TESTING & EVALUATION
ERP MANAGEMENT SYSTEM

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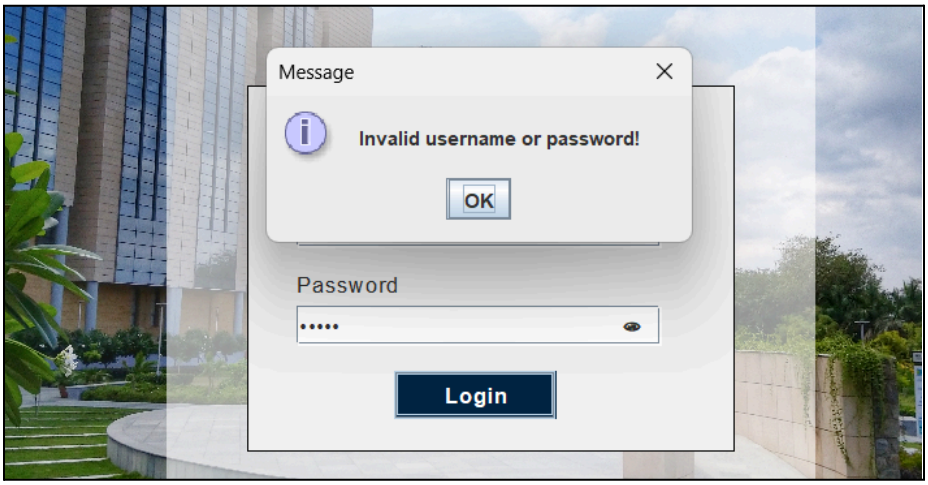
Testing Summary

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

can view but cannot change (reg ister/drop, grades blocked with message).	
Toggle Maintenance OFF → normal behavior returns	**PASSED**
Password hash exists in Auth DB (not the real password)	**PASSED**
ERP DB does not contain passwords	**PASSED**
Login uses Auth DB, then loads student/instructor profile from ERP DB via the shared user_id	**PASSED**
Transcript export (Student) or grade CSV export (Instructor) works and opens.	**PASSED**
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)	**PASSED**
Data integrity checks □ Duplicate enrollments (same student+same section) are prevented. □ Removing a section: either blocked when students are enrolled or clearly explained/documented	**PASSED**
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)	**PASSED**
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).	**PASSED**
Performance sanity □ Catalog list of ~100 courses opens quickly (a few seconds or less). □ App starts without long hangs or crashes.	**PASSED**
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	**PASSED**

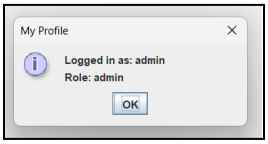
- **Login & Roles**

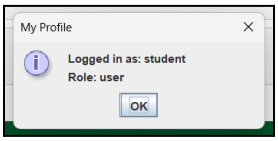
1)Wrong password is rejected; shows “incorrect username or password.”



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!");
    }
});
```

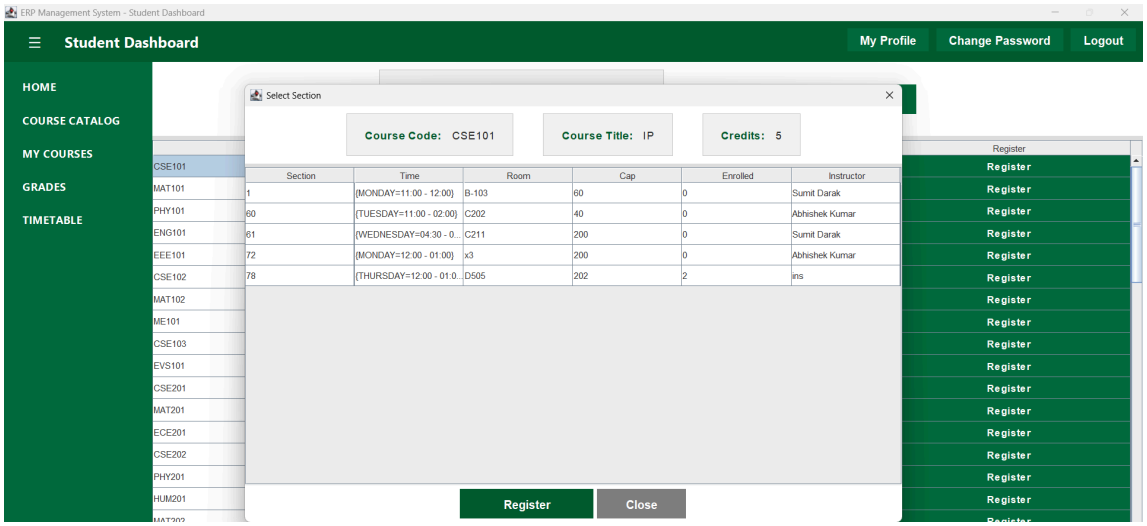




The roles are matched and relevant dashboard is displayed, can be verified using my profile button in the dashboard.

