths: Assign tailored course bundles to employees or groups based on job role or skill level.

Compliance and Audit Readiness: Maintain digital records of all training activities for compliance tracking.

Measurable Growth: Use analytics and assessments to measure the effectiveness of learning programs and evaluate employee growth over time of learning programs and plan future initiatives based on performance trends.

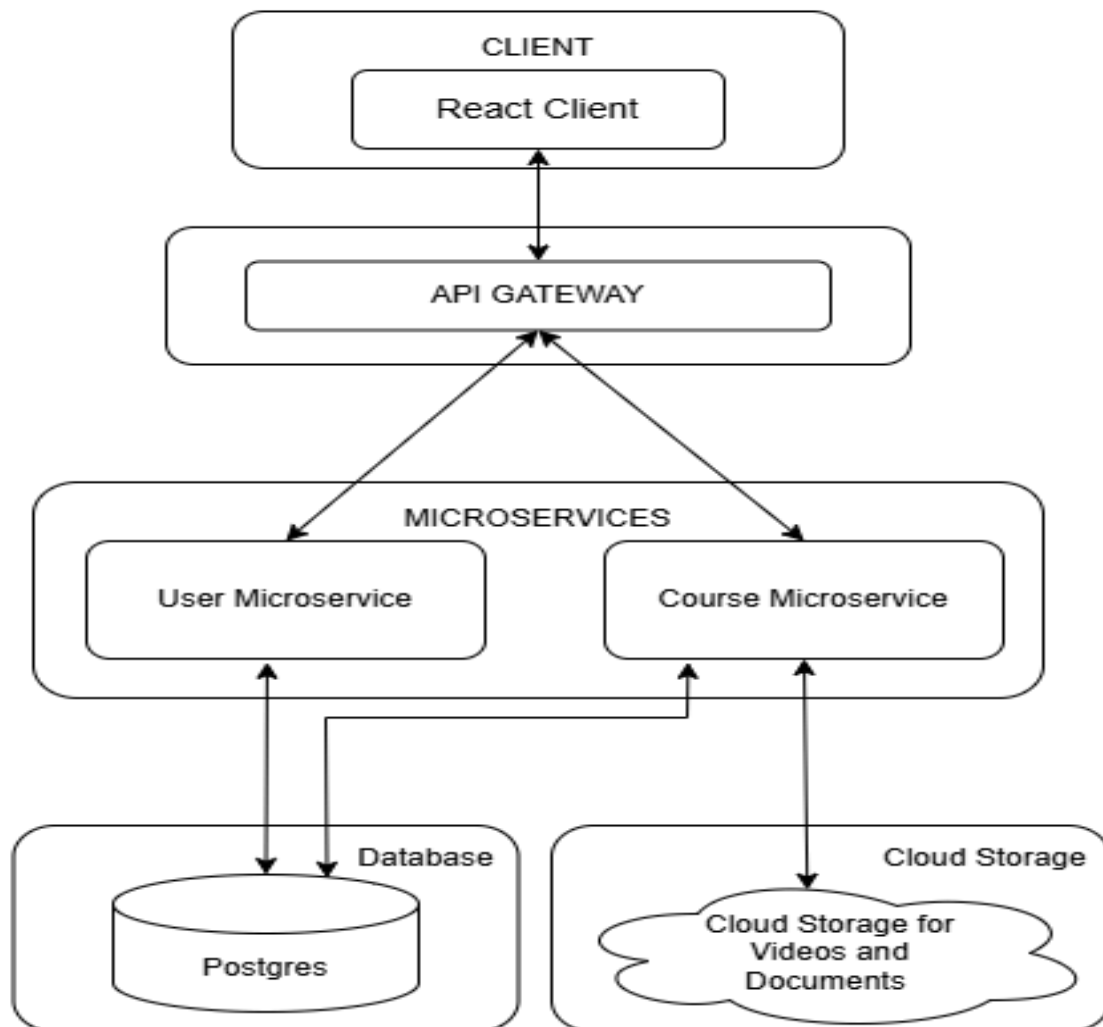
3. Technology Used

The LMS is built using the following technology stack:

