

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

MOHIT GUPTA - 2024354  
MRITYUNJAI PODDAR - 2024358

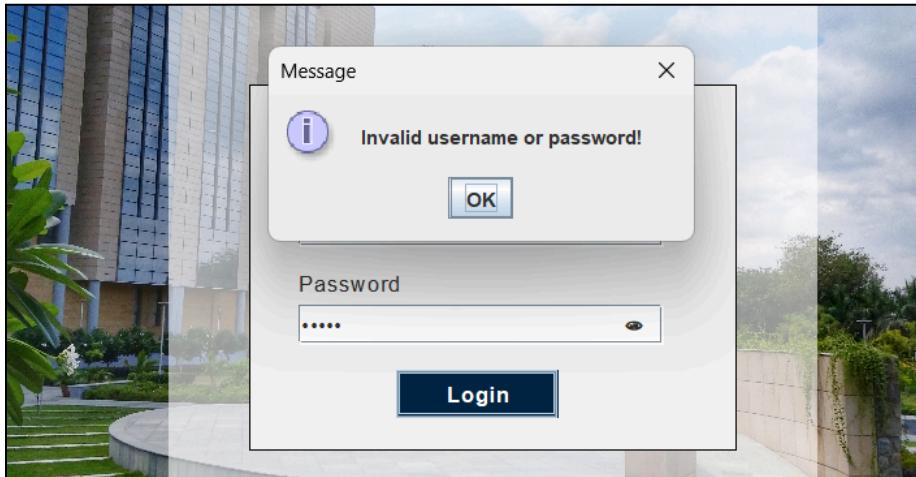
**Testing Summary**

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 (register/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 <ul style="list-style-type: none"> <li>□ Capacity cannot be negative or nonsensical.</li> <li>□ Register/drop after the stated deadline → blocked with message.</li> <li>□ Student cannot view or change another student's data.</li> <li>□ Instructor cannot grade students from another instructor's section. id.</li> <li>□ With Maintenance ON, student/instructor changes are blocked everywhere (not only on one screen)</li> </ul>	PASSED
Data integrity checks <ul style="list-style-type: none"> <li>□ Duplicate enrollments (same student+same section) are prevented.</li> <li>□ Removing a section: either blocked when students are enrolled or clearly explained/documentated</li> </ul>	PASSED
Security basics <ul style="list-style-type: none"> <li>□ Real passwords are never stored; only hashes.</li> <li>□ A Change Password dialog exists (bonus).</li> <li>□ After 5 wrong login attempts, show a warning or temporary lock (bonus).</li> <li>□ Access rules checker is called before any change (we will try to bypass via UI flow)</li> </ul>	PASSED
UI/UX checks <ul style="list-style-type: none"> <li>□ Buttons and labels are clear; errors are friendly.</li> <li>□ Tables for lists; sorting/filtering is a plus.</li> <li>□ Long actions show "please wait" (even a simple dialog).</li> </ul>	PASSED
Performance sanity <ul style="list-style-type: none"> <li>□ Catalog list of ~100 courses opens quickly (a few seconds or less).</li> <li>□ App starts without long hangs or crashes.</li> </ul>	PASSED
Maintenance & (optional) backup/restore <ul style="list-style-type: none"> <li>□ Maintenance toggle flips the settings flag and the UI shows a banner immediately.</li> <li>□ All student/instructor writes are blocked while ON.</li> <li>□ (Bonus) Backup/restore: trigger backup, change a row, restore, and see it revert</li> </ul>	PASSED