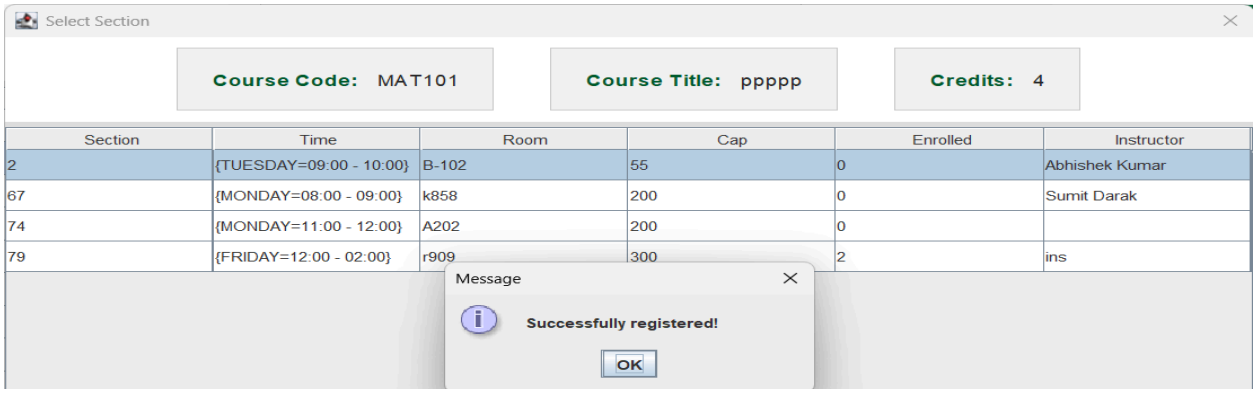
- **Student**

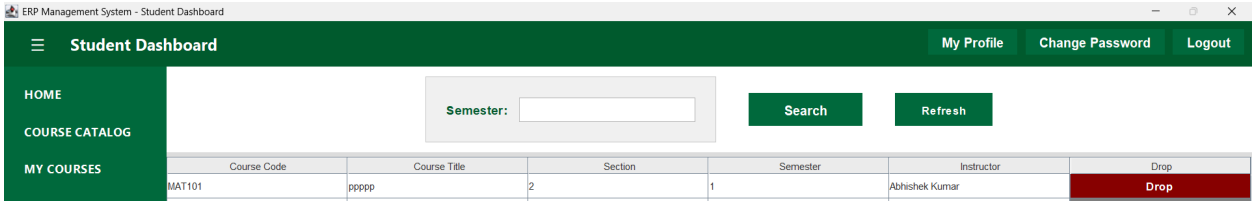
1)See catalog with code/title/credits/capacity/instructor.

