

**TESTING & EVALUATION**  
**ERP MANAGEMENT SYSTEM**

**MOHIT GUPTA - 2024354**  
**MRITYUNJAI PODDAR - 2024358**

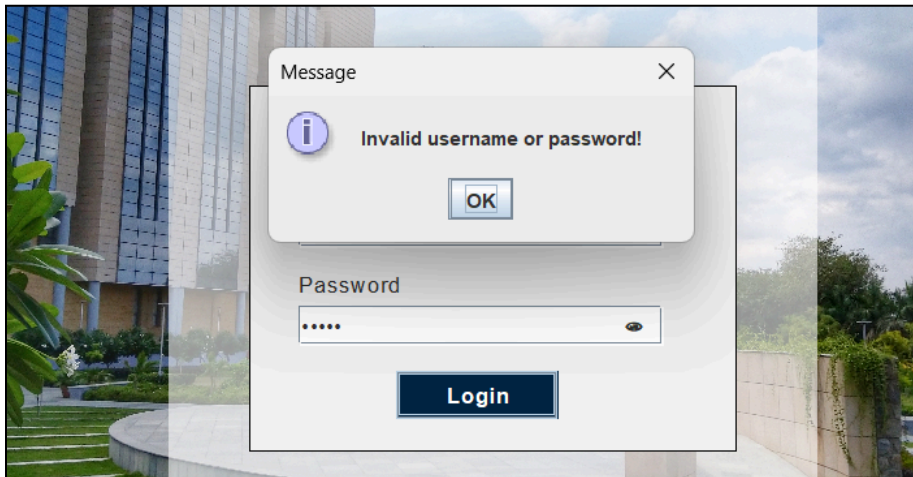
**Testing Summary**

<b>Wrong password is rejected; shows “incorrect username or password.</b>	<b>PASSED</b>
<b>After login, the dashboard matches the role (student/instructor/admin).</b>	<b>PASSED</b>
<b>See catalog with code/title/credits/capacity/instructor.</b>	<b>PASSED</b>
<b>Register in a section with free seats → success and appears in “My Registrations” and timetable</b>	<b>PASSED</b>
<b>Try to register the same section again → blocked with a clear message.</b>	<b>PASSED</b>
<b>Try to register in a full section → blocked with “Section full.</b>	<b>PASSED</b>
<b>Drop before deadline → success; appears removed</b>	<b>PASSED</b>
<b>View grades for registered courses and sections.</b>	<b>PASSED</b>
<b>Download transcript (CSV or PDF) listing completed courses/grades.</b>	<b>PASSED</b>
<b>See only their own sections.</b>	<b>PASSED</b>
<b>Enter scores (quiz/midterm/end-sem) → saved</b>	<b>PASSED</b>
<b>Compute final grade using the rule in the report → shows final values</b>	<b>PASSED</b>
<b>Try to edit a section they do not teach → blocked with “Not your section.”</b>	<b>PASSED</b>
<b>Create a new student user (username+role in Auth DB; student profile in ERP DB)</b>	<b>PASSED</b>
<b>Create a course and a section; assign instructor.</b>	<b>PASSED</b>
<b>Toggle Maintenance ON → banner shows; student/instructor</b>	<b>PASSED</b>

