Infosys Springboard Virtual Internship 6.0 Completion Report

Team Details

Batch Number: 10
Team Number: Team 3
Internship Duration: 8 Weeks
Start Date: 26-Nov-2025
Team Member: Chintala Keerthana

1. Project Title

Inventra – Intelligent Inventory Management System

2. Project Objectives

The primary objectives of this project are:

1. To develop a smart and reliable inventory management system for multi-location environments.

2. To reduce manual errors by digitizing inventory tracking and stock management processes.

3. To manage inventory efficiently using batch-wise and expiry-based tracking.

4. To ensure timely alerts for low stock levels, near-expiry items, and transfer delays.

5. To support secure inter-location stock transfers with approval mechanisms.

6. To provide administrators with dashboards and analytical reports.

7. To improve inventory accuracy, operational efficiency, and decision-making.

3.Project Description

Inventra – Intelligent Inventory Management System is developed to overcome common inventory management challenges such as manual tracking, data inconsistency, and lack of real-time visibility. The system provides a centralized digital platform where products can be managed across multiple branches and warehouses, ensuring accurate and up-to-date inventory information at all times.

The system tracks inventory based on batch numbers and expiry dates using automated rules. It follows a First-Expiry-First-Out (FEFO) approach to ensure that near-expiry items are utilized first, while expired or invalid items are automatically blocked. Features such as real-time synchronization, automated alerts, secure stock transfers, and a centralized dashboard help improve inventory accuracy, operational efficiency, and decision-making.

In addition, the system supports role-based access control to ensure that users can only perform actions relevant to their responsibilities. Administrators can monitor overall inventory status, while staff members can manage stock updates and transfers securely. This structured approach improves data security, accountability, and smooth coordination between different inventory locations.