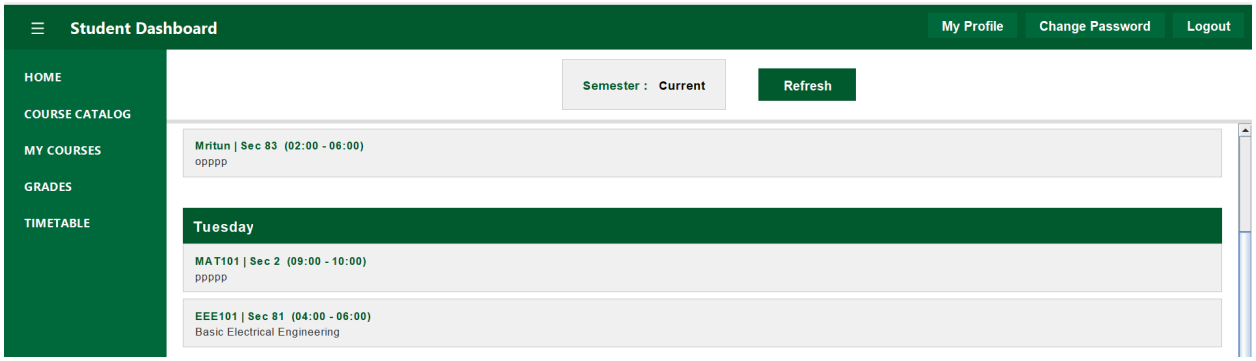


The Student can see the course catalog of all the available courses and after clicking on the Register button the student can browse different sections of a course along with the Instructor and capacity.

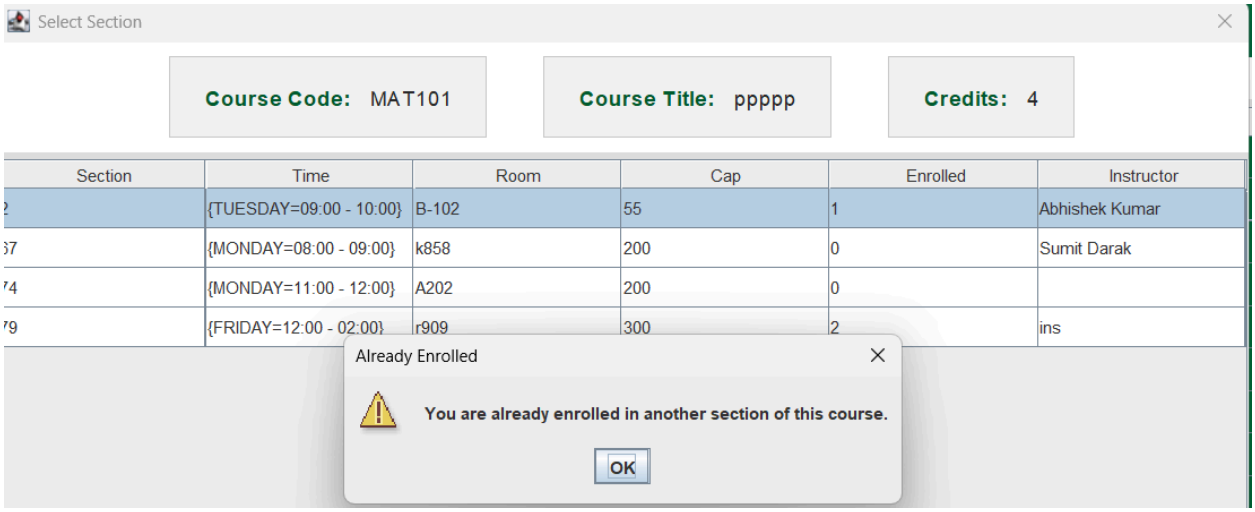
2) Register in a section with free seats → success and appear in "My Registrations" and timetable.



