

README/DOCUMENTATION **ERP MANAGEMENT SYSTEM**

MOHIT GUPTA - 2024354
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HOW TO RUN

- Required Softwares (Must)

- 1) Java JDK (21 or higher) : check run (java -version) in cmd

```
C:\Users\Mrityunjai Poddar>java -version
openjdk version "21.0.8" 2025-07-15 LTS
OpenJDK Runtime Environment Temurin-21.0.8+9 (build 21.0.8+9-LTS)
OpenJDK 64-Bit Server VM Temurin-21.0.8+9 (build 21.0.8+9-LTS, mixed mode, sharing)
```

If not installed - Download from (<https://adoptium.net/>)

- 2) Apache Maven : check run (mvn -version) in cmd

```
C:\Users\Mrityunjai Poddar>mvn -version
Apache Maven 3.9.11 (3e54c93a704957b63ee3494413a2b544fd3d825b)
Maven home: C:\Users\Mrityunjai Poddar\Downloads\apache-maven-3.9.11-bin\apache-maven-3.9.11
Java version: 21.0.8, vendor: Eclipse Adoptium, runtime: C:\Program Files\Eclipse Adoptium\jdk-21.0.8.9-hotspot
Default locale: en_IN, platform encoding: UTF-8
OS name: "windows 11", version: "10.0", arch: "amd64", family: "windows"
```

If not installed - Download from (<https://maven.apache.org/download.cgi>) and setup path in system environment variables

- 3) MySQL + Workbench : check run (mysql --version) in cmd

```
C:\Users\Mrityunjai Poddar>mysql --version
mysql Ver 8.0.43 for Win64 on x86_64 (MySQL Community Server - GPL)
```

If not installed - Download from (<https://dev.mysql.com/downloads/>) and do a basic setup

- Open the Project folder (ERP_Project) from the zip file where the files should look like

Name	Date modified	Type	Size
📁 .git	26-11-2025 17:41	File folder	
📁 .vscode	26-11-2025 17:41	File folder	
📁 bin	26-11-2025 17:41	File folder	
📁 src	26-11-2025 17:41	File folder	
📁 target	27-11-2025 16:25	File folder	
⚙️ .gitignore	26-11-2025 17:41	Git Ignore Source ...	1 KB
📄 dbconfig	27-11-2025 16:36	Properties Source ...	1 KB
🌐 pom	27-11-2025 16:31	Microsoft Edge HT...	2 KB
📄 README	26-11-2025 17:41	Markdown Source ...	1 KB

Right click in the empty space and click open in Terminal

- Install All Project Dependencies (Maven) : run (mvn clean install) command in terminal.

```
PS C:\Users\Mrityunjai Poddar\Downloads\ERP_Project_Copy1\ERP_Project_Final> mvn clean install
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.erp:erp-project >-----
[INFO] Building erp-project 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- clean:3.2.0:clean (default-clean) @ erp-project ---
[INFO] Deleting C:\Users\Mrityunjai Poddar\Downloads\ERP_Project_Copy1\ERP_Project_Final\target
[INFO]
[INFO] --- resources:3.3.1:resources (default-resources) @ erp-project ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] Copying 2 resources from src\main\resources to target\classes
[INFO]
[INFO] --- compiler:3.13.0:compile (default-compile) @ erp-project ---
[INFO] Recompiling the module because of changed source code.
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 34 source files with javac [debug target 21] to target\classes
[INFO]
[INFO] --- resources:3.3.1:testResources (default-testResources) @ erp-project ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory C:\Users\Mrityunjai Poddar\Downloads\ERP_Project_Copy1\ERP_Project_Final\src\test\resources
[INFO]
[INFO] --- compiler:3.13.0:testCompile (default-testCompile) @ erp-project ---
[INFO] No sources to compile
[INFO]
[INFO] --- surefire:3.2.5:test (default-test) @ erp-project ---
[INFO] No tests to run.
[INFO]
[INFO] --- jar:3.4.1:jar (default-jar) @ erp-project ---
[INFO] Building jar: C:\Users\Mrityunjai Poddar\Downloads\ERP_Project_Copy1\ERP_Project_Final\target\erp-project-1.0-SNAPSHOT.jar
[INFO]
[INFO] --- install:3.1.2:install (default-install) @ erp-project ---
[INFO] Installing C:\Users\Mrityunjai Poddar\Downloads\ERP_Project_Copy1\ERP_Project_Final\pom.xml to C:\Users\Mrityunjai Poddar\.m2\repository\com\erp\erp-project\1.0-SNAPSHOT\erp-project-1.0-SNAPSHOT.pom
[INFO] Installing C:\Users\Mrityunjai Poddar\Downloads\ERP_Project_Copy1\ERP_Project_Final\target\erp-project-1.0-SNAPSHOT.jar to C:\Users\Mrityunjai Poddar\.m2\repository\com\erp\erp-project\1.0-SNAPSHOT\erp-project-1.0-SNAPSHOT.jar
[INFO]
[INFO] BUILD SUCCESS
[INFO]
```

You should see something similar as in above image (BUILD SUCCESS)

- Run Database Setup to setup/import the seeded “.sql” file into your system (First Time Setup Only - No need to run everytime)

In the same terminal after BUILD SUCCESS or by opening the terminal in a similar manner, run (mvn exec:java "-Dexec.mainClass=setup.Setup") command and enter the required credentials.

```
PS C:\Users\Mrityunjai Poddar\Downloads\ERP_Project_Copy1\ERP_Project_Final> mvn exec:java "-Dexec.mainClass=setup.Setup"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.erp:erp-project >-----
[INFO] Building erp-project 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.1.0:java (default-cli) @ erp-project ---
===== ERP MULTI-DATABASE SETUP ======
MySQL Host (default: localhost): localhost
MySQL Port (default: 3306): 3306
MySQL Username: root
MySQL Password: 01062005

Connecting to MySQL...
Creating databases (if not exist)...
Databases ready.

Importing erp_auth.sql ...
Imported erp_auth.sql successfully.

Importing erp_main.sql ...
Imported erp_main.sql successfully.

===== SETUP COMPLETED SUCCESSFULLY ======
Saved DB credentials to dbconfig.properties
```

You should see something similar to the above image. This will create two databases “erp_auth”, “erp_main” and create all the required tables and seed the data into your local MySQL. This is a must to do, and required only once per system.

- Run the ERP Management System (Login Screen)

In the same terminal after BUILD SUCCESS and DATABASE SETUP or by opening the terminal in a similar manner, run (mvn exec:java "-Dexec.mainClass=UI.LoginPage") command and a login screen will appear in which you can access ADMIN, STUDENT & INSTRUCTOR using the login credentials given in this README.

```
PS C:\Users\Mrityunjai Poddar\Downloads\ERP_Project_Copy1\ERP_Project_Final> mvn exec:java "-Dexec.mainClass=UI.LoginPage"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.erp:erp-project >-----
[INFO] Building erp-project 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.1.0:java (default-cli) @ erp-project ---

[INFO] -----[ jar ]-----
[INFO] --- exec:3.1.0:java (default-cli) @ erp-project ---
===== ERP MULTI-DATABASE SETUP =====
MySQL Host (default: localhost): localhost
MySQL Port (default: 3306): 3306
MySQL Username: root
MySQL Password: 01062005

Connecting to MySQL...
Creating databases (if not exist)...
Databases ready.

Importing erp_auth.sql ...
Imported erp_auth.sql successfully.

Importing erp_main.sql ...
Imported erp_main.sql successfully.

===== SETUP COMPLETED SUCCESSFULLY =====
Saved DB credentials to dbconfig.properties
[WARNING] thread Thread[#37,mysql-cj-aba
[WARNING] thread Thread[#37,mysql-cj-aba
[WARNING] NOTE: 1 thread(s) did not fini
ode. Although not serious, it should be
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 33.568 s
[INFO] Finished at: 2025-11-27T20:01:49+
[INFO]
PS C:\Users\Mrityunjai Poddar\Downloads\
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.erp
[INFO] Building erp-project 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.1.0:java (default-cli) @ erp-project ---
```

❖ USE LOGIN CREDENTIALS AS

1) ADMIN

Username - admin

Password - admin1403

2) INSTRUCTOR

Username - ins

Password - inspass

3) STUDENT

Username1 - student

Password1 - studentpass

Username2 - student1

Password2 - studentpass1

Once Logged IN as Admin you can also create new users and set their username password will work in a similar manner. ALSO, there is a 5min lockout functionality after 5 wrong attempts for that particular user only. You can also change the password once logged IN.