can view but cannot change (register/drop, grades blocked with message).	
Toggle Maintenance OFF → normal behavior returns	<b>PASSED</b>
Password hash exists in Auth DB (not the real password)	<b>PASSED</b>
ERP DB does not contain passwords	<b>PASSED</b>
Login uses Auth DB, then loads student/instructor profile from ERP DB via the shared user_id	<b>PASSED</b>
Transcript export (Student) or grade CSV export (Instructor) works and opens.	<b>PASSED</b>
Edge & negative tests <input type="checkbox"/> Capacity cannot be negative or nonsensical. <input type="checkbox"/> Register/drop after the stated deadline → blocked with message. <input type="checkbox"/> Student cannot view or change another student's data. <input type="checkbox"/> Instructor cannot grade students from another instructor's section. id. <input type="checkbox"/> With Maintenance ON, student/instructor changes are blocked everywhere (not only on one screen)	<b>PASSED</b>
Data integrity checks <input type="checkbox"/> Duplicate enrollments (same student+same section) are prevented. <input type="checkbox"/> Removing a section: either blocked when students are enrolled or clearly explained/documented	<b>PASSED</b>
Security basics <input type="checkbox"/> Real passwords are never stored; only hashes. <input type="checkbox"/> AChange Password dialog exists (bonus). <input type="checkbox"/> After 5 wrong login attempts, show a warning or temporary lock (bonus). <input type="checkbox"/> Access rules checker is called before any change (we will try to bypass via UI flow)	<b>PASSED</b>
UI/UX checks <input type="checkbox"/> Buttons and labels are clear; errors are friendly. <input type="checkbox"/> Tables for lists; sorting/filtering is a plus. <input type="checkbox"/> Long actions show “please wait” (even a simple dialog).	<b>PASSED</b>
Performance sanity <input type="checkbox"/> Catalog list of ~100 courses opens quickly (a few seconds or less). <input type="checkbox"/> App starts without long hangs or crashes.	<b>PASSED</b>
Maintenance & (optional) backup/restore <input type="checkbox"/> Maintenance toggle flips the settings flag and the UI shows a banner immediately. <input type="checkbox"/> All student/instructor writes are blocked while ON. <input type="checkbox"/> (Bonus) Backup/restore: trigger backup, change a row, restore, and see it revert	<b>PASSED</b>

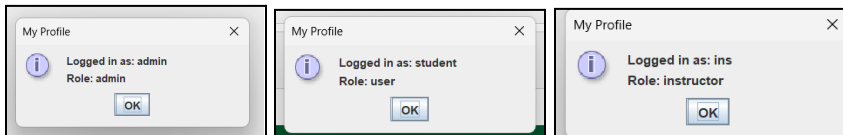
- **Login & Roles**

1) Wrong password is rejected; shows “incorrect username or password.”



2) After login, the dashboard matches the role (student/instructor/admin).

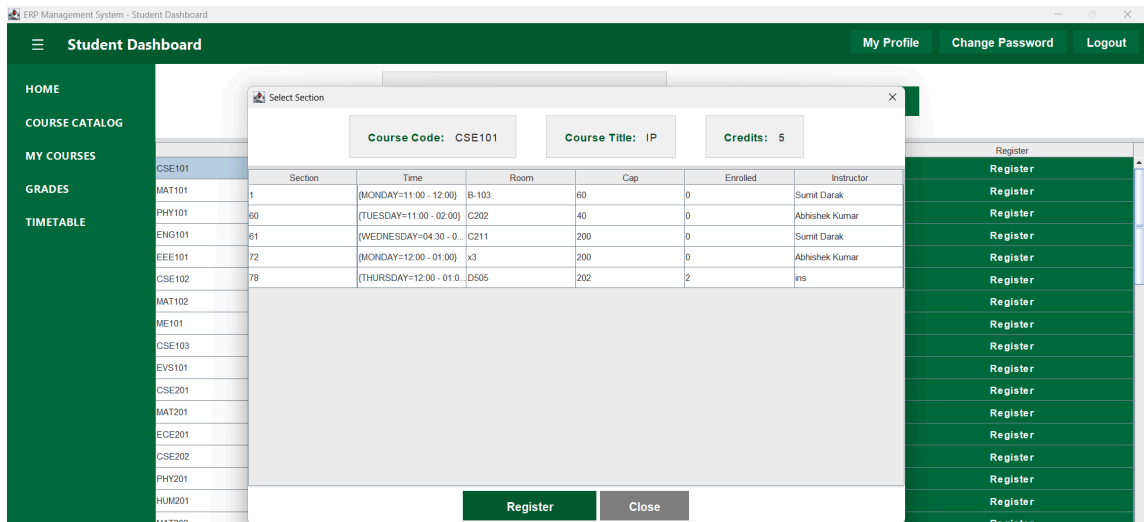
```
loginButton.addActionListener(e -> {
    String username = userField.getText();
    String password = new String(passField.getPassword());
    boolean success = AuthService.login(username, password);
    System.out.println("Login success: " + success);
    if (success) {
        frame.dispose();
        String role = authsession.getRole();
        if ("admin".equals(role)) {
            AdminDashboard admin = new AdminDashboard();
            admin.setVisible(success);
        } else if ("instructor".equals(role)) {
            InstructorDashboard instructor = new InstructorDashboard();
            instructor.setVisible(b: true);
        } else if ("user".equals(role)) {
            StudentDashboard student = new StudentDashboard();
            student.setVisible(b: true);
        } else {
            JOptionPane.showMessageDialog(frame, "Unknown role: " + role);
        }
    } else {
        JOptionPane.showMessageDialog(frame, message: "Invalid username or password!");
    }
});
```



The roles are matched and relevant dashboard is displayed, can be verified using my profile button in the dashboard.