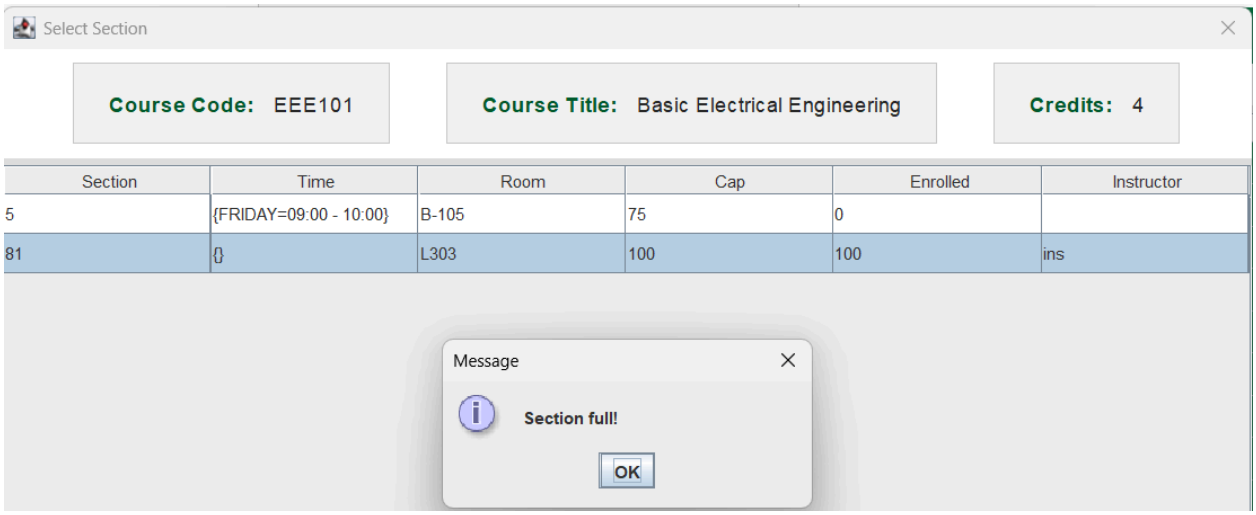




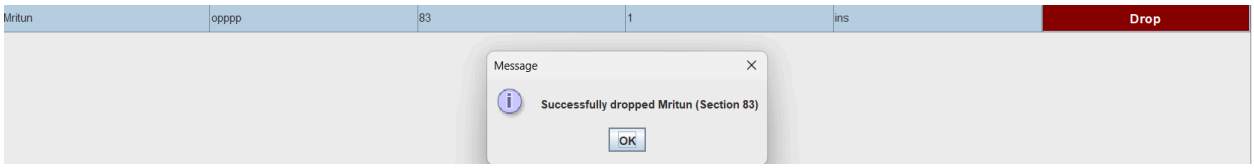
3)Try to register the same section again → blocked with a clear message.



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

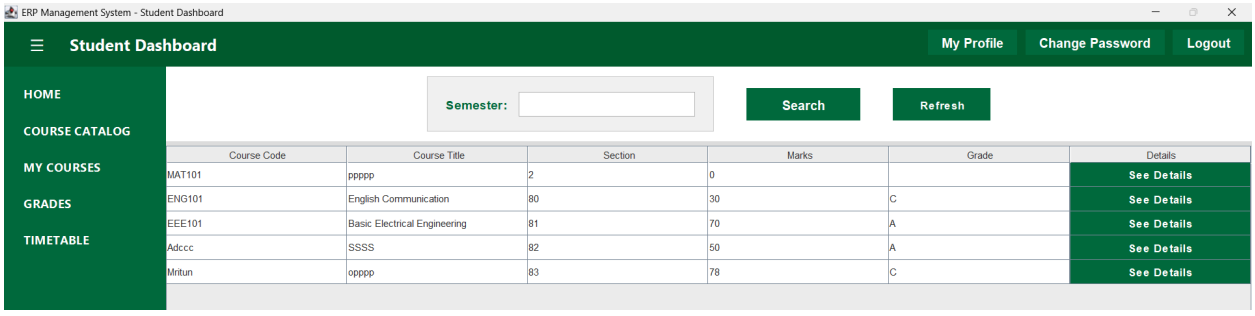