4. Timeline Overview

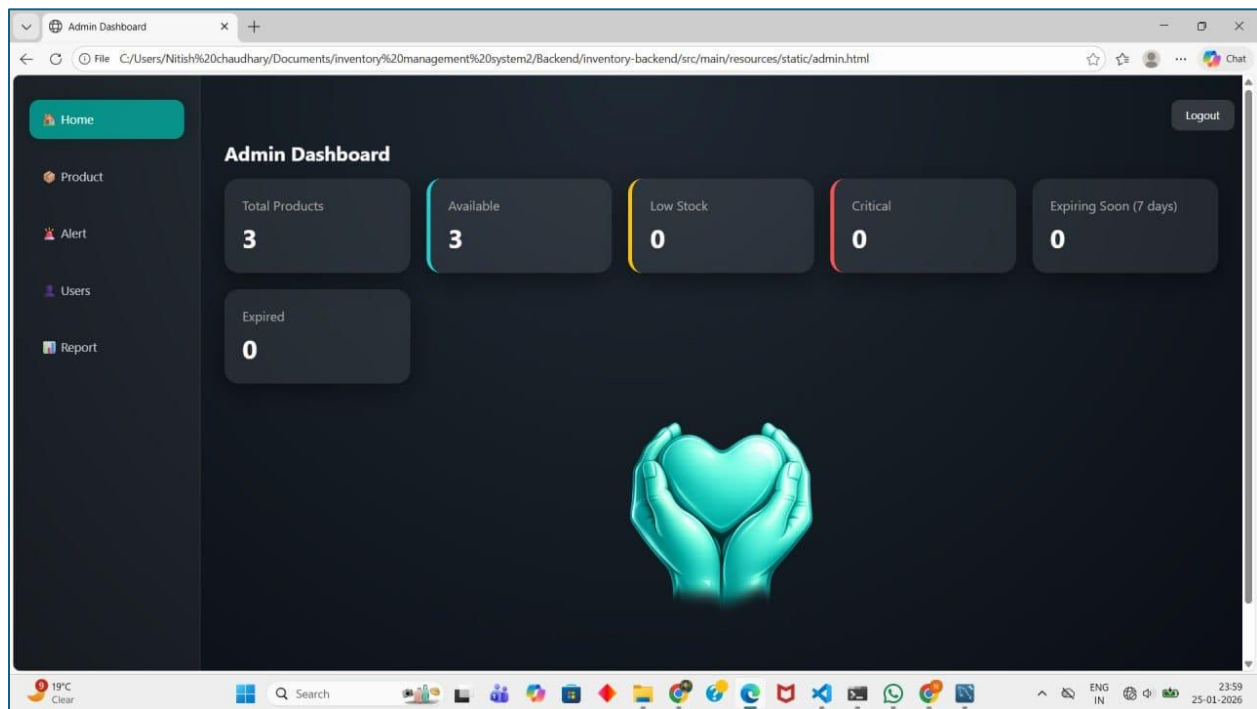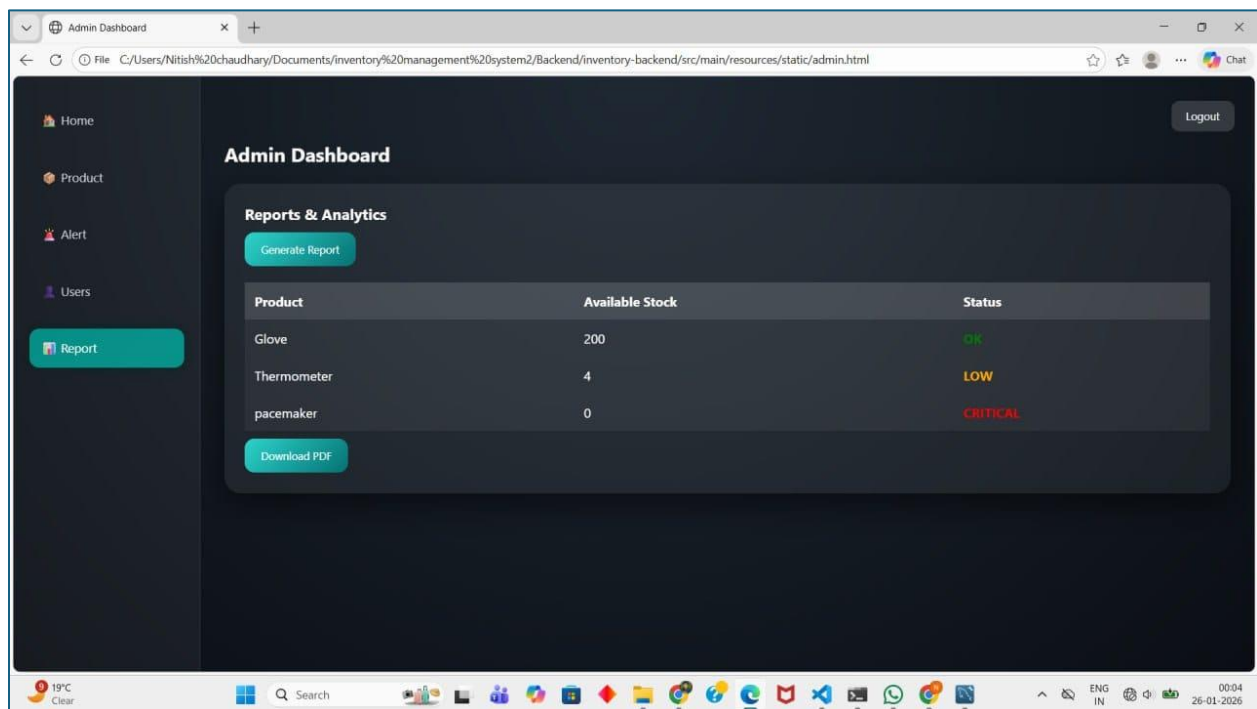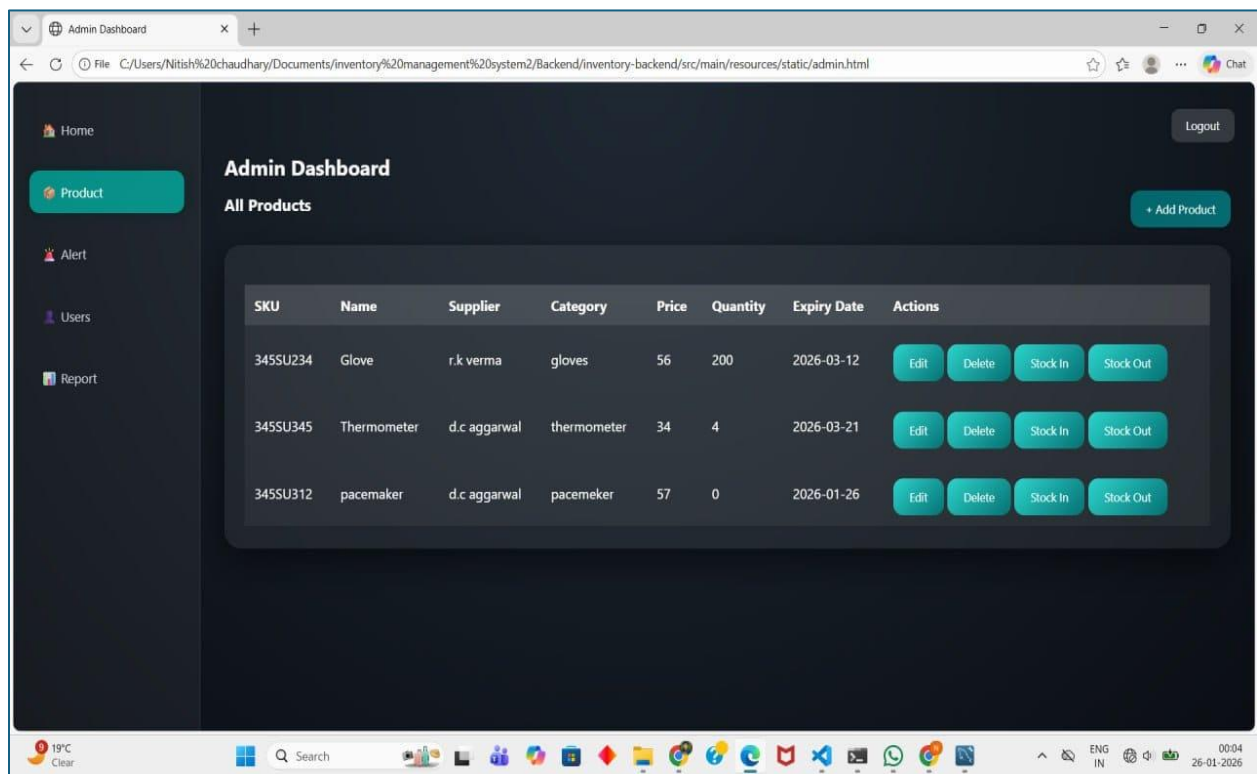| Week	Planned Activities	Activities Completed
Week 1	Project kickoff, requirement analysis	Project initiation meeting, scope finalization, system study
Week 2	Data model design	Created schemas for products, batches, expiry, and locations
Week 3	Workflow definition	Implemented FEFO logic and expiry validation
Week 4	Core inventory development	Built stock updates and alert modules
Week 5	Transfer workflow design	Implemented transfer approvals and tracking
Week 6	Testing and validation	Verified synchronization and alert accuracy
Week 7	Dashboard & reporting	Developed dashboards and compliance reports
Week 8	Documentation & submission	Final documentation and presentation