- RUNNING AGAIN

Open terminal in similar manner as described above and run (mvn exec:java "-Dexec.mainClass=UI.LoginPage") this command only, no need to run maven install and setup database again and again.

Database Description

```
mysql> show databases;
+-----+
| Database |
+-----+
| erp_auth |
| erp_main |
| information_schema |
| mysql |
| performance_schema |
| sample |
| sys |
+-----+
```

Two DATABASES

- 1) erp_auth : for Login credentials, hashed password and lockout functionality.
- 2) erp_main : for general data of student, instructor, admin, courses, sections, grades, enrollments, settings etc.

1) erp_auth

```
mysql> use erp_auth;
Database changed
mysql> show tables;
+-----+
| Tables_in_erp_auth |
+-----+
| users_auth          |
+-----+
1 row in set (0.00 sec)

mysql> describe users_auth;
+-----+-----+-----+-----+-----+-----+
| Field      | Type       | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+-----+
| user_id    | int        | NO   | PRI | NULL    | auto_increment
| username   | varchar(50) | NO   | UNI | NULL    |
| role_      | enum('admin','instructor','user') | NO   |     | NULL    |
| password_hash | varchar(255) | NO   |     | NULL    |
| status     | varchar(20)  | YES  |     | active  |
| last_login  | timestamp   | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED
| failed_attempts | int        | YES  |     | 0        |
| lockout_until | bigint     | YES  |     | 0        |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.03 sec)
```

Only 1 table users_auth having crucial user data used for login credentials, unique users, role matching and lockout functionality.

2) erp_main

```
mysql> use erp_main;
Database changed
mysql> show tables;
+-----+
| Tables_in_erp_main |
+-----+
| courses           |
| enrolments        |
| grade_slabs       |
| grades            |
| instructors        |
| sections          |
| settings          |
| student           |
+-----+
8 rows in set (0.00 sec)
```

Multiple Tables to store different types of data and functionality.

- 1) Student - stores student data
- 2) Instructor - stores instructors data
- 3) Courses - stores all courses and data
- 4) Sections - stores section data and mapping with courses
- 5) Grade_slabs - to store the grading slabs of different sections
- 6) Grades - to store grades of students
- 7) Enrollments - acts as a link between multiple students instructors courses sections.
- 8) settings - to store the maintenance mode status.

1) Student Description

```
mysql> describe student;
+-----+-----+-----+-----+-----+-----+
| Field    | Type     | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| student_id | int      | NO   | PRI | NULL    | auto_increment |
| user_id    | int      | NO   | MUL | NULL    |                |
| name        | varchar(100) | NO  |     | NULL    |                |
| roll_no    | varchar(20)  | NO  | UNI | NULL    |                |
| program    | varchar(50)  | NO  |     | NULL    |                |
| department  | varchar(50)  | NO  |     | NULL    |                |
| semester   | int      | NO   |     | NULL    |                |
| cgpa        | decimal(3,2) | NO  |     | 0.00    |                |
| year        | year     | NO   |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
9 rows in set (0.00 sec)
```

2) Instructor Description

```
mysql> describe instructors;
+-----+-----+-----+-----+-----+-----+
| Field      | Type     | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| instructor_id | int      | NO   | PRI | NULL    | auto_increment |
| user_id    | int      | NO   | MUL | NULL    |                |
| department  | varchar(50) | YES  |     | NULL    |                |
| designation | varchar(50) | YES  |     | NULL    |                |
| name        | varchar(50) | YES  |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

3) Courses Description

```
mysql> describe courses;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| course_id | int | NO | PRI | NULL | auto_increment |
| code | varchar(10) | NO | UNI | NULL |
| title | varchar(100) | NO | | NULL |
| credits | int | NO | | NULL |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

4) Sections Description

```
mysql> describe sections;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| section_id | int | NO | PRI | NULL | auto_increment |
| course_id | int | NO | MUL | NULL |
| instructor_id | int | YES | MUL | NULL |
| day_time | varchar(50) | YES | | NULL |
| room | varchar(20) | YES | | NULL |
| capacity | int | NO | | NULL |
| semester | varchar(10) | YES | | NULL |
| year | int | YES | | NULL |
| grading_scheme | json | YES | | NULL |
| current_enrollment | int | YES | | 0 |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

5) Grade_Slabs Description

```
mysql> describe grade_slabs;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| slab_id | int | NO | PRI | NULL | auto_increment |
| instructor_id | int | NO | MUL | NULL |
| section_id | int | NO | MUL | NULL |
| grade | varchar(5) | NO | | NULL |
| min_marks | int | NO | | NULL |
| max_marks | int | NO | | NULL |
| grade_point | double | NO | | NULL |
+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)
```

6) Grades Description

```
mysql> describe grades;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| enrollment_id | int | NO | PRI | NULL |
| component | varchar(50) | NO | PRI | NULL |
| score | decimal(5,2) | YES | | 0.00 |
| weight | int | YES | | NULL |
| final_grade | varchar(2) | YES | | NULL |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

7) Enrollments Description

```
mysql> describe enrollments;
+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| enrollment_id | int   | NO   | PRI  | NULL    | auto_increment |
| student_id    | int   | NO   | MUL  | NULL    |
| section_id    | int   | NO   | MUL  | NULL    |
| status         | enum('enrolled','dropped','completed') | YES  |      | enrolled |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

8) Settings Description

```
mysql> describe settings;
+-----+-----+-----+-----+-----+
| Field     | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| setting_key | varchar(50) | NO   | PRI  | NULL    |
| setting_value | varchar(100) | NO   |      | NULL    |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

File Hierarchy and Packages

- src/
 - main/
 - Java/
 - auth package
 - backup package
 - Data package
 - domain package
 - setup package
 - UI package
 - resources/(data seeding files)
 - erp_auth.sql
 - erp_main.sql
 - pom.xml
 - dbconfig.properties

UI Description

1) Admin

The screenshot shows the Admin Dashboard with a dark green header bar. The header includes the title "Admin Dashboard", user information "Hello, ADMIN! Welcome to IIT Delhi.", and navigation links "My Profile", "Change Password", and "Logout". Below the header, there are four large, empty rectangular panels arranged in a 2x2 grid. The top-left panel is labeled "Admin Details", the top-right is "Instructors Details", the bottom-left is "Students Details", and the bottom-right is "Course/Section Details".

The screenshot shows the Admin Dashboard with a dark green header bar. The header includes the title "Admin Dashboard", user information "Hello, ADMIN! Welcome to IIT Delhi.", and navigation links "My Profile", "Change Password", and "Logout". On the left, a sidebar lists "HOME", "MANAGE USERS", "MANAGE COURSES", and "SEARCH SECTION". The main area features a search interface with fields for "Role: Student" (set to "Student"), "Roll Number:" (an input field), and a "Search" button. Below this is a table listing student records:

	Roll Number	Student Name	Branch	Semester	CGPA
STUDENT	101	John Doe	Engineering	3	0.0
INSTRUCTOR	20	A	ECE	1	0.0
ADMIN	2024258	Satyam Vohra	CSSS	4	0.0
MANAGE COURSES	2024357	Kumar2.0	CSB	3	0.0
SEARCH SECTION	2024358	Mritunjay Poddar	CSSS	3	0.0
	2024493	Saksham Madan	CSSS	3	0.0
	2024565	Rohan he ji	ECE	4	0.0
	2025	student1	CSE	1	0.0
	2322	Bondagram	CSB	2	0.0
	23330	DDDD	CSB	4	0.0
	398	student	CSE	1	0.0
	444444	tttytlytlytlyt	CSB	5	0.0
	56789	ABCD	CB	2	0.0

At the bottom right of the main area is a button labeled "+ Add New Student".