5)Drop before deadline → success; appears removed

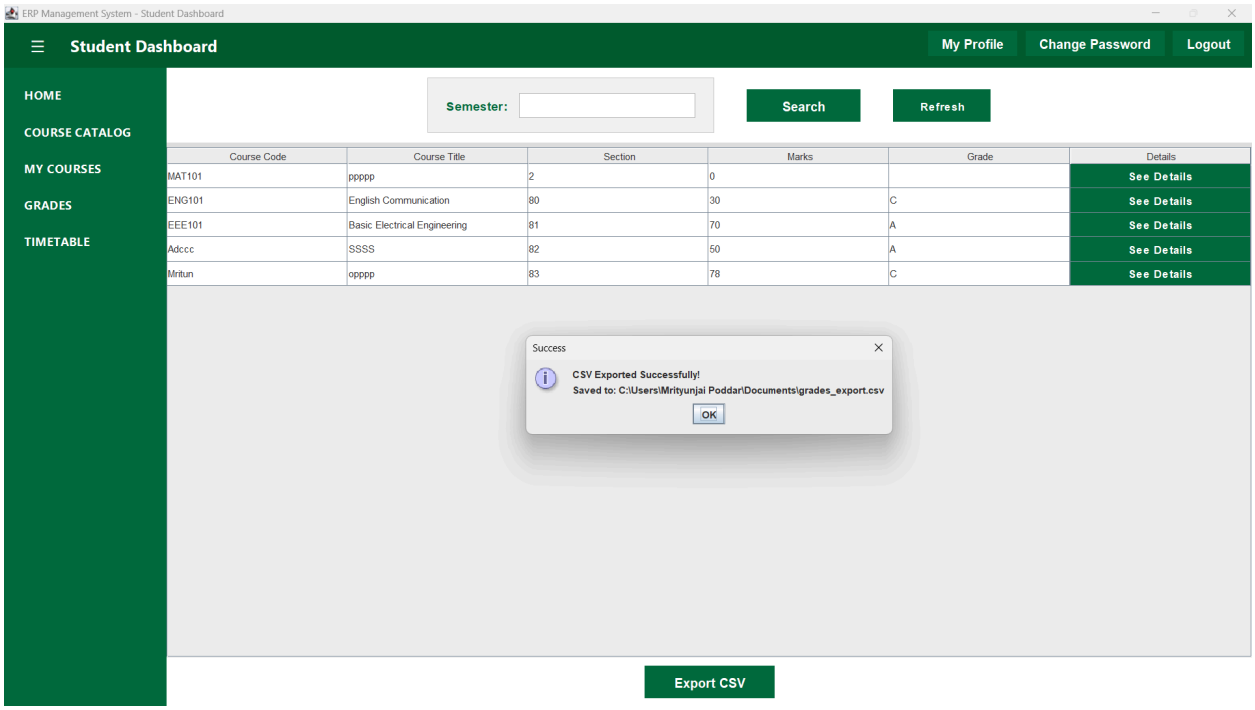


After pressing OK it removes successfully

6)View grades for registered courses and sections.

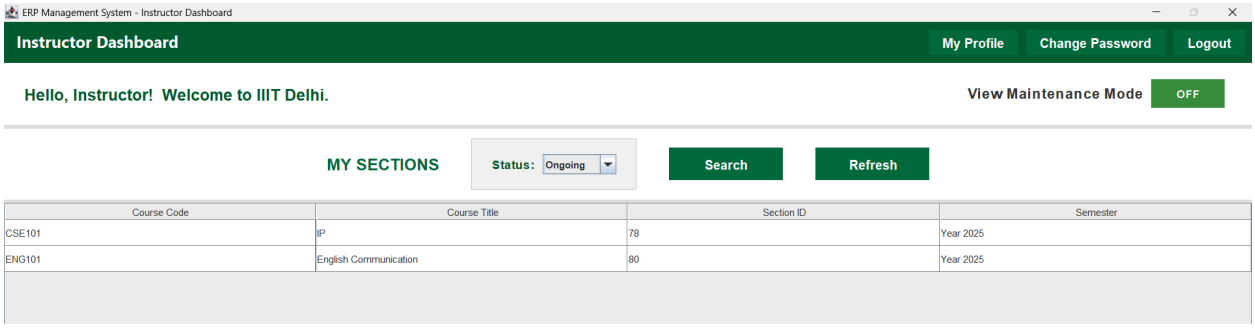


7)Download transcript (CSV or PDF) listing completed courses/grades.