5. Key Milestones

Milestone	Description	Timeline
Project Kickoff	Scope finalization and architecture planning	Week 1
Prototype Completion	Inventory module with batch and expiry logic	Week 3
Mid-Term Review	Workflow, alerts, and transfer validation	Week 5
Final Submission	Integrated system and documentation	Week 7
Final Presentation	Project demonstration and review	Week 8

6. Project Execution Details

- Conducted requirement analysis and system study.
- Developed backend using **Java, Spring Boot, REST APIs**, and **MySQL**.
- Designed inventory models with batch numbers, expiry dates, and location mapping.
- Implemented real-time stock updates and role-based access control.
- Generated alerts for low stock, near-expiry items, and transfer delays.
- Performed functional testing to ensure system reliability and data accuracy.

7. Screenshots / Snapshots

Admin Dashboard × +

C ⊕ File C:/Users/Nitish%20chaudhary/Documents/inventory%20management%20system2/Backend/inventory-backend/src/main/resources/static/admin.html

Home

Product

Alert

Users

Report

Logout

Admin Dashboard

All Products

+ Add Product

SKU	Name	Supplier	Category	Price	Quantity	Expiry Date	Actions
345SU234	Glove	r.k verma	gloves	56	200	2026-03-12	Edit Delete Stock In Stock Out
345SU345	Thermometer	d.c aggarwal	thermometer	34	4	2026-03-21	Edit Delete Stock In Stock Out
345SU312	pacemaker	d.c aggarwal	pacemeker	57	0	2026-01-26	Edit Delete Stock In Stock Out

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26-01-2026

Admin Dashboard × +

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Home

Product

Alert

Users

Report

Logout

Admin Dashboard

Reports & Analytics

Generate Report

Product	Available Stock	Status
Glove	200	OK
Thermometer	4	LOW
pacemaker	0	CRITICAL

Download PDF

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IN

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26-01-2026

Admin Dashboard

User Management

Username / Email

Select Role

Add User

Username	Role	Status	Actions
dark@gmail.com	admin	Active	Block
Dreamer@gmail.com	emp	Blocked	Unblock

Admin Dashboard

Load Stock Alerts   Load Expiry Alerts

📉 Stock Alerts (Low / Critical)

