

# Full Stack Development With MERN

## Project Documentation

### 1. INTRODUCTION

**Project Title: MEDICARE:** Book a Doctor

**Team Members:**

- ANSHIKA GARG
- KHUSHI KUMARI
- SHIFA SHEIKH
- MANAS SHARMA

### 2. Project Overview

**Purpose:**

The aim of this project is to create a responsive and user-friendly healthcare booking platform where patients can easily find and book appointments with doctors. It minimizes the traditional appointment hassles and adds flexibility with online consultation and payment methods.

**Features:**

- Search doctors by specialization and availability

- Book appointments with specific date & time preferences
- Payment options: Cash or Online
- Doctor dashboard to manage appointments and view earnings
- Admin panel to handle doctor registrations, deletions, and system analytics
- Secure login and registration for patients, doctors, and admins
- Clean, responsive UI for all users

### **3. Architecture**

#### **Frontend (React):**

- Built with React.js and Bootstrap for a dynamic and responsive interface.
- Component-based architecture for reusability: DoctorCard, AppointmentForm, Navbar, etc.
- React Router for page navigation
- Axios for API calls

#### **Backend (Node.js + Express.js):**

- RESTful API built with Express.js
- Handles authentication, appointment logic, doctor management
- Routes structured for users, doctors, and admin

#### **Database (MongoDB):**

- Collections: Users, Doctors, Appointments, Payments
- Schema includes doctor profiles, user data, appointment slots, payment status
- Mongoose used for schema modeling and querying

## 4. Setup Instructions

### Prerequisites:

- Node.js (v14 or above)
- npm (comes with Node.js)
- MongoDB (local or MongoDB Atlas)
- Git

### Installation:

1. Clone the repository:

- `git clone "https://github.com/Anshika-Garg123/Medicare.git"`
- `cd Medicare`

2. Install dependencies for both frontend and backend:

**cd backend**

- `npm install`

**cd frontend**

- `npm install`

3. Set environment variables (.env) in /backend:

`PORT=5000`

`MONGODB_URI ="mongodb+srv://username:password@cluster0.41ct4pe.mongodb.net"`

`JWT_SECRET = your_jwt_secret`

## 5. Folder Structure

### Client (React Frontend):

```
frontend/  
├── public/  
├── src/  
│   ├── assets/  
│   ├── components/  
│   ├── context/  
│   ├── pages/  
│   ├── App.jsx  
│   ├── index.css  
│   └── main.jsx  
├── .env  
└── index.html
```

### Server (Node Backend):

```
backend/  
├── controllers/  
├── models/  
├── routes/  
├── middleware/  
├── config/  
└── .env
```

admin/

```
|— public/  
|— src/  
|— .env  
└— index.html
```

## 6. Running the Application

### Backend:

```
cd backend
```

```
npm run server
```

(After this command, our Database will be Connected).

### Frontend:

```
cd frontend
```

```
npm run dev
```

(After database connection, come to frontend folder and run this command, we will get our localhost address and we will land directly on the Landing Page.)

### Admin:

```
cd admin
```

```
npm run dev
```

(For admin login, go to admin folder, and run this command, we will land on Admin Login page, login with credentials mentioned in .env file in backend folder)

## 7. API Documentation

Endpoint	Method	Description
/api/doctors	GET	Get list of all doctors
/api/appointments	POST	Book an appointment
/api/login	POST	Login for user/doctor/admin
/api/register	POST	Register a new user
/api/doctor/update	PUT	Update doctor profile
/api/admin/add-doctor	POST	Admin adds a doctor
/api/admin/delete-doctor/:id	DELETE	Admin deletes a doctor

## 8. Authentication

- JWT (JSON Web Tokens) used for secure login sessions
- Separate tokens issued for patients, doctors, and admins
- Tokens are stored in HTTP headers for protected routes
- Middleware checks for valid tokens before allowing access

## 9. User Interface

**For Users:**

- Homepage: Search bar with filters (specialization, top doctors)
- Booking Page: Select doctor, date, time, and payment mode
- MyAppointment: View upcoming appointments

#### **For Doctors:**

- Dashboard: View booked appointments and earnings
- Profile Section: Update doctor info, specialization, available timings