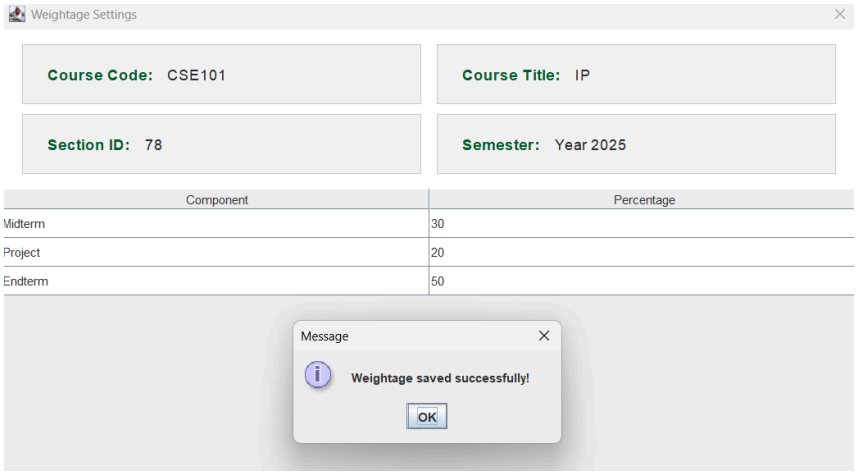


- **Instructor**

1)See only their own sections.

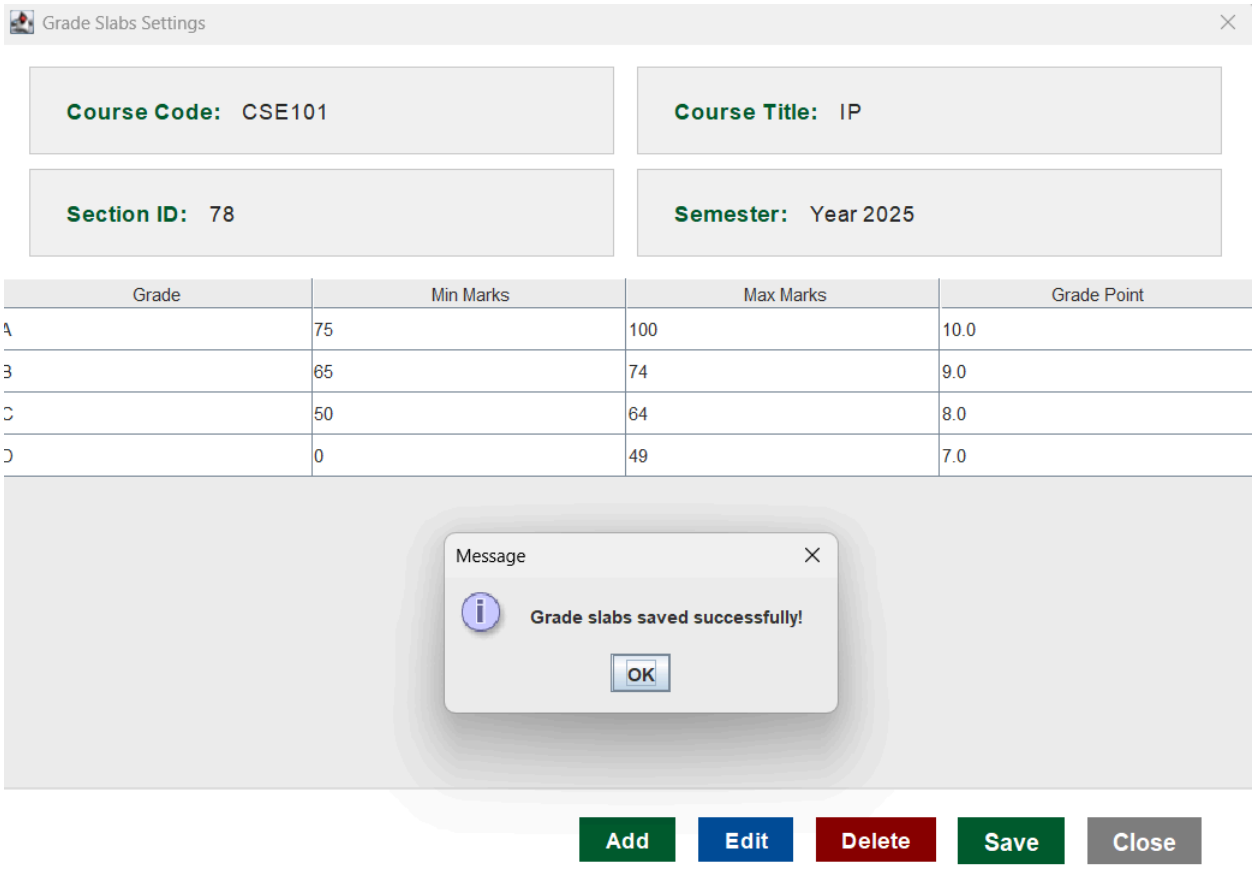


2)Enter scores (quiz/midterm/end-sem) → saved.



