

# Candidate Assessment: Hospital Management System

Ebani Tech Private Limited

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## Introduction

Dear Candidate,

You have been shortlisted for the next round of recruitment for the role of **Software Developer-I (Full Stack MERN / Next.js)**.

As part of this assessment, you are required to develop a **Hospital Management System (HMS)**. This system should include the functionalities and technical requirements described in this document.

**Note:** These requirements are not limiting factors. You are free to propose improvements, alternative designs, or additional features. However, the key modules—Reception, Doctor, Lab, and Admin—must be included, and candidates are encouraged to cover them comprehensively.

For any support during the assessment, you can reach us at: [sreejesh@ebanitech.com](mailto:sreejesh@ebanitech.com).

## 1 Objective

Develop a **Hospital Management System** with:

- Multi-user system: Doctors, Receptionists, Lab Staff, and Admins.
- Patient management with existing and new records.
- Billing, PDF generation, and payment tracking.
- Lab report uploads and management.
- Dashboards for Doctors and Admins.
- Secure login and role-based access control.

## 2 Functional Requirements

### 2.1 Reception Module

- Patient registration and management.
- Billing and invoice creation (simplified: select/enter bill).
- Assign patients to doctors.
- View, search, and filter patient records.

### 2.2 Doctor Module

- Dashboard with patient overview.
- Update treatment records.
- View lab results uploaded by lab staff.
- Access patient history with pagination and search.

### 2.3 Lab Module

- Upload lab results for patients (cloud storage preferred, e.g., AWS S3).
- Manage lab records securely.

### 2.4 Admin Module

- Manage all users (Doctors, Receptionists, Lab Staff).
- Generate reports for hospital activities.
- Dashboard for overall management.
- Role-based access control for all modules.

### 2.5 Technical Features

- Search, filtering, and pagination across all modules.
- File uploads with cloud storage support (AWS S3 suggested).
- Security rules and role-based access control.
- Database: MySQL (Prisma ORM preferred).
- PDF generation for bills and reports.

- Logging and error handling.
- Responsive design and user-friendly interface.

### 3 Technical Stack Requirements

- **Preferred Stack:** Next.js (full-stack framework)
- **Alternative Stack:** MERN (MongoDB, Express, React, Node.js)
- **Frontend:** React.js
- **Backend:** Node.js + Express.js
- **Database:** MySQL (with Prisma ORM (Preferable))
- **File Storage:** AWS S3 or equivalent (Preferable)
- **PDF Generation:** jsPDF, pdfkit, or equivalent
- **Authentication:** JWT / Session-based authentication

**Note:** Only Next.js or MERN stacks will be evaluated. Any other stack will not be considered for review.

### 4 Deployment Instructions

1. Deploy your application to a suitable platform (e.g., Vercel, Railway, Render, Heroku).
2. Push your code to a GitHub repository.
3. If deployment is not feasible, create a **screen recording video** demonstrating the system functionality (unlisted on YouTube) and share the link along with the repository.

### 5 Additional Requirements

- Implement data validation and proper error handling.
- Ensure responsiveness for different screen sizes.
- Implement logging for critical system actions.
- Maintain proper database relationships to avoid data duplication.
- Include setup instructions and a clear `README.md`.

## 6 Assessment Evaluation Criteria

- Module functionality coverage (Reception, Doctor, Lab, Admin)
- Database design and integrity
- Security and role-based access implementation
- Code quality, readability, and maintainability
- UI/UX and responsiveness
- Deployment or alternative demonstration completeness

## Deadline

Submit your assessment along with the GitHub repository and deployment link (or video demonstration) by the specified deadline.

**Support Contact:** [sreejesh@ebanitech.com](mailto:sreejesh@ebanitech.com)

**We look forward to seeing your implementation!**