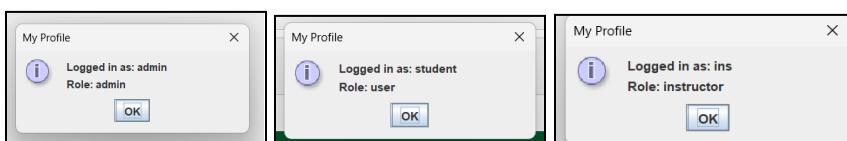
- **Login & Roles**

- 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**

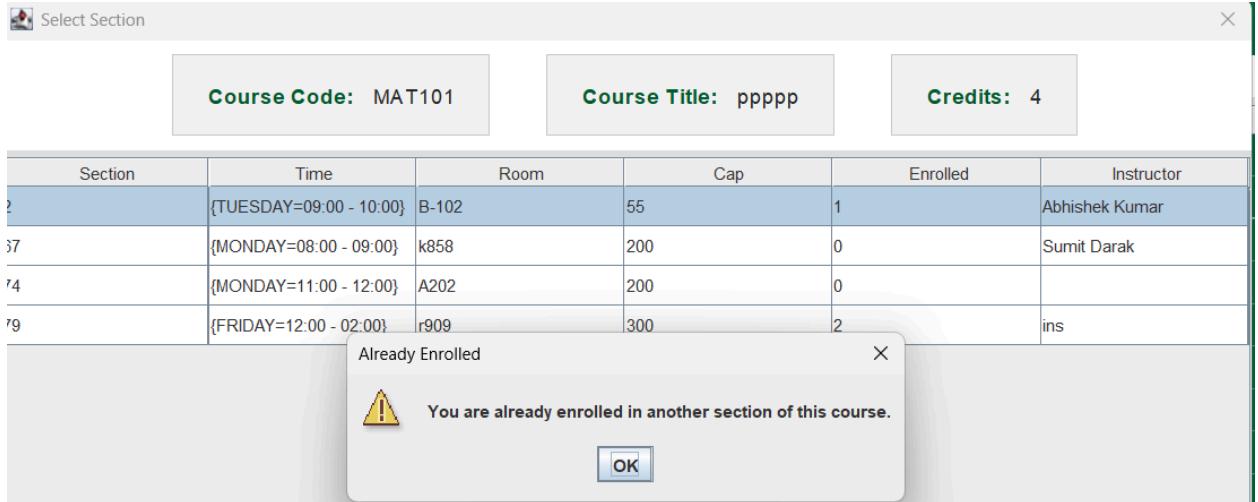
- 1)See catalog with code/title/credits/capacity/instructor.

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.

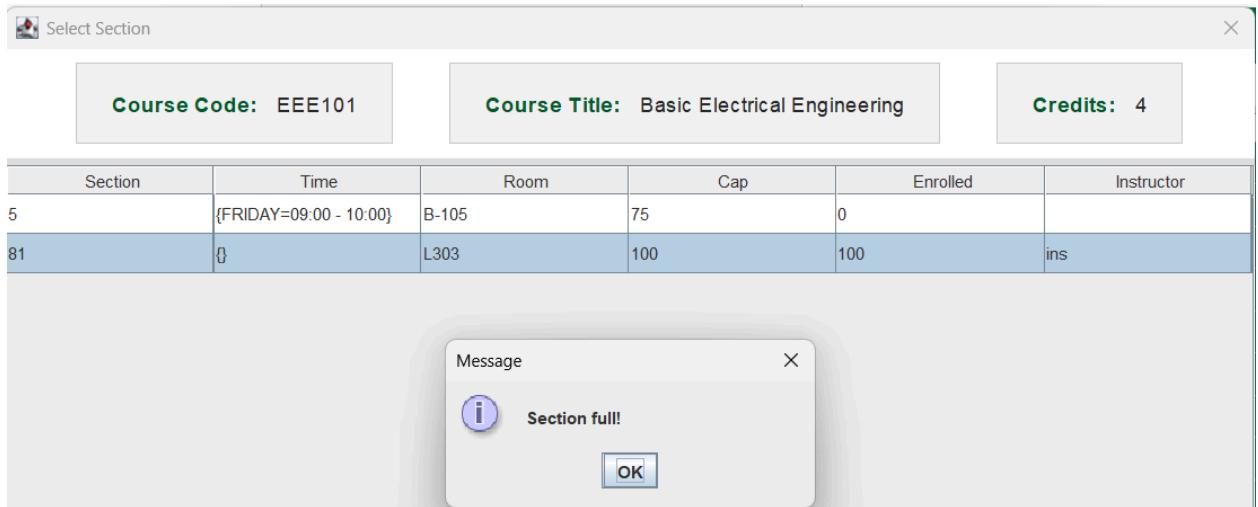
2) Register in a section with free seats → success and appear in “My Registrations” and timetable.

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.

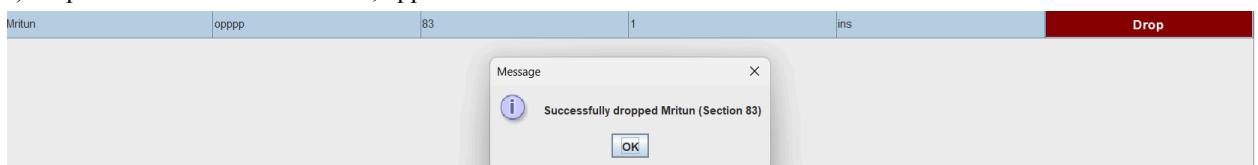
3) Try to register the same section again → blocked with a clear message.