ERP Management System - Admin Dashboard

Admin Dashboard

[My Profile](#) [Change Password](#) [Logout](#)

		All Courses	Course Code: <input type="text"/>	Search		
MANAGE USERS	STUDENT	Course Code	Course Title	Credits	Sections	Edit Course
	MAT101	ppppp	Engineering Physics	4	Manage Sections	Edit
	PHY101	Engineering Physics	4	Manage Sections	Edit	
	ENG101	English Communication	3	Manage Sections	Edit	
MANAGE COURSES	EEE101	Basic Electrical Engineering	4	Manage Sections	Edit	
	CSE102	Problem Solving with C	3	Manage Sections	Edit	
	MAT102	Linear ALGEBRA	4	Manage Sections	Edit	
	ME101	Engineering Graphics	3	Manage Sections	Edit	
	CSE103	Computer Essentials	2	Manage Sections	Edit	
	EVS101	Environmental Science	2	Manage Sections	Edit	
	CSE201	Data Structures	4	Manage Sections	Edit	
	MAT201	Calculus II	4	Manage Sections	Edit	
	ECE201	Digital Logic Design	4	Manage Sections	Edit	
	CSE202	Object Oriented Programming	4	Manage Sections	Edit	
	PHY201	Physics Lab	2	Manage Sections	Edit	
	HUM201	Professional Ethics	2	Manage Sections	Edit	
	MAT202	Discrete Mathematics	4	Manage Sections	Edit	
	EEE201	Circuits and Networks	3	Manage Sections	Edit	
	CSE203	Unix and Shell Programming	3	Manage Sections	Edit	
	ENG201	Technical Writing	2	Manage Sections	Edit	
	CSE204	Algorithms	4	Manage Sections	Edit	

[+ Add New Course](#)

ERP Management System - Admin Dashboard

Admin Dashboard

[My Profile](#) [Change Password](#) [Logout](#)

		Course Code: <input type="text"/>						Search			
MANAGE USERS	STUDENT	Section ID	Day/Time	Room	Semester	Year	Capacity	Enrolled	Instructor	Assign	Edit
	MAT101	2	(TUESDAY=09:00 - 10:00)	B-102	1	2024	55	0	Abhishek Kumar	Assign	Edit
	67	(MONDAY=08:00 - 09:00)	k858		3	2024	200	0	Sumit Darak	Assign	Edit
	74	(MONDAY=11:00 - 12:00)	A202		3	2024	200	0		Assign	Edit
MANAGE COURSES	79	(FRIDAY=12:00 - 02:00)	f609		1	2024	300	2	ins	Assign	Edit
	SEARCH SECTION										

We can see all the visible functionalities, We can toggle the maintenance mode using admin and the student and instructor can view the mode status. The Courses, Sections, Users(Student, Admin, Instructor and All) are working and there are Backup Restore buttons, Change Password Functionality - Clean buttons and tables. Manage Sections, Add Student, Assign Instructors, Edit and all buttons are working properly. The role based matching is done while login and you can see it through the profile button.

2) Student

ERP Management System - Student Dashboard

Student Dashboard

Hello, Student! Welcome to IIIT Delhi.

[View Maintenance Mode](#) OFF

- HOME
- COURSE CATALOG
- MY COURSES
- GRADES
- TIMETABLE

ERP Management System - Student Dashboard

Student Dashboard

[Search](#) [Refresh](#)

Code	Title	Credits	Register
CSE101	IP	5	Register
MAT101	ppppp	4	Register
PHY101	Engineering Physics	4	Register
ENG101	English Communication	3	Register
EEE101	Basic Electrical Engineering	4	Register
CSE102	Problem Solving with C	3	Register
MAT102	Linear ALGEBRA	4	Register
ME101	Engineering Graphics	3	Register
CSE103	Computer Essentials	2	Register
EVS101	Environmental Science	2	Register
CSE201	Data Structures	4	Register
MAT201	Calculus II	4	Register
ECE201	Digital Logic Design	4	Register
CSE202	Object Oriented Programming	4	Register
PHY201	Physics Lab	2	Register
HUM201	Professional Ethics	2	Register
MAT202	Discrete Mathematics	4	Register
EEE201	Circuits and Networks	3	Register
CSE203	Unix and Shell Programming	3	Register
ENG201	Technical Writing	2	Register
CSE301	Algorithms	4	Register
CSE302	Database Management Systems	4	Register

ERP Management System - Student Dashboard

Student Dashboard

[Search](#) [Refresh](#)

Course Code	Course Title	Section	Semester	Instructor	Action
CSE101	IP	78	1	ins	Drop
MAT101	ppppp	79	1	ins	Drop
ENG101	English Communication	80	1	ins	Drop
EEE101	Basic Electrical Engineering	81	1	ins	Drop
Adccc	SSSS	82	1	ins	Drop
Mritun	opppp	83	1	ins	Drop

ERP Management System - Student Dashboard

Student Dashboard

[Search](#) [Refresh](#)

Course Code	Course Title	Section	Semester	Instructor	Action
ME101	Engineering Graphics	8	2		Drop
CSE103	Computer Essentials	9	2	Abhishek Kumar	Drop
CSE101	IP	78	1	ins	Locked
MAT101	ppppp	79	1	ins	Locked
ENG101	English Communication	80	1	ins	Locked
EEE101	Basic Electrical Engineering	81	1	ins	Locked
Adccc	SSSS	82	1	ins	Locked
Mritun	opppp	83	1	ins	Locked

ERP Management System - Student Dashboard

Student Dashboard

HOME COURSE CATALOG MY COURSES GRADES TIMETABLE

Semester: Search Refresh

Grade Details

Course Code: : CSE101	Course Title: : IP
Section ID: : 78	Marks: : 49
Grade: : C	
Component Marks	
Midterm	12.0
Project	12.0
Endterm	25.0

Close

Export CSV

ERP Management System - Student Dashboard

Student Dashboard

HOME COURSE CATALOG MY COURSES GRADES TIMETABLE

Semester: Current Refresh

Monday

- ENG101 | Sec 80 (03:00 - 05:00)
English Communication
- Adccc | Sec 82 (12:00 - 01:00)
SSSS
- Mritun | Sec 83 (02:00 - 06:00)
opppp

Tuesday

- EEE101 | Sec 81 (04:00 - 06:00)
Basic Electrical Engineering

Wednesday

- No classes scheduled

Thursday

- CSE101 | Sec 78 (12:00 - 01:00)
IP

All the student functionality is working fine. Students can view maintenance mode, course catalog, my courses, timetable and his grades in the registered sections. There is search functionality wherever required. Students can also export his grades to CSV. There is a refresh button to reload data. Locked to drop section functionality is also there after a certain time period.

3) Instructor

ERP Management System - Instructor Dashboard

Instructor Dashboard

Hello, Instructor! Welcome to IIIT Delhi.