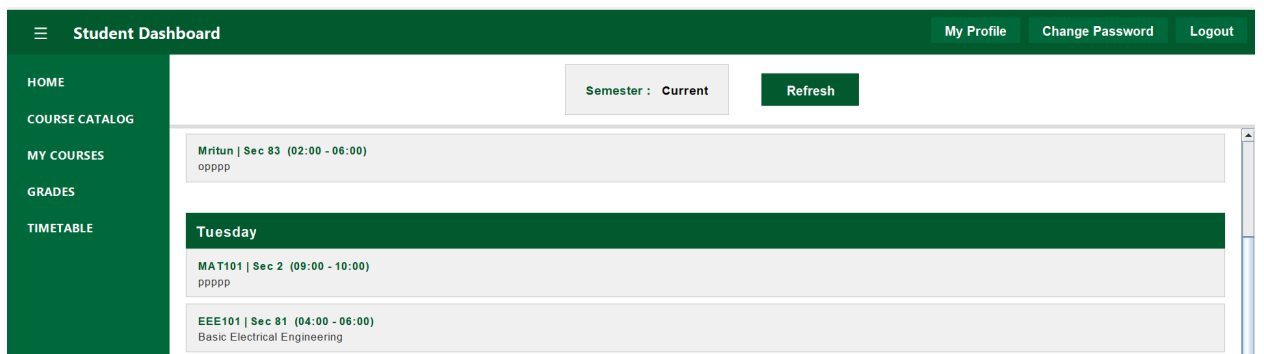
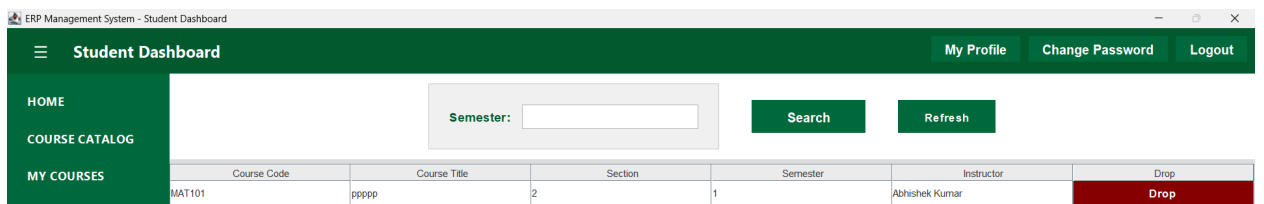
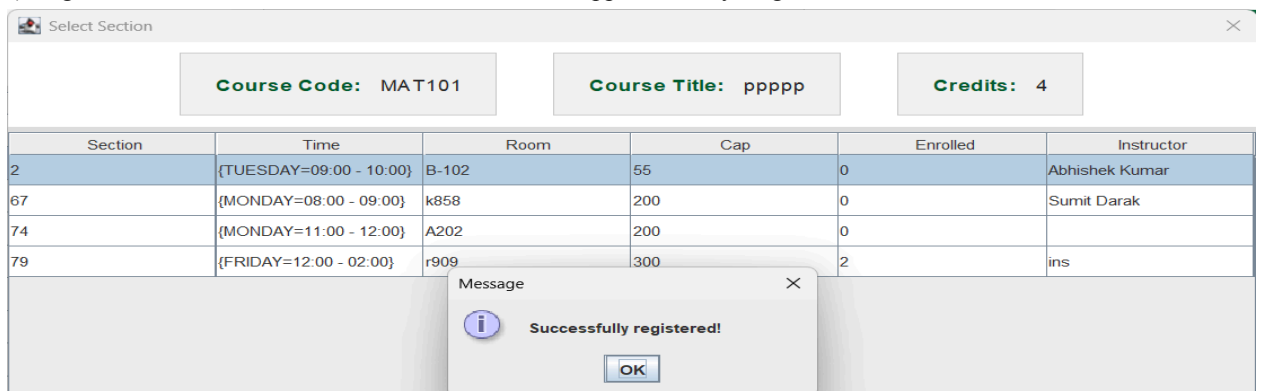
- **Student**

1) See catalog with code/title/credits/capacity/instructor.