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

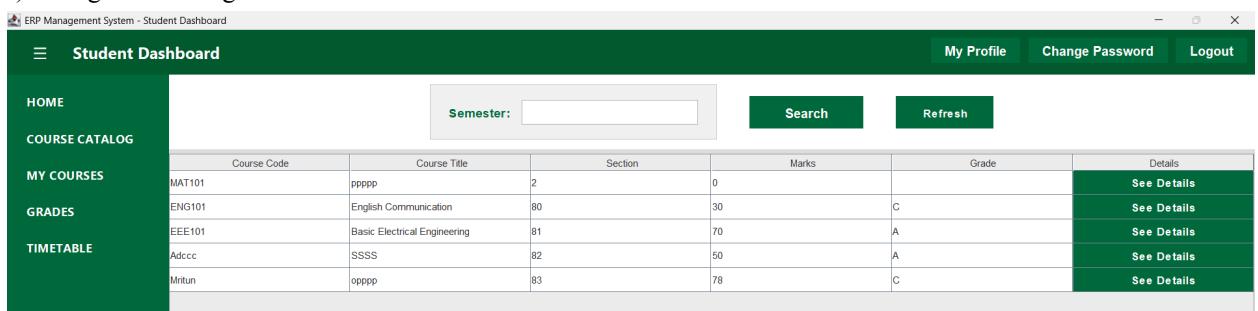


5)Drop before deadline → success; appears removed



After pressing OK it removes successfully

6)View grades for registered courses and sections.



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

The screenshot shows the Student Dashboard interface. On the left, there's a sidebar with links: HOME, COURSE CATALOG, MY COURSES, GRADES, and TIMETABLE. The main area displays a table of grades with columns: Course Code, Course Title, Section, Marks, Grade, and Details. A search bar at the top right includes fields for Semester and buttons for Search and Refresh. A modal dialog box titled 'Success' appears, stating 'CSV Exported Successfully!' and 'Saved to: C:\Users\Mrityunjai Poddar\Documents\grades\_export.csv'. At the bottom right is a green 'Export CSV' button.

## ● Instructor

1) See only their own sections.

The screenshot shows the Instructor Dashboard. It features a 'Hello, Instructor! Welcome to IIIT Delhi.' message and a 'View Maintenance Mode' button. Below is a table of sections with columns: Course Code, Course Title, Section ID, and Semester. A 'MY SECTIONS' button and status dropdown are at the top. A 'Search' and 'Refresh' button are also present. A modal dialog box titled 'Weightage Settings' shows fields for Course Code (CSE101), Course Title (IP), Section ID (78), and Semester (Year 2025). Below this is a table for component weights: Midterm (30%), Project (20%), and Endterm (50%). A final 'Message' dialog box says 'Weightage saved successfully!' with an 'OK' button.

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

This screenshot is identical to the one above, showing the Instructor Dashboard with sections and the 'Weightage Settings' dialog. The 'Weightage saved successfully!' message is still visible.

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

The screenshot shows a window titled "Grade Slabs Settings". It contains four fields: "Course Code: CSE101", "Course Title: IP", "Section ID: 78", and "Semester: Year 2025". Below these is a table of grade slabs:

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

A message box titled "Message" appears in the center, stating "Grade slabs saved successfully!" with an "OK" button.

At the bottom are buttons: Add (green), Edit (blue), Delete (red), Save (green), and Close (grey).

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).

The screenshot shows a form titled "Add Student" with the following fields:

- Set Username \***: test
- Set Student Name \***: test
- Set Password \***: ....
- Roll Number \***: 101010
- Program \***: M.Tech
- Department \***: CSB
- Semester \***: Semester 2
- Year \***: 2025

At the bottom are "Save" and "Cancel" buttons.

