COLLAGE CODE:8206

COLEGE NAME: ARASU ENGINEERING COLLEGE

DEPARTMENT: ARTIFICIAL INTELLIGENCE & DATA SCIENCE

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GITHUB: https://github.com/Abinaya8125/Abinaya.m.git

COMPLETED THE PROJECT NAMED AS PHASE 1 NODEJS TECHNOLOGY

PROJECT NAME: INVENTORY MANAGEMENT DASHBOARD

SUBMITTED BY,

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1. Project Overview & Objectives

❖ **Goal:**

To design and develop a web-based Inventory Management Dashboard that helps users track, update, and manage products, stock levels, and suppliers efficiently.

❖ **Problem Statement:**

Many small businesses manually track inventory using spreadsheets or paper, which can cause errors, delays, and confusion.
This project solves that by providing a digital dashboard to manage inventory in real time.

❖ **Key Featres:**

- Add, update, and delete products
- View product stock levels
- Low-stock alerts
- Supplier and category management
- Simple dashboard visualization (charts, tables)

Expected Outcome:

- Efficient and accurate stock tracking
- Time-saving dashboard for inventory operations
- Secure access for users (Admin/User roles)

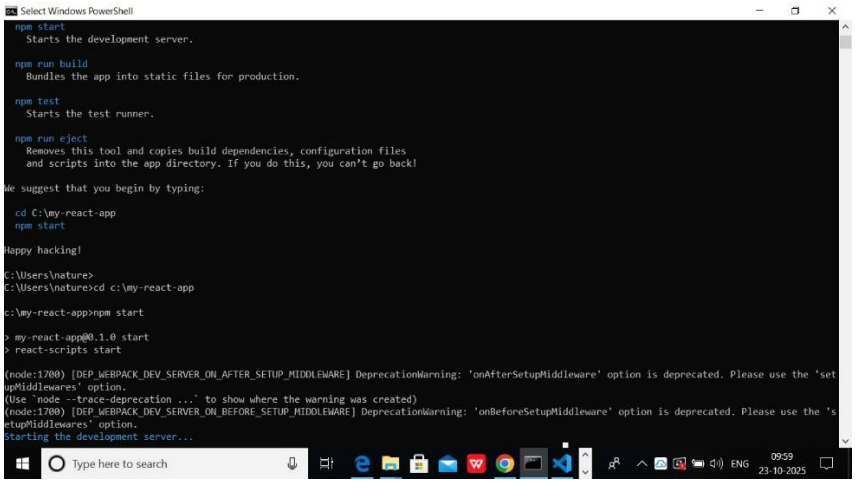
❖ **EXPECTED OUTCOMES:**

A working full-stack application that provides an interactive dashboard for managing inventory data dynamically using APIs and a connected database

- Efficient and accurate stock tracking.
- Time-saving dashboard for inventory operations
- Secure access for users (Admin/User roles)

2. Technology Stack & Environment Setup

- Backend: Node.js with Express



- Frontend: React.js or Vue.js
- Database: MongoDB or MySQL
- Tools: Git, VS Code, Postman, Docker (optional)

3. API Design & Data Model

App.js

```
import React from "react";
import { BrowserRouter, Routes, Route } from "react-router-dom";
import Home from "./Home";
import Dashboard from "./Dashboard";

export default function App() {
 return (
  <BrowserRouter>
   <Routes>
    <Route path="/" element={<Home />} />
    <Route path="/dashboard" element={<Dashboard />} />
   </Routes>
```

```
  </BrowserRouter>
 );
}
```