The Student can see the course catalog of all the available courses and after clicking on the Register button the student can browse different sections of a course along with the Instructor and capacity.

2) Register in a section with free seats → success and appear in “My Registrations” and timetable.



3) Try to register the same section again → blocked with a clear message.

Select Section

Course Code: MAT101

Course Title: ppppp

Credits: 4

Section	Time	Room	Cap	Enrolled	Instructor
2	{TUESDAY=09:00 - 10:00}	B-102	55	1	Abhishek Kumar
37	{MONDAY=08:00 - 09:00}	k858	200	0	Sumit Darak
74	{MONDAY=11:00 - 12:00}	A202	200	0	
79	{FRIDAY=12:00 - 02:00}	r909	300	2	ins

Already Enrolled

You are already enrolled in another section of this course.

OK

4) Try to register in a full section → blocked with “Section full.”

Select Section

Course Code: EEE101

Course Title: Basic Electrical Engineering

Credits: 4

Section	Time	Room	Cap	Enrolled	Instructor
5	{FRIDAY=09:00 - 10:00}	B-105	75	0	
81	{}	L303	100	100	ins

Message

Section full!

OK

5)Drop before deadline → success; appears removed

Mritun	opppp	83	1	ins	Drop
--------	-------	----	---	-----	------

Message

Successfully dropped Mritun (Section 83)

OK

After pressing OK it removes successfully

6)View grades for registered courses and sections.

ERP Management System - Student Dashboard

Student Dashboard

My Profile Change Password Logout

HOME

COURSE CATALOG

MY COURSES

GRADES

TIMETABLE

Semester:

Search

Refresh

Course Code	Course Title	Section	Marks	Grade	Details
MAT101	ppppp	2	0		See Details
ENG101	English Communication	80	30	C	See Details
EEE101	Basic Electrical Engineering	81	70	A	See Details
Adccc	SSSS	82	50	A	See Details
Mritun	opppp	83	78	C	See Details

7)Download transcript (CSV or PDF) listing completed courses/grades.

ERP Management System - Student Dashboard

**Student Dashboard** My Profile Change Password Logout

HOME

COURSE CATALOG

MY COURSES

GRADES

TIMETABLE

Semester:

Search Refresh

Course Code	Course Title	Section	Marks	Grade	Details
MAT101	ppppp	2	0		<a href="#">See Details</a>
ENG101	English Communication	80	30	C	<a href="#">See Details</a>
EEE101	Basic Electrical Engineering	81	70	A	<a href="#">See Details</a>
Adccc	SSSS	82	50	A	<a href="#">See Details</a>
Mltun	opppp	83	78	C	<a href="#">See Details</a>

Success

CSV Exported Successfully!  
Saved to: C:\Users\Mrityunjai Poddar\Documents\grades\_export.csv

OK

Export CSV

## • Instructor

1) See only their own sections.

ERP Management System - Instructor Dashboard

**Instructor Dashboard** My Profile Change Password Logout

Hello, Instructor! Welcome to IIIT Delhi. View Maintenance Mode OFF

**MY SECTIONS** Status: Ongoing Search Refresh

Course Code	Course Title	Section ID	Semester
CSE101	IP	78	Year 2025
ENG101	English Communication	80	Year 2025

2) Enter scores (quiz/midterm/end-sem) → saved.

Weightage Settings

**Course Code:** CSE101 **Course Title:** IP

**Section ID:** 78 **Semester:** Year 2025

Component	Percentage
Midterm	30
Project	20
Endterm	50

Message

Weightage saved successfully!

OK

3) Compute final grade using the rule in the report → shows final values.