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

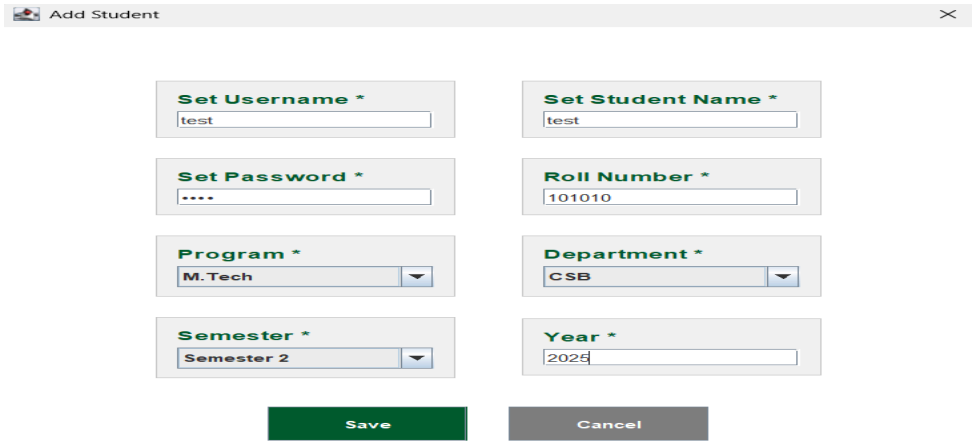
Instructor Can set dynamically in our ERP - must save student marks after setting slabs for stats



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**

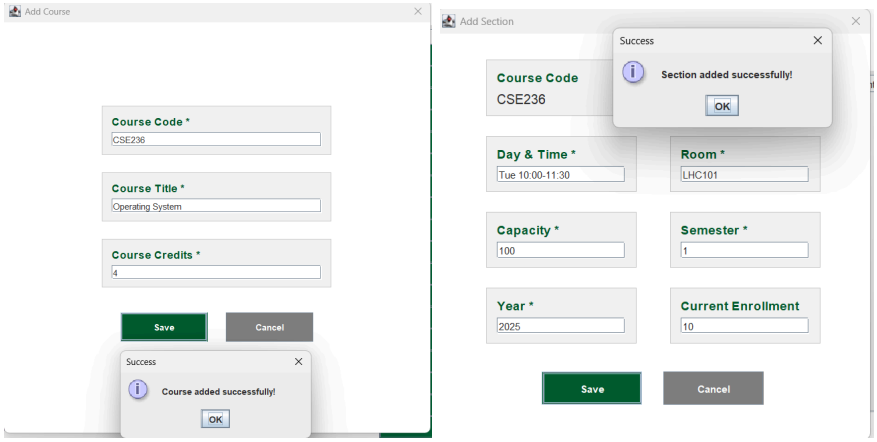
1)Create a new student user (username+role in Auth DB; student profile in ERP DB).