Home.js

```
import React from "react";
import { Link, useNavigate } from "react-router-dom";

export default function Home() {
 const navigate = useNavigate();

 const goToDashboard = () => {
  // programmatic navigation on button or logo click
  navigate("/dashboard");
 };

 return (
  <div style={{ padding: 20 }}>
   {/* Option A: use Link (simple, SEO-friendly) */}
   <Link to="/dashboard" style={{ textDecoration: "none" }}>
    <img
     src="/assets/abiii_logo.JPEG"
     alt="logo"
     style={{ width: 120, cursor: "pointer" }}
    />
   </Link>

   <h2>Home Page</h2>

   {/* Option B: programmatic navigation with onClick */}
   <div style={{ marginTop: 20 }}>
    <button onClick={goToDashboard}>Go to Dashboard</button>
```

```
    </div>

    {/* Another clickable element using onClick on the image */}
    <div style={{ marginTop: 20 }}>
     <img
      src="/assets/abiii_logo.JPEG"
      alt="logo-click"
      style={{ width: 80, cursor: "pointer", border: "1px solid #ddd" }}
      onClick={goToDashboard} // same as Link but programmatic
     />
     <p>Click the logo above to open Dashboard</p>
    </div>
   </div>
  );
}
```

- ✓ **DATA MODEL**

Endpoint	Method	Description
Inv-ment-dr/api/items	GET	Fetch all items
Inv-ment-dr /api/items/:id	GET	Get a specific item
Inv-ment-dr /api/items	POST	Add a new item
Inv-ment-dr /api/items/:id	PUT	Update item details
Inv-ment-dr /api/items/:id	DELETE	Delete item

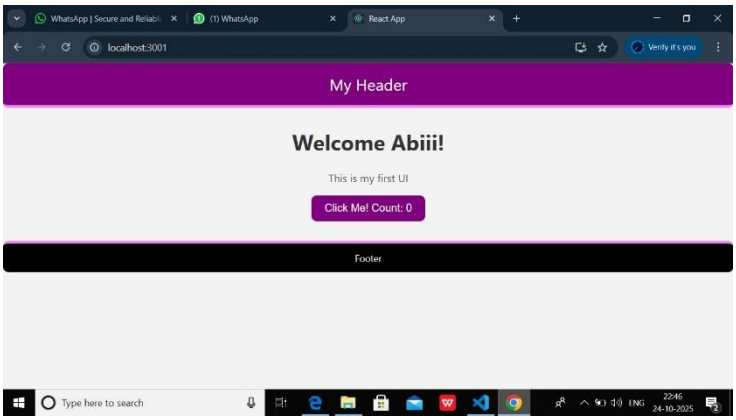
4. Front-End UI/UX Plan

Flow:

- Login Page → Dashboard → Inventory Table → Add/Edit Form

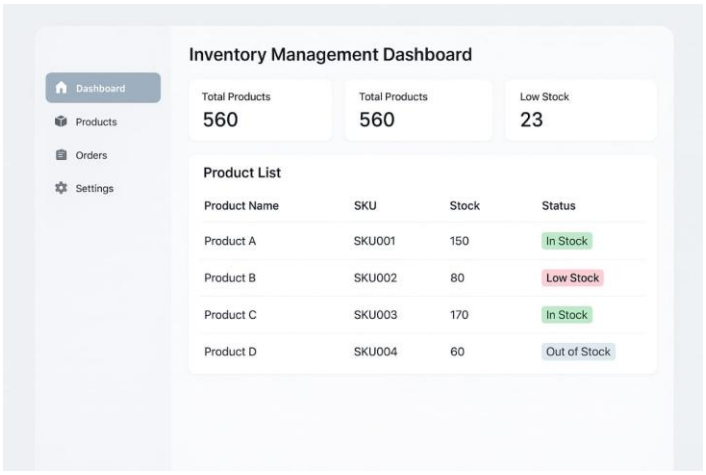
- Sidebar navigation for sections: *Dashboard, Products, orders, Settings*.

Login page:



DashBoard:

Inventory Table:



5. Development & Deployment Plan

✓ **Team Roles:**

- Backend Developer: API development, database design
- Frontend Developer: UI creation, integration with backend
- Tester: Manual & automated testing
- DevOps/Deployment Lead: CI/CD setup, hosting

✓ **Git WorkFlow:**

```
git init
git add .
git commit -m "Initial commit"
git branch -M main
git remote add origin <https://github.com/Abinaya8125/Abinaya.m.git>
git push origin master
```

✓ **Testing Approach:**

- Unit testing with Jest
- API testing via Postman or Supertest

Hosting & Deployment:

- Backend: Render, Railway, or AWS
- Frontend: Netlify or Vercel
- Database: MongoDB Atlas or AWS RDS