Instructor Can set dynamically in our ERP - must save student marks after setting slabs for stats

Grade Slabs Settings

Course Code: CSE101

Section ID: 78

Course Title: IP

Semester: Year 2025

Grade	Min Marks	Max Marks	Grade Point
A	75	100	10.0
B	65	74	9.0
C	50	64	8.0
D	0	49	7.0

Message

Grade slabs saved successfully!

OK

Add

Edit

Delete

Save

Close

4)Try to edit a section they do not teach → blocked with “Not your section.”

In Our ERP Instructor can only see sections he teaches

- Admin

1)Create a new student user (username+role in Auth DB; student profile in ERP DB).

Add Student

Set Username \*

test

Set Password \*

....

Program \*

M.Tech

Semester \*

Semester 2

Set Student Name \*

test

Roll Number \*

101010

Department \*

CSB

Year \*

2025

Save

Cancel

```

65 | test | user | $2a$08$2y/FR.33eCJwKjWriNdv4uhenU800FFRIWsux4JkjYqsDCDp5bkVi | active | 2025
-11-28 00:42:05 | 0 | 0 |

31 rows in set (0.00 sec)

mysql> select * from student;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| student_id | user_id | name | roll_no | program | department | semester | cgpa | year |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 37 | John Doe | 101 | Computer Science | Engineering | 3 | 0.00 | 2024 |
| 2 | 43 | Saksham Madan | 2024493 | B.Tech | CSSS | 3 | 0.00 | 2025 |
| 3 | 44 | ABCD | 56789 | B.Tech | CB | 2 | 0.00 | 2045 |
| 4 | 45 | DDDD | 23330 | M.Tech | CSB | 4 | 0.00 | 2025 |
| 5 | 46 | Rohan he ji | 2024565 | B.Tech | ECE | 4 | 0.00 | 2028 |
| 6 | 47 | A | 20 | M.Tech | ECE | 1 | 0.00 | 2054 |
| 7 | 48 | Mritunjay Poddar | 2024358 | B.Tech | CSSS | 3 | 0.00 | 2025 |
| 8 | 51 | tytytytytyt | 444444 | M.Tech | CSB | 5 | 0.00 | 2025 |
| 9 | 55 | Satyam Vohra | 2024258 | B.Tech | CSSS | 4 | 0.00 | 2025 |
| 10 | 56 | Bondagram | 2322 | M.Tech | CSB | 2 | 0.00 | 2025 |
| 11 | 60 | student | 398 | M.Tech | CSE | 1 | 0.00 | 2024 |
| 12 | 61 | student1 | 2025 | B.Tech | CSE | 1 | 0.00 | 2025 |
| 13 | 63 | Kumar2.0 | 2024357 | B.Tech | CSB | 3 | 0.00 | 2024 |
| 14 | 65 | test | 101010 | M.Tech | CSB | 2 | 0.00 | 2025 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+

14 rows in set (0.00 sec)

```

2) Create a course and a section; assign an instructor.

The screenshot shows the application interface for adding a course and section, and assigning an instructor.

**Add Course Form:**

- Course Code \*: CSE236
- Course Title \*: Operating System
- Course Credits \*: 4
- Buttons: Save, Cancel

**Add Section Form:**

- Course Code: CSE236
- Day & Time \*: Tue 10:00-11:30
- Room \*: LHC101
- Capacity \*: 100
- Semester \*: 1
- Year \*: 2025
- Current Enrollment: 10
- Buttons: Save, Cancel

**Success Messages:**

- Course added successfully!
- Section added successfully!

**Instructor Assignment Confirmation:**

Success

Instructor Sumit Darak successfully assigned to section 84!

