

Hospital Management System (HMS) – Simple Project Explanation

We are building a Hospital Management System using the MERN stack (MongoDB, Express, React, Node.js).

This system allows multiple hospitals to use the same platform while keeping their data separate.

What Problem Are We Solving?

- Hospitals struggle with managing patients, prescriptions, and staff access.
- Many existing systems are expensive or hard to use.

Our Solution:

- Hospitals can register themselves.
- Each hospital gets a unique tenantId to keep data private.
- Admin can add staff (doctor, receptionist).
- Receptionist registers patients.
- Doctor creates prescriptions.
- Role-based dynamic menus for different users.

Main Features:

1. Hospital Registration
2. Login using Email + Password
3. Role-Based Access (Admin, Doctor, Receptionist)
4. User Management (Admin only)
5. Patient Registration & Search
6. Prescription Module (Doctor only)
7. Dynamic Menu based on role
8. Dashboard for quick access

How the System Works:

- MongoDB stores all data with tenantId.
- Node.js + Express handles backend logic and APIs.
- React handles the frontend UI.
- JWT tokens manage login and permissions.

Demo Flow:

1. Register a hospital
2. Admin logs in and adds staff
3. Receptionist registers a patient
4. Doctor views patient and writes prescription
5. Menus change based on role
6. Show data isolation with tenantId

Tech Stack:

- React (Frontend)
- Node.js + Express (Backend)
- MongoDB (Database)
- JWT Authentication

Future Scope:

- Appointments
- Billing
- Pharmacy module
- Lab reports
- QR code-based patient lookup
- AI-based suggestions

This document can be shared with anyone to understand the project clearly.