View Maintenance Mode OFF

MY SECTIONS Status: All Search Refresh

Course Code	Course Title	Section ID	Semester
CSE101	IP	78	Year 2025
MAT101	ppppp	79	Year 2024
ENG101	English Communication	80	Year 2025
EEE101	Basic Electrical Engineering	81	Year 2024
Adcc	SSSS	82	Year 2024
Mritun	opppp	83	Year 2024

Set Weightage Set Slabs Assign Marks Show Stats

Weightage Settings X

Course Code: ENG101 Course Title: English Communication

Section ID: 80 Semester: Year 2025

Component	Percentage
Quiz	40
Midsem	30
Endsem	30

Bonus Marks (%): 0

Add Edit Delete Save Close

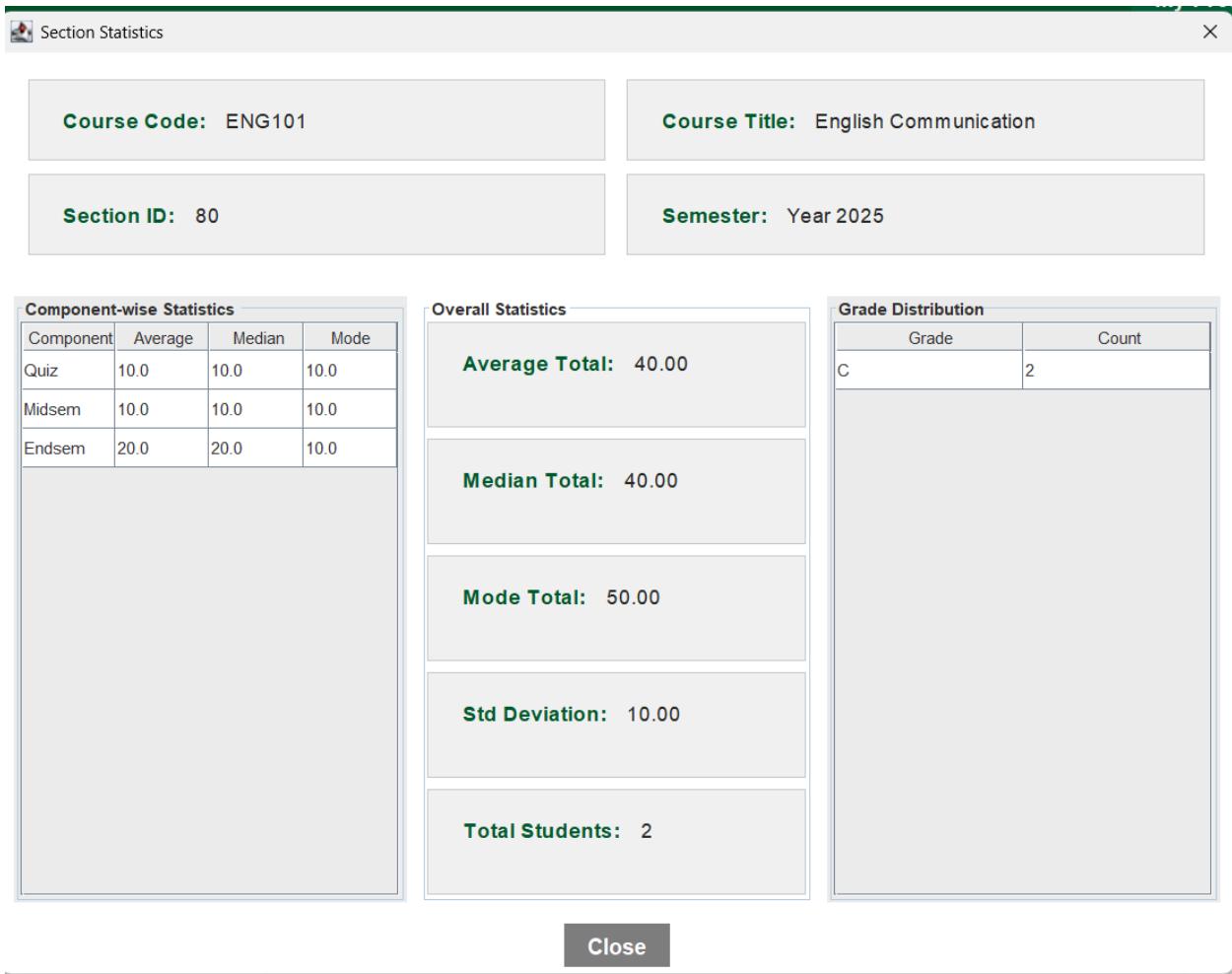
Grade Slabs Settings X

Course Code: ENG101	Course Title: English Communication		
Section ID: 80	Semester: Year 2025		
Grade	Min Marks	Max Marks	Grade Point
A	60	100	10.0
C	0	59	5.0

Add
Edit
Delete
Save
Close

Students in Section X

Course Code: ENG101	Course Title: English Communication	
Section ID: 80	Semester: Year 2025	
Roll No	Name	Assign
398	student	Assign Marks
2025	student1	Assign Marks



The screenshot shows a 'Section Statistics' window with the following details:

- Course Code:** ENG101
- Course Title:** English Communication
- Section ID:** 80
- Semester:** Year 2025

Component-wise Statistics:

Component	Average	Median	Mode
Quiz	10.0	10.0	10.0
Midsem	10.0	10.0	10.0
Endsem	20.0	20.0	10.0

Overall Statistics:

- Average Total:** 40.00
- Median Total:** 40.00
- Mode Total:** 50.00
- Std Deviation:** 10.00
- Total Students:** 2

Grade Distribution:

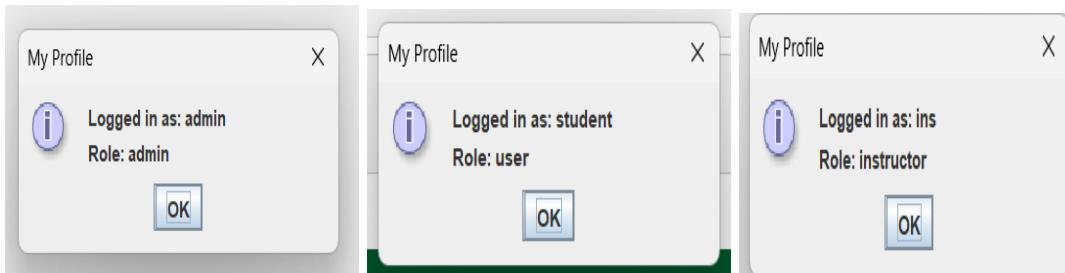
Grade	Count
C	2

Close

All the instructor functionalities are there. The instructor can view maintenance mode. See My Sections, Set Weightage, Set Slabs, Assign Marks, View Section Statistics, Change Password Functionality is also there in all Student, admin, Instructor.

Grading slabs are dynamic as the instructor can set slabs of his choice that can be different for each section. Hence there is no fixed grading rule.

4) Role Based Matching



5) ERP under Maintenance

The screenshot displays two side-by-side browser windows of the ERP Management System.

Admin Dashboard (Top Window):

- Header: "ERP Management System - Admin Dashboard".
- Title: "Admin Dashboard".
- User Greeting: "Hello, ADMIN! Welcome to IIIT Delhi."
- Buttons: "Backup", "Restore", "Set Maintenance Mode" (set to "ON").
- Links: "My Profile", "Change Password", "Logout".

Student Dashboard (Bottom Window):

- Header: "ERP Management System - Student Dashboard".
- Title: "Student Dashboard".
- Search Bar: "Course Code: [input field]" with "Search" and "Refresh" buttons.
- Sidebar Navigation:
 - HOME
 - COURSE CATALOG
 - MY COURSES
 - GRADES
 - TIMETABLE
- Main Content: A table of courses with columns: Code, Title, Credits, and Register button.