Type	Message	Status	Action
LOW	fdgjhj stock is low	Read	-
LOW	Thermometer stock is low	Unread	Mark Read

🎂 Expiry Alerts

Type	Message	Status	Action
EXPIRY	⚠ pacemaker expires in 0 days	Unread	-
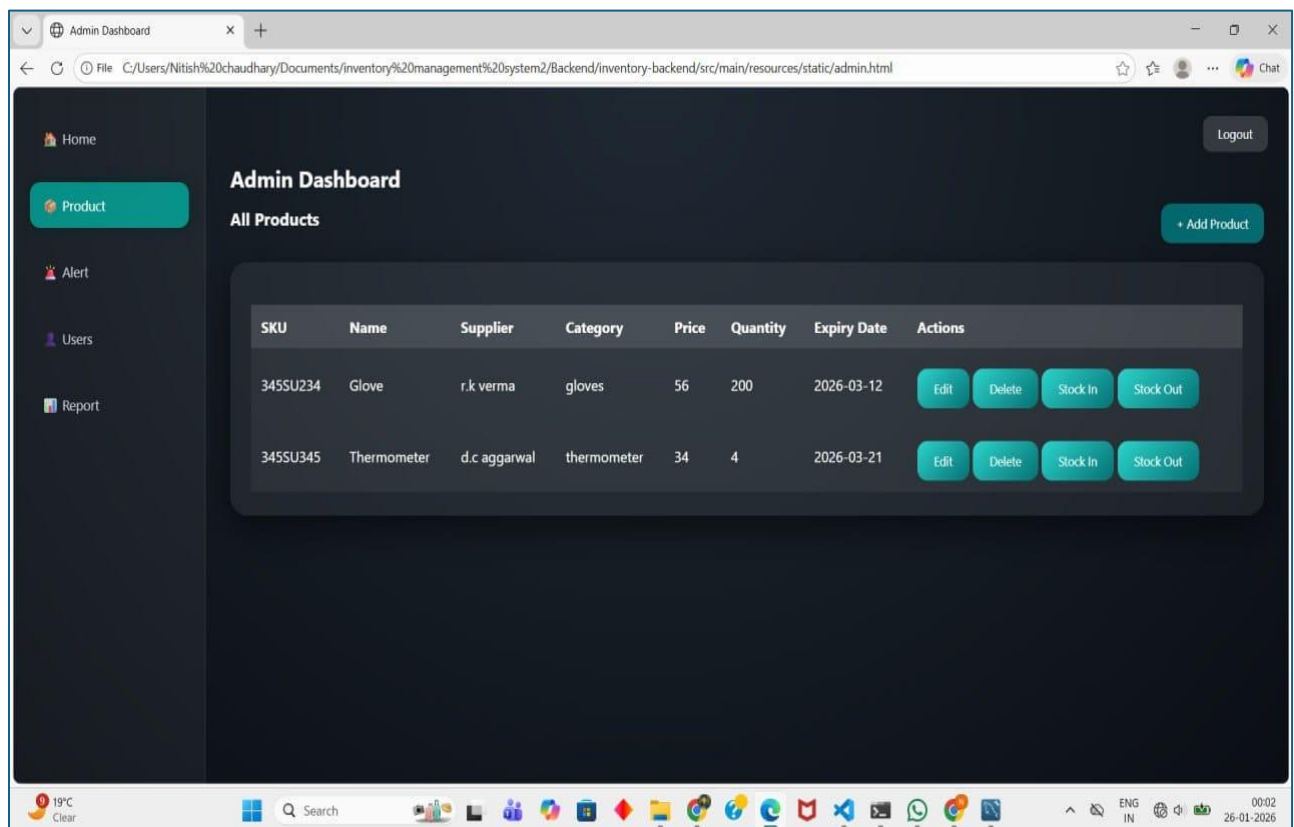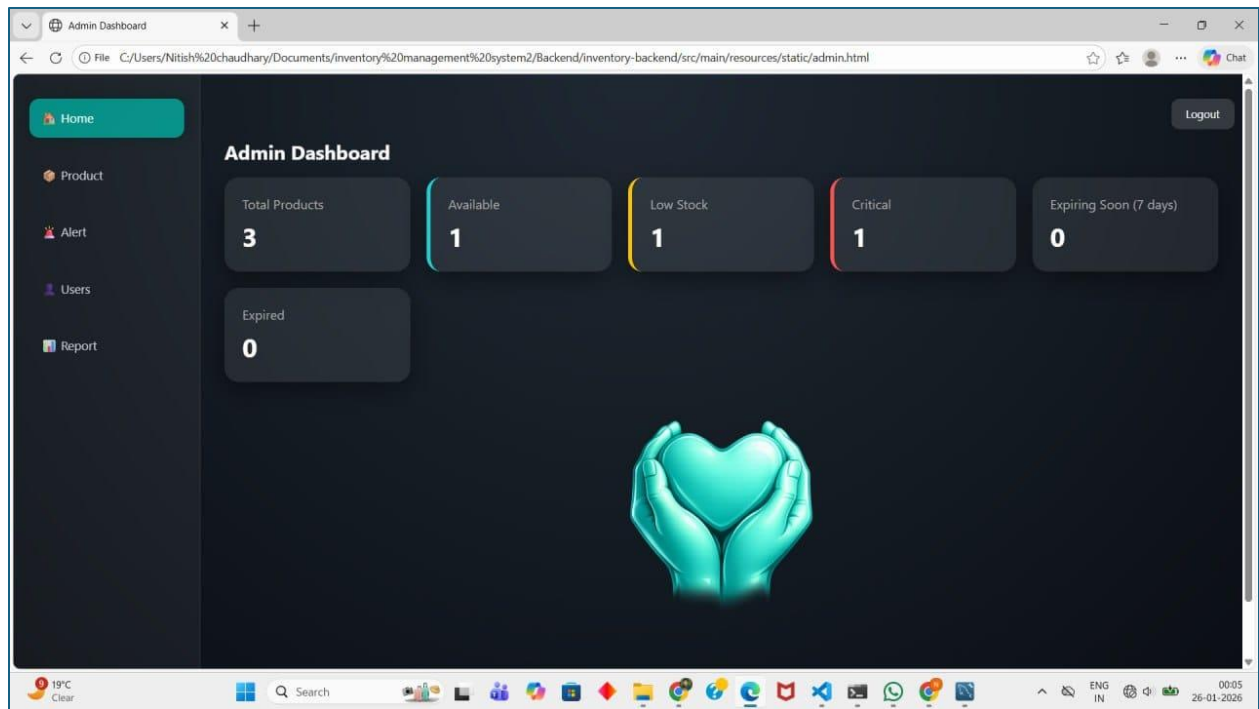
8. Learnings & Skills Acquired