OK

**Search and Table:**

Course Code: CSE236 Search

Section ID	Day/Time	Room	Semester	Year	Capacity	Enrolled	Instructor	Assign	Edit
84	(TUESDAY=10:00 - 11:30)	LHC101	1	2025	100	0	Sumit Darak	Assign	Edit

3) Toggle Maintenance ON → banner shows; student/instructor can view but cannot change (register/drop, grades blocked with message). □ Toggle Maintenance OFF → normal behavior returns  
 Showed in Detail in Demo Video and Readme/Documentation

- Password & Auth separation ☐ Password hash exists in Auth DB (not the real password). ☐ ERP DB does not contain passwords. ☐ Login uses Auth DB, then loads student/instructor profile from ERP DB via the shared

```

-11-20 01:50:15 | 0 | 0 |
| 59 | Abhishek.Kumar | instructor | $2a$06$CrCTVC4kLcf66acaFBcvCeHQ/r4pZLq1roXYGQojv5sm08IYD0REm | active | 2025
-11-20 22:14:23 | 0 | 0 |
| 60 | student | user | $2a$13$g7c8VJN.9v5rvFG7Fxe04eRbLdd5V6YnEPLX7J6uxZbMaEar06Yy0 | active | 2025
-11-22 22:46:40 | 0 | 0 |
| 61 | student1 | user | $2a$07$pvkq2U4LONahD/t.Xug1Fewj5QQsPnK1d80syDK6vRXDujJTHAonW | active | 2025
-11-23 12:13:53 | 0 | 0 |
| 62 | ins | instructor | $2a$07$E/inwsXhcuk9A.LzMzNV3uAIZNwgNGtsf8Q6hbm/h0aLOBvL.NTr2 | active | 2025
-11-23 20:03:21 | 0 | 0 |
| 63 | MK2.0 | user | $2a$04$cU5/ZrWfJCJ.TtQekB3Rr0.vdyqe.49nvcQpnmGUrSQcu00LfE4u6 | active | 2025
-11-24 13:11:31 | 0 | 0 |
| 64 | Gaurav.Sir | instructor | $2a$06$3j7a2ibe/lnv1k00FRFosu0Sjpa461UFGMsHL3j.VQR1Km.r0R/QC | active | 2025
-11-24 13:12:12 | 0 | 0 |
| 65 | test | user | $2a$08$2y/FR.33eCJwKjWriNdv4uhenU800FFRIWsux4JkYqsDCDp5bkVi | active | 2025
-11-28 00:42:05 | 0 | 0 |

```

Only stored hashed, and i described databases in detail in README everything is working exactly the same

- Exports (pick at least one) ☐ Transcript export (Student) or grade CSV export (Instructor) works and opens. As shown above in Students testing export csv in student is working .

```

J LoginPage.java U grades_export.csv X
C: > Users > Mrityunjai Poddar > Documents > grades_export.csv > data
1 Course Code,Course Title,Section,Marks,Grade
2 MAT101,ppppp,2,0,
3 ENG101,English Communication,80,30,C
4 EEE101,Basic Electrical Engineering,81,70,A
5 Adccc,SSSS,82,50,A
6 Mritun,opppp,83,78,C
7

```

- Edge & negative tests ☐ Capacity cannot be negative or nonsensical. ☐ Register/drop after the stated deadline → blocked with message. ☐ Student cannot view or change another student's data. ☐ Instructor cannot grade students from another instructor's section. id. ☐ With Maintenance ON, student/instructor changes are blocked everywhere (not only on one screen)  
Working exactly the same, students and instructors can only edit their own data because they are mapped by unique usernames, password and ids while other edge cases are shown in readme and demo video.
- Data integrity checks ☐ Duplicate enrollments (same student+same section) are prevented. ☐ Removing a section: either blocked when students are enrolled or clearly explained/documented.
- Security basics ☐ Real passwords are never stored; only hashes. ☐ AChange Password dialog exists (bonus). ☐ After 5 wrong login attempts, show a warning or temporary lock (bonus). ☐ Access rules checker is called before any change (we will try to bypass via UI flow).
- UI/UX checks ☐ Buttons and labels are clear; errors are friendly. ☐ Tables for lists; sorting/filtering is a plus. ☐ Long actions show “please wait” (even a simple dialog).
- Performance sanity ☐ Catalog list of ~100 courses opens quickly (a few seconds or less). ☐ App starts without long hangs or crashes. H. Maintenance & (optional) backup/restore ☐ Maintenance toggle flips the settings flag and the UI shows a banner immediately. ☐ All student/instructor writes are blocked while ON. ☐ (Bonus) Backup/restore: trigger backup, change a row, restore, and see it revert.

All these things are working as stated and exactly fine and shown in detail in readme and demo video. I also attached screenshots of almost everything here in the testing sheet as shown above.