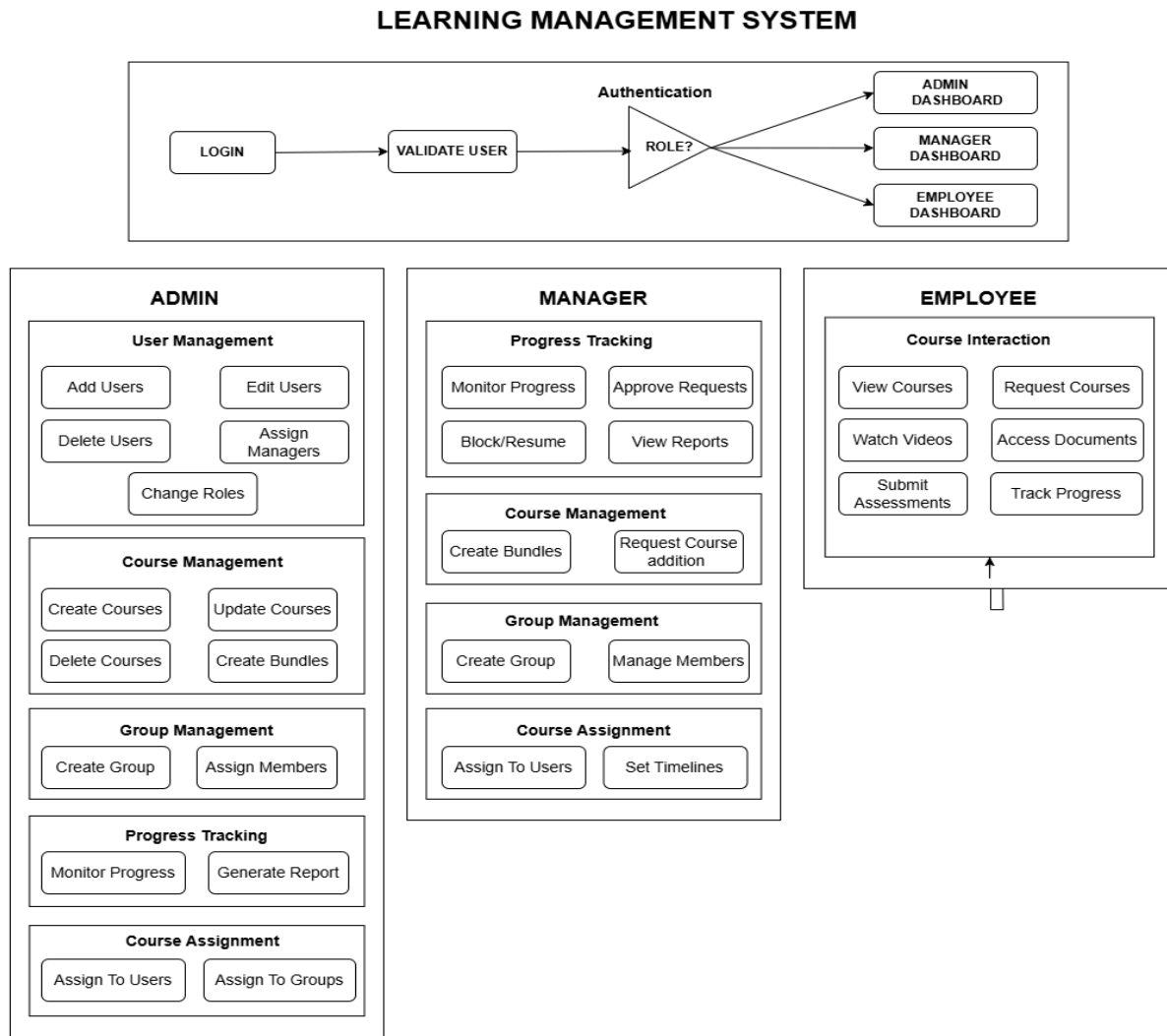
- **Backend:** Spring Boot
- **Frontend:** React.js
- **Database:** PostgreSQL
- **Authentication:** JWT (JSON Web Tokens)

This modern architecture ensures scalability, security, and responsive performance across devices and user loads.

4. Architecture Diagram



5. Work Flow diagram



6. User Roles and Features

Admin Role Features

Administrators have comprehensive system control with capabilities including:

- User Management: Register, update, soft-delete users; assign roles.
- Course Management: Create, edit, bundle, and assign courses.
- Group Management: Manage learning groups and paths.
- Tracking: Monitor progress via dashboards and generate reports.
- System Settings: Configure global settings and integrations.

Manager Role Features

Managers have intermediate administrative capabilities:

- Team Management: Monitor team and individual progress, identify skill gaps.
- Course Planning: Recommend and assign learning material.
- Group Supervision: Create and manage group learning paths.
- Reporting: Generate team-specific learning performance reports.
- Support and Feedback:

Employee Role Features

Employees can access learning resources and track their progress:

- Dashboard: View assigned courses, track personal progress.
- Course Interaction: Watch, request, and complete learning modules.
- Self-Development: Browse optional courses, set goals.

7. Implementation Status

Completed Features

Backend Implementation

- User and course management, authentication, group management, assignment and tracking.

In Progress Features

Frontend Implementation

UI development for the completed backend features using React.js

- Dashboard interfaces for Admin, Manager, and Employee roles
- User interaction flows and form implementations
- Progress visualization components
- Course content viewer
- Assignment management interface
- Interactive progress charts

Planned Features

Quiz or Assessment System: Post-course completion assessment.

Course Requests: Employee-initiated course requests with approval workflow.

Notification System: Reminders, updates, and achievements.

Communication System: Query handling, peer interactions.

Analytics: Advanced dashboards for learning effectiveness

8. Core Functionalities

Course & Bundle Assignment

- Assign to individuals, groups.
- Set timelines and deadlines.

Progress Tracking

- Status Indicators: Not Started, In Progress, Completed, Overdue, On Hold, Blocked.
- Time Logs: Track estimated, spent, and remaining time.
- Dashboard: Visual summaries of learning metrics.

Real-Time Reporting

- Track by employee, course, group, or bundle.
- Exportable reports for audits and evaluations.

9. Future Goals and Roadmap

Short-term Goals -

First MVP Outcomes (ETA - 15 may)

Implementation of user enrollment and course functionality:

- UI implementation for Admin and Employee Dashboard
- Single user enrollment with the courses

- Progress Tracking (PDF and Videos)
- Course content add, delete and update
- User registration, deletion and update

Second MVP Outcomes (ETA - July)

Implementation of user and course module

- Finalize frontend implementation.
- Launch quizzes and assessment tools.
- Implement course requests and feedback flows.
- Basic analytics dashboards
- Develop AI ML for auto questions generation based on course content

Long-term Vision

- **Mercer Mettl-Type Online Assessment Platform:** Implement a robust, secure, and scalable online assessment system similar to Mercer Mettl for conducting proctored tests and certification evaluations.