The project provided valuable learning experience in inventory management and software development. The key learnings and skills gained during the internship are listed below:

- **Inventory Management Systems:** Learned how inventory workflows function, including stock storage and tracking.
- **Batch-wise & Expiry Management:** Understood and applied FEFO logic to manage near-expiry and expired items.
- **System Design:** Gained basic knowledge of designing systems for multi-location environments.
- **Backend Development:** Improved backend skills using Java, Spring Boot, and REST APIs.
- **Database Management:** Learned how to store and manage inventory data using relational databases.
- **Alert & Notification Handling:** Gained experience in generating alerts for low stock and expiry conditions.
- **Dashboard & Reporting:** Learned to display inventory information through simple dashboards and reports.
- **Testing & Documentation:** Understood basic testing methods and improved documentation and reporting skills.
- **Data Accuracy & Responsibility:** Learned the importance of maintaining accurate data and proper records.

9. Challenges Faced and Solutions

Expiry Risk Management

- *Problem:* Expired items appearing as usable stock
- *Solution:* Implemented automated expiry validation and FEFO logic

Stock Synchronization Issues

- *Problem:* Inventory mismatch across locations
- *Solution:* Real-time synchronization and reconciliation mechanisms

Emergency Stock Handling

- *Problem:* Critical shortages during emergencies
- *Solution:* Priority alerts and reserved emergency stock rules

Manual Dependency

- *Problem:* Human errors in approvals and tracking
- *Solution:* Automated workflows with audit logs

10. Testimonials from Team

Working on the Inventra – Intelligent Inventory Management System was a valuable learning experience for the entire team. The project helped us understand real-world inventory challenges, apply technical concepts practically, and improve collaboration and problem-solving skills.

11. Conclusion

Inventra – Intelligent Inventory Management System demonstrates how technology can enhance inventory accuracy, efficiency, and decision-making. The project strengthened technical knowledge, practical implementation skills, and teamwork experience while emphasizing the importance of real-time data and reliable systems.

12. Acknowledgements

I sincerely thank my mentor for their continuous guidance, valuable support, and constructive feedback throughout the internship. I also express my heartfelt gratitude to the Infosys Springboard team for providing this opportunity and the necessary resources to successfully complete the project.