	Code	Title	Credits	Register
CSE101	IP	5	<input type="button" value="Register"/>	
MAT101	ppppp	4	<input type="button" value="Register"/>	
PHY101	Engineering Physics	4	<input type="button" value="Register"/>	
ENG101	English Communication	3	<input type="button" value="Register"/>	
EEE101	Basic Electric/ Maintenance Mode Active		<input type="button" value="Register"/>	
CSE102	Problem Solvi		<input type="button" value="Register"/>	
MAT102	Linear ALGEB		<input type="button" value="Register"/>	
ME101	Engineering G		<input type="button" value="Register"/>	
CSE103	Computer Est		<input type="button" value="Register"/>	
EVS101	Environmental Science	2	<input type="button" value="Register"/>	
CSE201	Data Structures	4	<input type="button" value="Register"/>	
MAT201	Calculus II	4	<input type="button" value="Register"/>	
ECE201	Digital Logic Design	4	<input type="button" value="Register"/>	
CSE202	Object Oriented Programming	4	<input type="button" value="Register"/>	
PHY201	Physics Lab	2	<input type="button" value="Register"/>	
HUM201	Professional Ethics	2	<input type="button" value="Register"/>	
MAT202	Discrete Mathematics	4	<input type="button" value="Register"/>	
EEE201	Circuits and Networks	3	<input type="button" value="Register"/>	
CSE203	Unix and Shell Programming	3	<input type="button" value="Register"/>	
ENG201	Technical Writing	2	<input type="button" value="Register"/>	
CSE301	Algorithms	4	<input type="button" value="Register"/>	
CSE302	Database Management Systems	4	<input type="button" value="Register"/>	
- A modal dialog box is displayed over the course list:

Course registration is temporarily disabled.
The system is currently in Maintenance Mode.
Please try again later.

OK

ERP Management System - Student Dashboard

Student Dashboard

- HOME
- COURSE CATALOG
- MY COURSES
- GRADES
- TIMETABLE

Semester: Search Refresh

Course Code	Course Title	Section	Semester	Instructor	Action
CSE101	IP	78	1	ins	Drop
MAT101	ppppp	79	1	ins	Drop
ENG101	English Communication	80	1	ins	Drop
EEE101	Basic Electrical Engineering	81	1	ins	Drop
Adccc	SSSS			ins	Drop
Mritun	opppp			ins	Drop

Maintenance Mode Active

Course Drop is temporarily disabled.
The system is currently in Maintenance Mode.
Please try again later.

OK

ERP Management System - Instructor Dashboard

Instructor Dashboard

Hello, Instructor! Welcome to IIT Delhi.

View Maintenance Mode ON

MY SECTIONS Status: All Search Refresh

Course Code	Course Title	Section ID	Semester
CSE101	IP	78	Year 2025
MAT101	ppppp	79	Year 2024
ENG101	English Communication	80	Year 2025
EEE101	Basic Electrical Engineering	81	Year 2024
Adccc	SSSS		Year 2024
Mritun	opppp		Year 2024

Maintenance Active

Action disabled during Maintenance Mode!

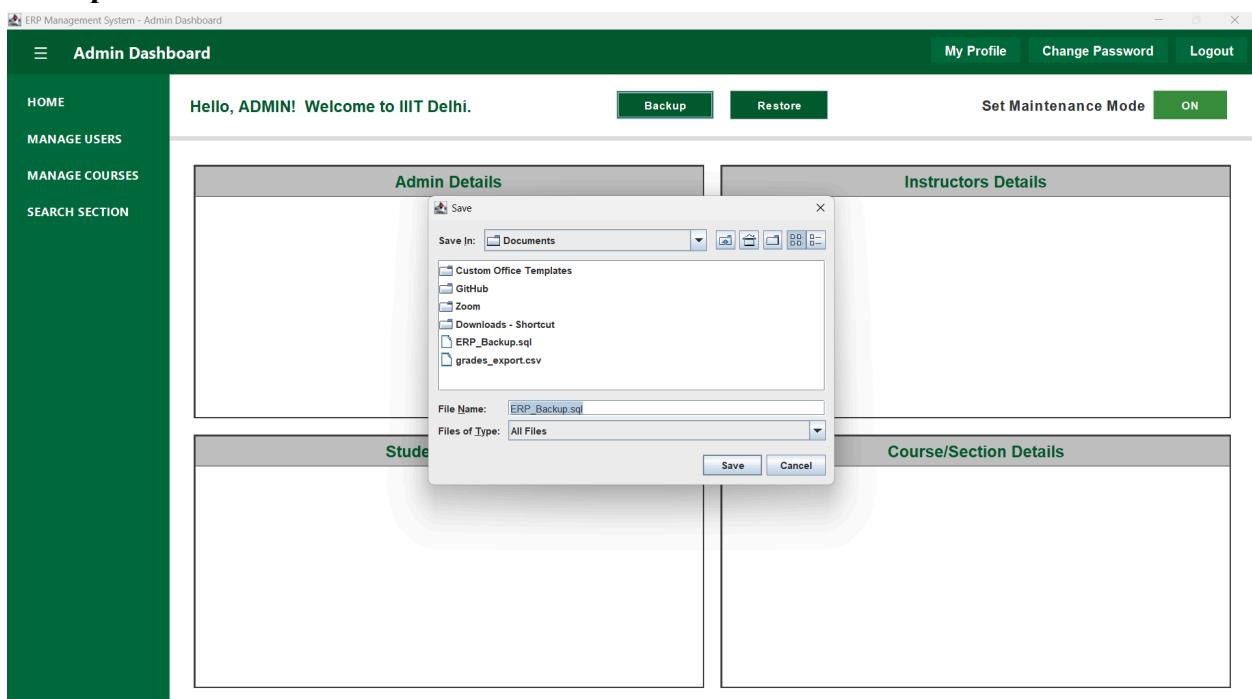
OK

Set Weightage Set Slabs Assign Marks Show Stats

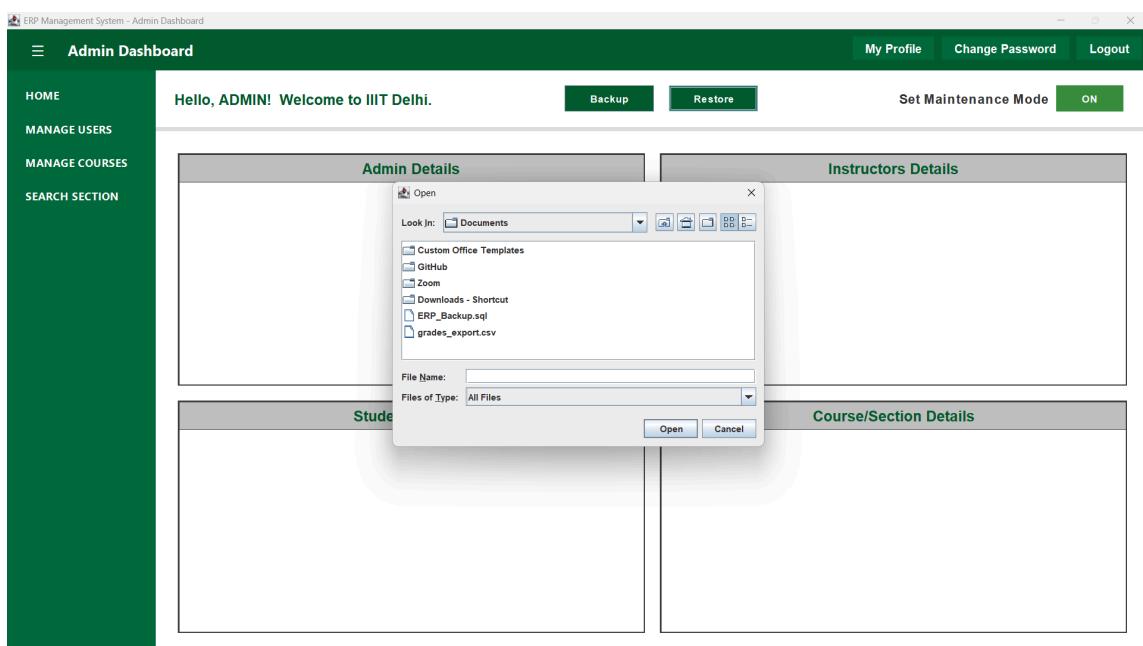
Action Disabled for all Set Weightage, Set Slabs, Assign Marks, Show Stats