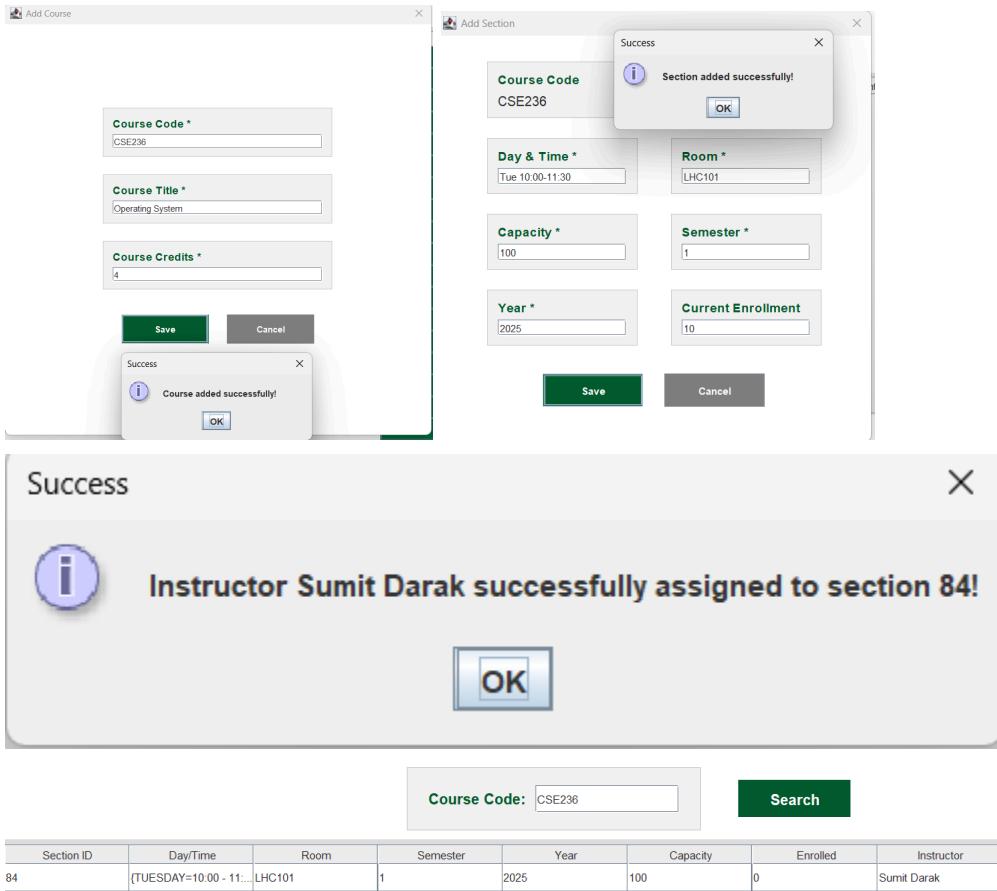
```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 65 | test | user | $2a$08$2y/FR.33eCJwKjWriNdv4uhenU800FFRIWsux4JkjYqsDCDp5bkVi | active | 2025
+-----+-----+-----+-----+-----+-----+-----+-----+
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 | tyytytutytyt | 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	59   Abhishek.Kumar	0   0   instructor   \$2a\$06\$CrCTVC4kLcf66acaFBcvCeHQ/r4pZLq1roXYGQojv5sm08IYDOREm   active   2025
-11-20 22:14:23	60   student	user   \$2a\$13\$g7c8VJN.9v5rvFG7Fxe04eRbLdd5V6YnEPLX7J6uxZbMaEar06Yy0   active   2025
-11-22 22:46:40	61   student1	user   \$2a\$07\$pvkq2U4lONahD/t.Xug1Fewj5QQsPnK1d80syDK6vRXDuJTHAonW   active   2025
-11-23 12:13:53	62   ins	instructor   \$2a\$07\$E/inwsXhcuk9A.LzMzNV3uAIZNwgNGtsf8Q6hhm/h0al0BvL.NTr2   active   2025
-11-23 20:03:21	63   MK2.0	user   \$2a\$04\$cU5/ZrWFJCJ.TtQekB3Rr0.vdyqe.49nvcQpnmgUrsQcu00lfE4u6   active   2025
-11-24 13:11:31	64   Gaurav.Sir	instructor   \$2a\$06\$3j7a2ibe/lnv1k00FRFosu0Sjpa461UFGMsHL3j.VQR1Km.r0R/QC   active   2025
-11-24 13:12:12	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 .

```

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/documentated.
- Security basics
  - Real passwords are never stored; only hashes.
  - A Change 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.
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  - 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.
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    - 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.