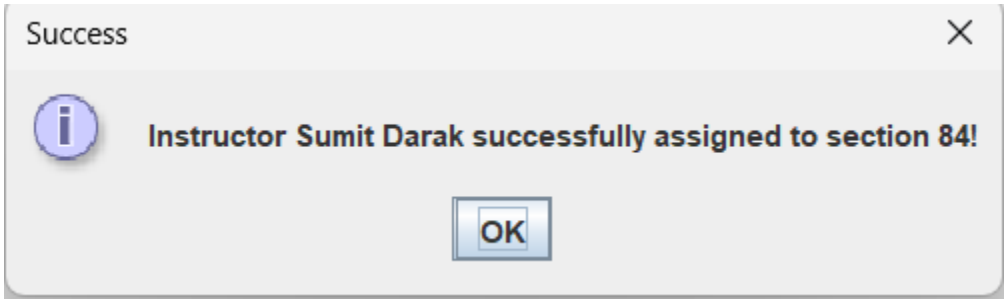


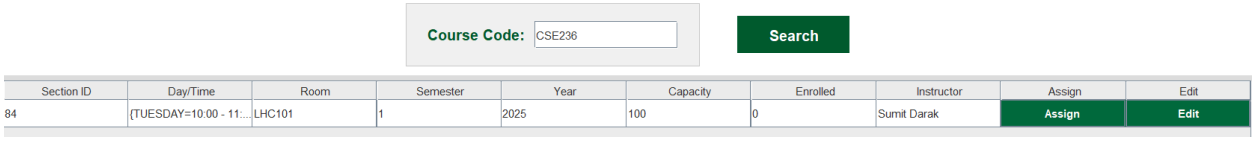
```
|      65 | test            | user       | $2a$08$2y/FR.33eCJwKjWriNdv4uhenU80OFFRIWsux4JkjYqsDCDp5bkVi | active | 2025
-11-28 00:42:05 |               0 |            0 |
+---------+-----------------+------------+--------------------------------------------------------------+--------+-----
---------------+----------------+--------------+
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 | tyytytytytyt     | 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.







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

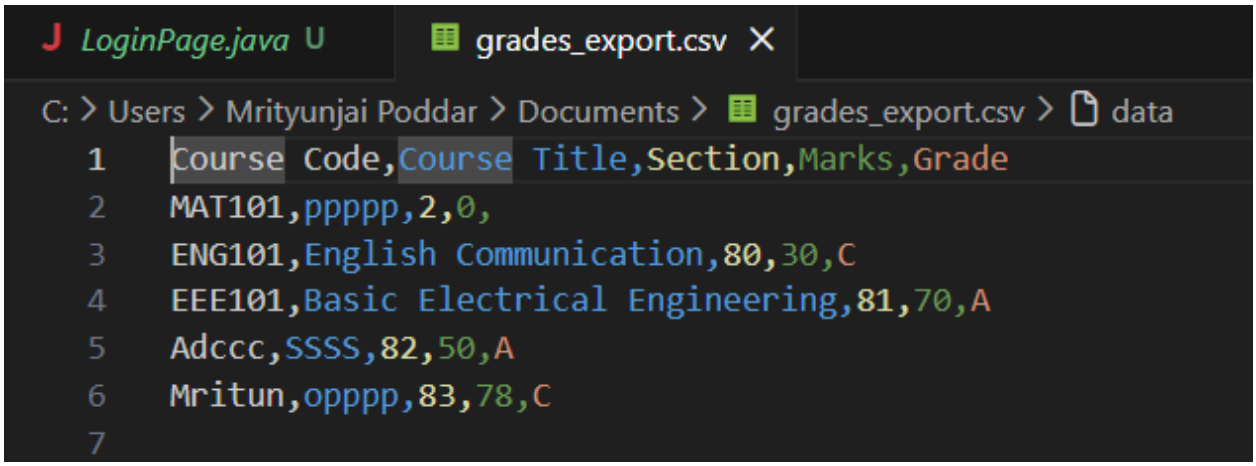
Showed in Detail in Demo Video and Readme/Documentation

- 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/r4pZLq1roXYGQojv5smO8IYDOREm | active | 2025
-11-20 22:14:23 |              0 |              0 |
|      60 | student          | user       | $2a$13$g7c8VJN.9v5rvFG7FxeO4eRbLdd5V6YnEPLX7J6uxZbMaEar06YyO | 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.LzMzNV3uAIZNwgNGtsf8Q6hhm/h0alOBvL.NTr2 | active | 2025
-11-23 20:03:21 |              0 |              0 |
|      63 | MK2.0            | user       | $2a$04$cU5/ZrWfJCJ.TtQekB3RrO.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.33eCJwKjWriNdv4uhenU80OFFRIWsux4JkjYqsDCDp5bkVi | 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 .



- 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).
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- 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.