6) BONUS PORTION

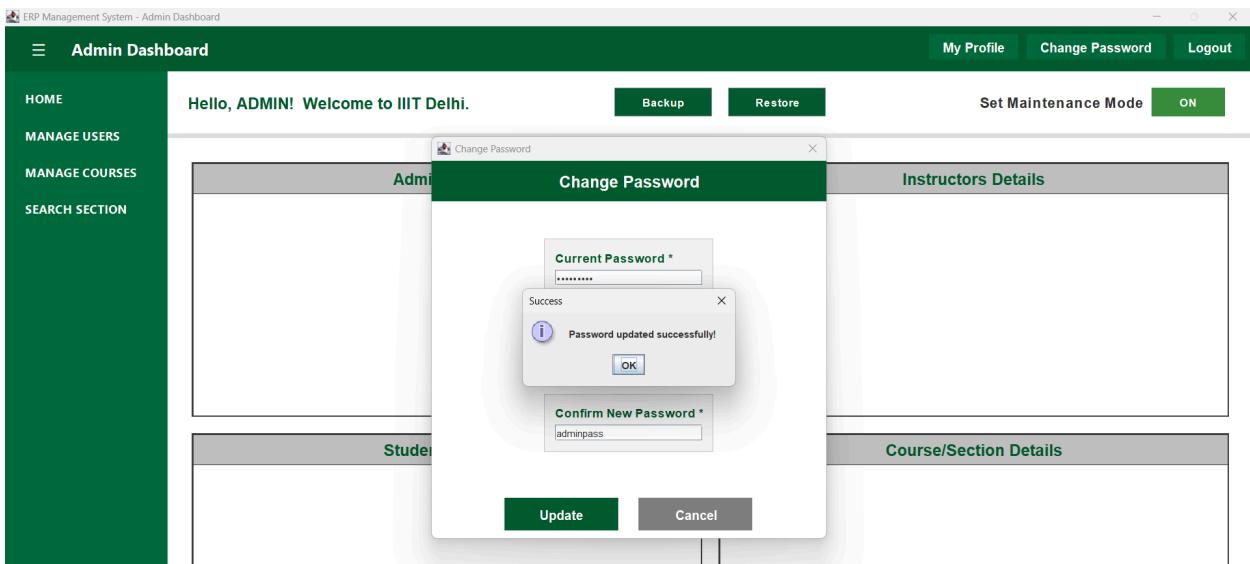
Backup



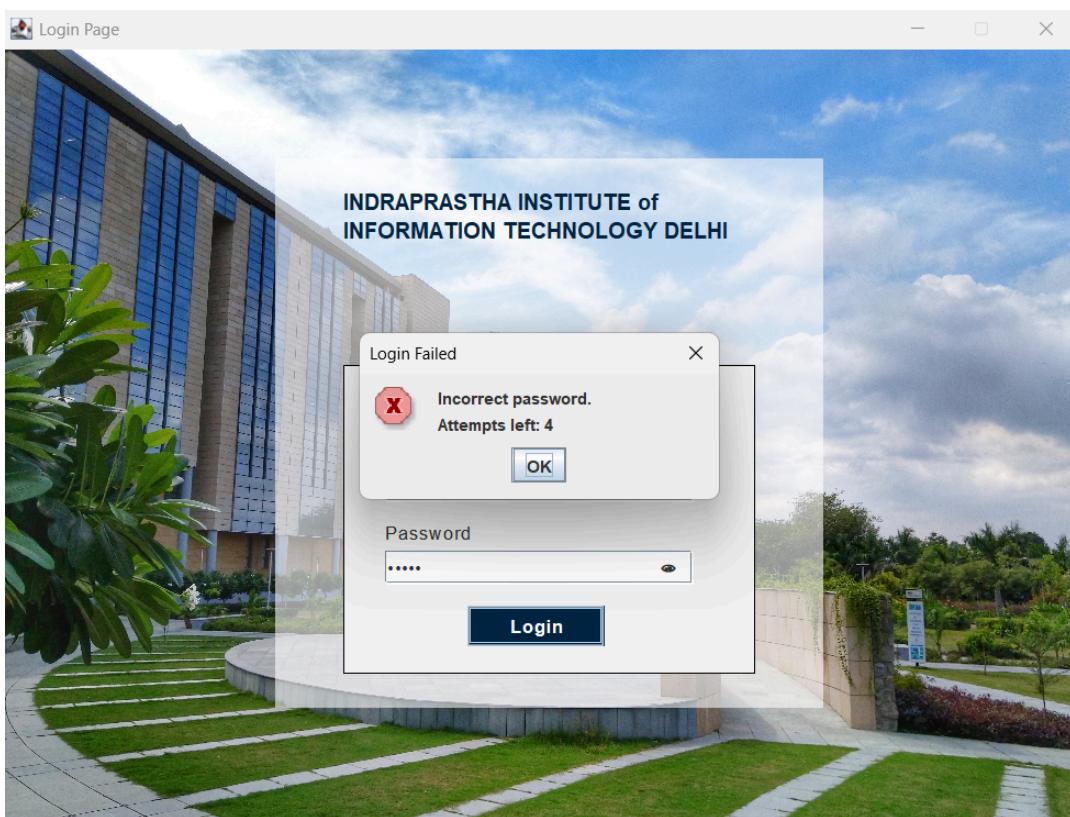
Restore

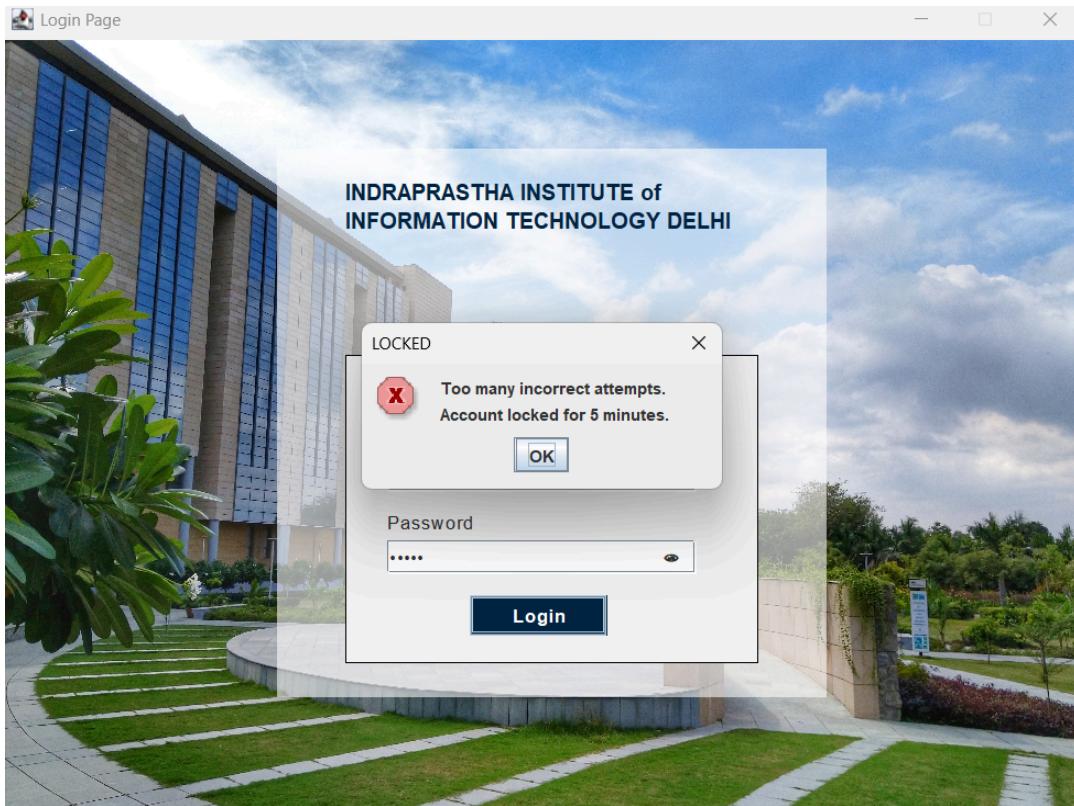


Change Password



Lockout



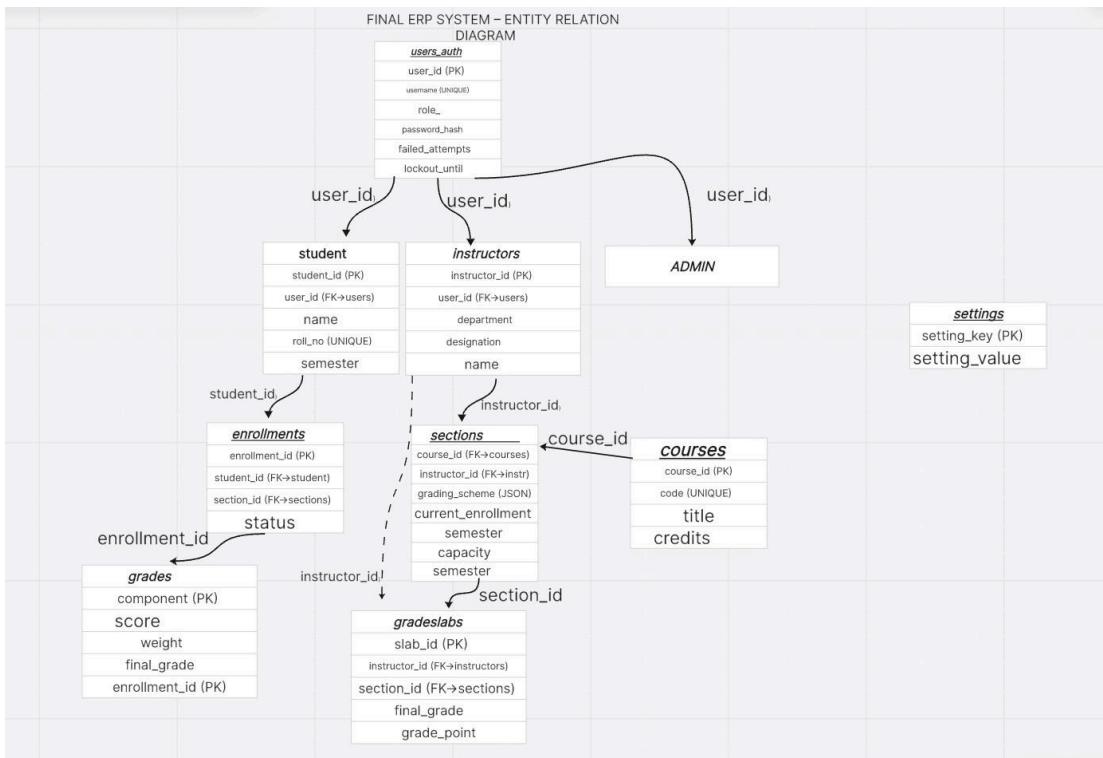


DIAGRAMS

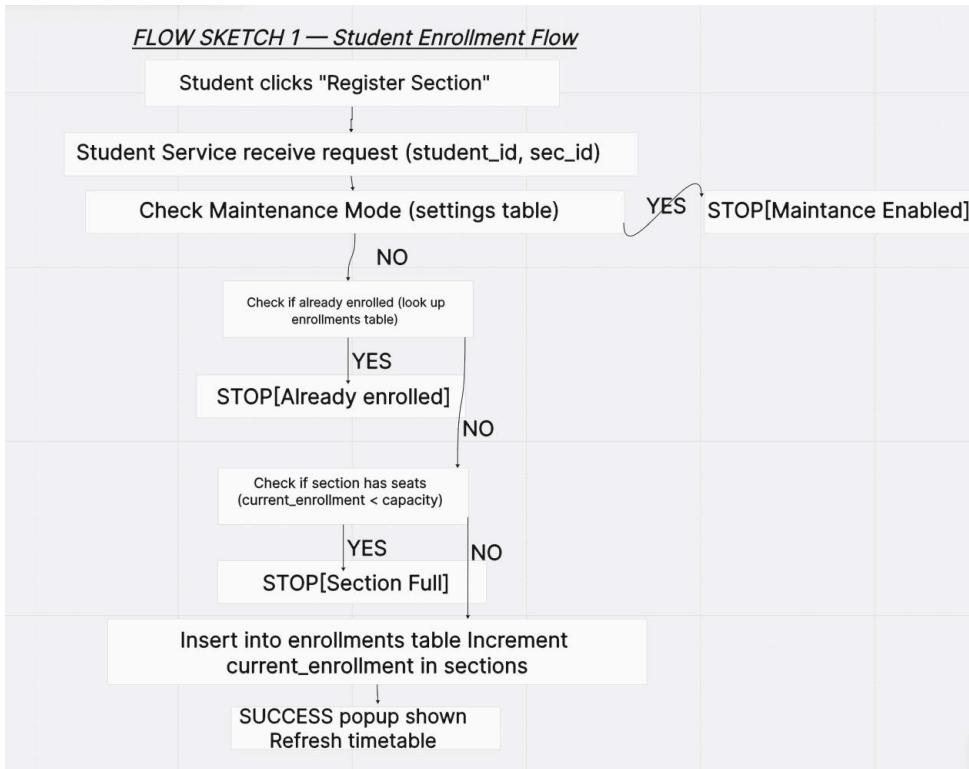
1) USE CASE LIST

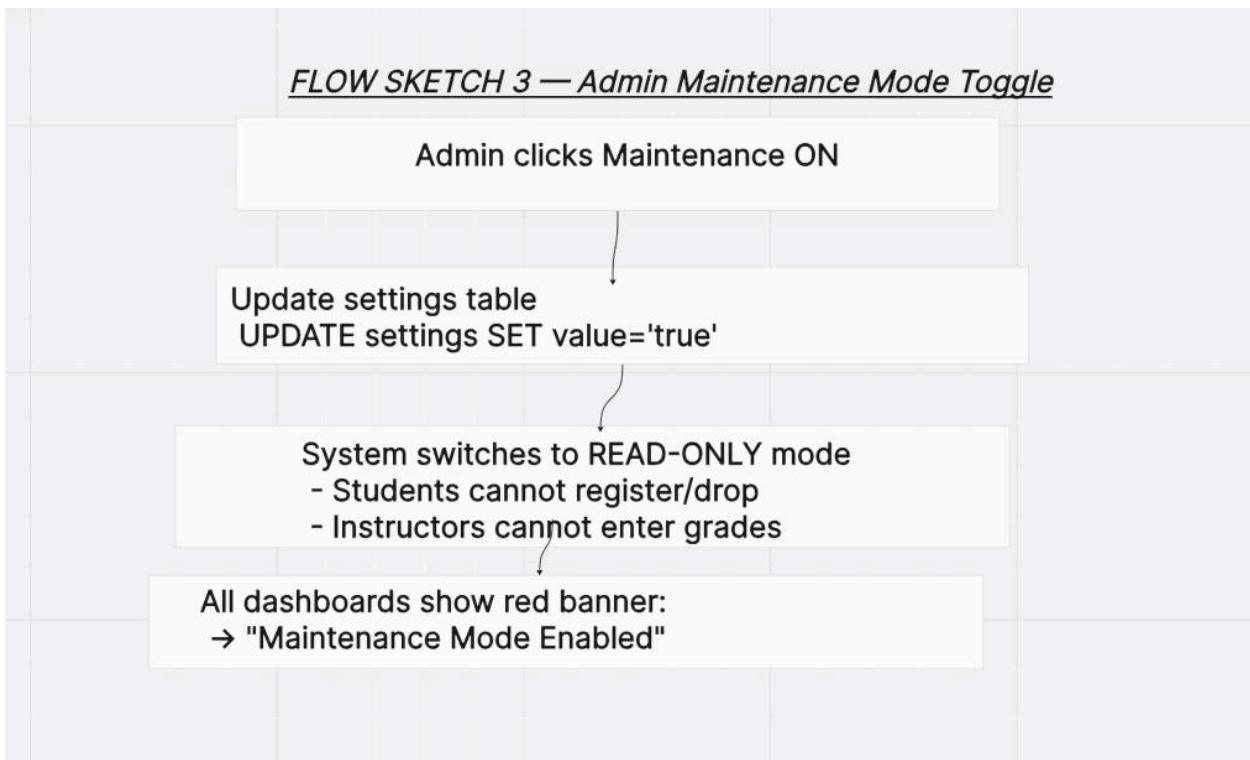
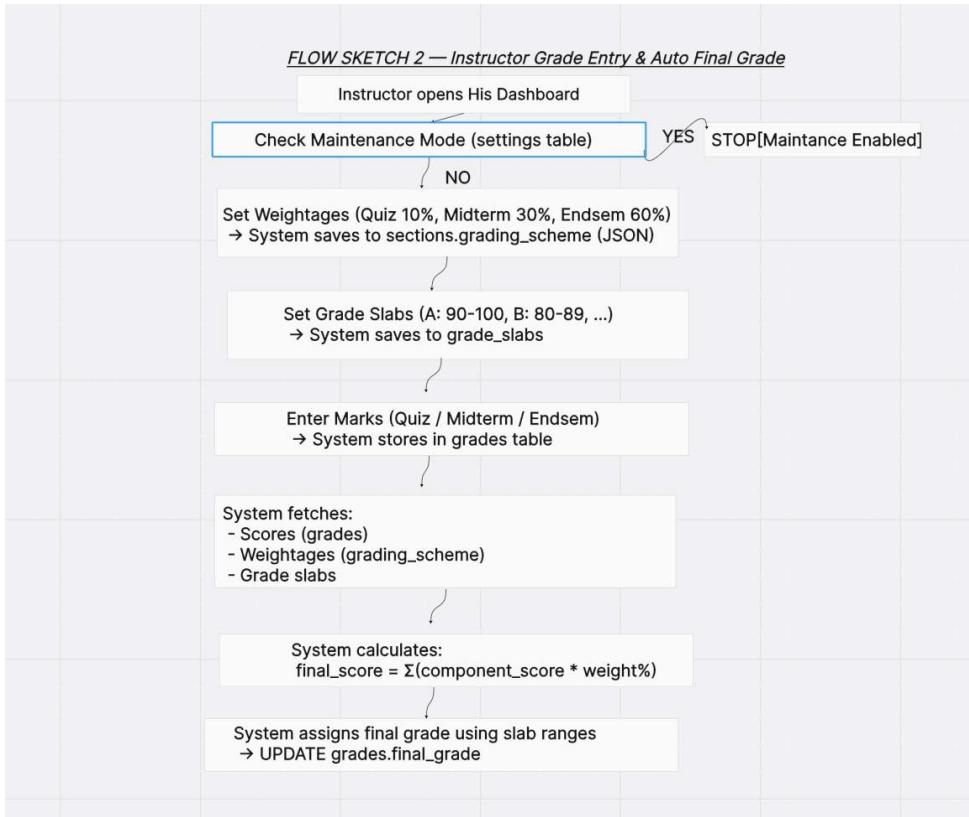
ERP SYSTEM — USE CASE LIST		
Actor 1: Student	Actor 2: Instructor	Actor 3: Admin
Login to system	Login to system	Login to system
Change Password	Change Password	Change Password
View available courses	View assigned sections	Create user accounts (student/instructor/admin)
View available sections	View list of students enrolled in a section	Create courses (code, title, credits)
Register in a section	Enter marks (quiz, midterm, endsem, project, etc.)	Create sections
Drop a section	Update marks	Update section details (capacity, timing, room)
View timetable (auto-generated from enrolled sections)	Define weightage of evaluation components for a section	Assign instructor to section
View enrolled courses	Define grade slabs for a section	Backup/Restore system records
View grades (per component + final grade)	Upload/modify final grades	Toggle maintenance mode (ON/OFF)
View grade slabs for a section	View statistics (average, median, distribution)	Blocks student registration/drop
Download transcript / grade sheet	Logout	Blocks instructor grade entry
Logout		Logout

2) ENTITY RELATIONS



3) FLOW SKETCHES x 3



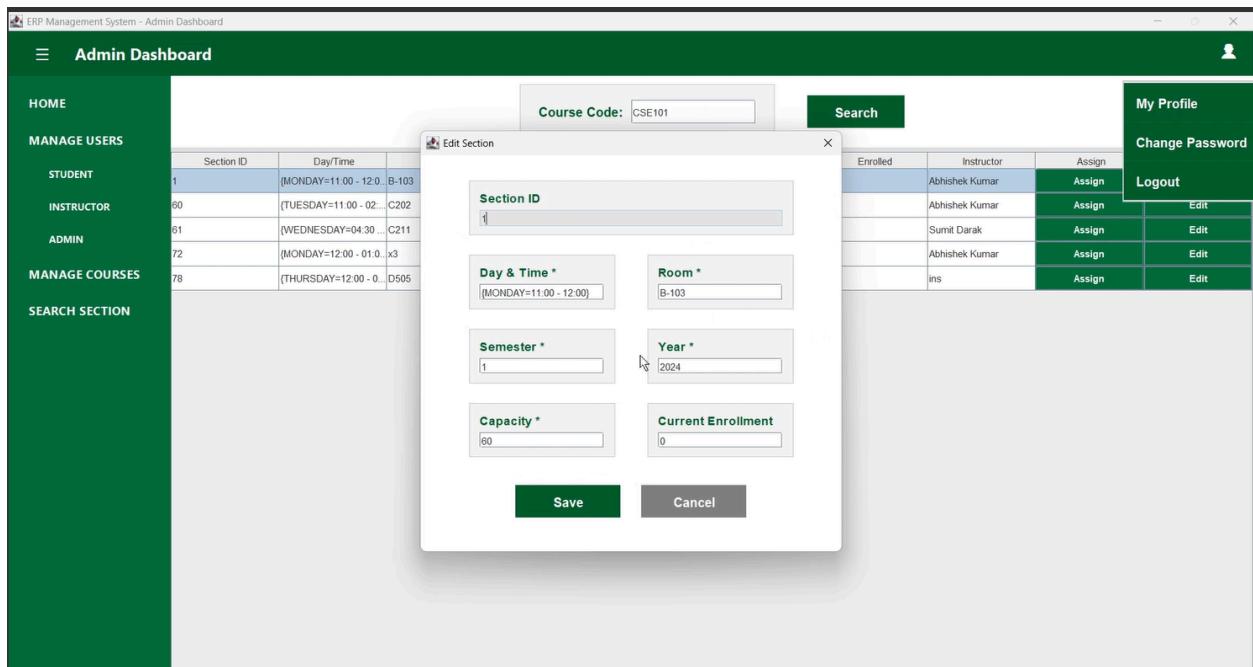


BUGS & FIXES AFTER RECORDING DEMO VIDEO

- 1) After Admin Set ERP on Maintenance the student can register a course within 3 seconds after login, but after 3 seconds it no longer registers or drops. This is due to the code checking every 3 seconds for if there is a change in maintenance mode but the initial value was set to false by default. This minor bug was in Student only, not in Instructor. I fixed that bug by changing initialization directly from database not hardcoded (hardcoded was set during UI designing)

```
86     setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
87     setLayout(new BorderLayout());
88
89     createProfileDialog();
90
91     maintenanceMode = settingsDao.isMaintenanceOn();
92
93     topPanel = topBar();
94     sidePanel = sideBar();
95     mainPanel = mainArea();
96
97     add(mainPanel, BorderLayout.CENTER);
98     add(topPanel, BorderLayout.NORTH);
99     add(sidePanel, BorderLayout.WEST);
100
101    checkMaintenanceMode();
102 }
```

- 2) Unnecessary My Profile, Change Password and LogOut Panel Popup without even clicking its button.



Above is a screenshot from a demo video where the panel unnecessarily pops up in the top right corner.

Fix : Removed Panel and added buttons directly in top bar only