#### **For Admins:**

- Dashboard: System-wide analytics
- Doctor Management: Add or delete doctors
- Appointment Monitoring: Overview of total appointments

## **10. Testing**

- Manual testing performed for all major features
- Used Postman for API testing
- Basic form validation included on frontend
- Unit testing planned using Jest (future enhancement)

## **11. Screenshots**

### **1. User**

### Login

Please log in to book appointment

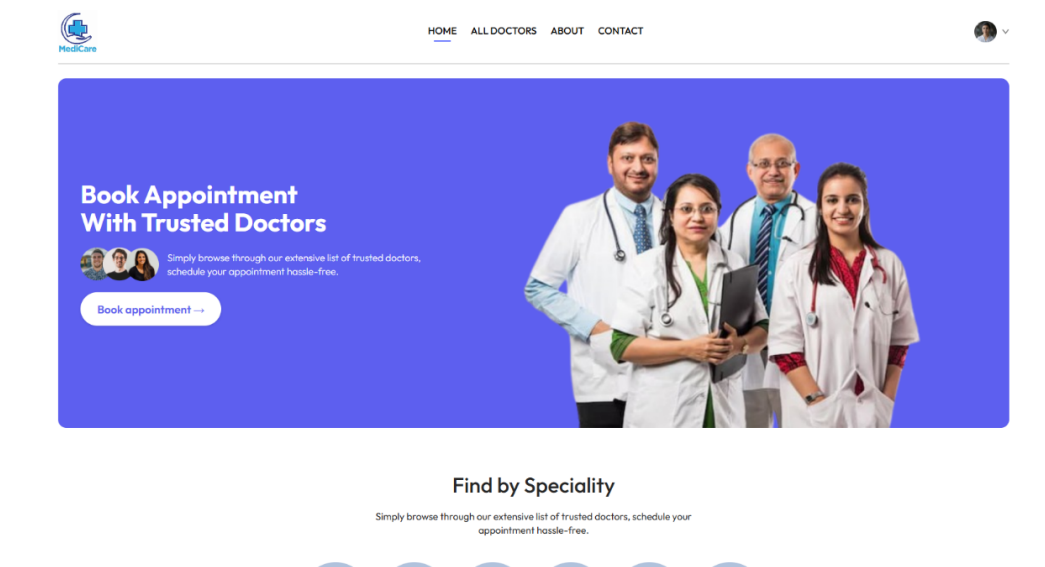
Email

Password

Login

Create an new account? [Click here](#)

**Fig. 11.1 User Login**



**Fig. 11.2 User Dashboard**





Browse through the doctors specialist.

General physician


Gynecologist

Dermatologist

Pediatricians

Neurologist


Gastroenterologist



Available

**Amisha Jindal**


Dermatologist



Available

**Akash Jain**


General physician



Available

**Rudrakshi Sharma**


Gynecologist



Available

**Aman Mehta**


General physician



Available

**Ishita Kumari**


Gynecologist



Available

**Santosh Patel**


Dermatologist



Available

**Deepak Sogani**


Pediatricians



Available

**Jennifer Dsouza**


Neurologist



Available

**Prakash Jain**

Gastroenterologist




Available

**Tushar Garg**

Neurologist

Fig. 11.3 Doctors' List

HOME ALL DOCTORS ABOUT CONTACT



**Amisha Jindal**

MD - Dermatologist 4 Year

About

Dr. Amisha has a strong commitment to delivering comprehensive medical care, focusing on preventive medicine, early diagnosis, and effective treatment strategies. Dr. Amisha has a strong commitment to delivering comprehensive medical care, focusing on preventive medicine, early diagnosis, and effective treatment strategies.'

Appointment fee: ₹499

Booking slots

FRI 11

SAT 12

SUN 13

MON 14

TUE 15

WED 16

THU 17

02:30 pm

03:00 pm

03:30 pm

04:00 pm

04:30 pm

05:00 pm

05:30 pm

06:00 pm

06:30 pm

Book an appointment

0

Fig. 11.4 Booking Page

## 2. Doctor

### Doctor Login


Email

Password

Login

Admin Login? [Click here](#)

Fig. 11.5 Doctor's Login



Doctor

Logout

Dashboard

Appointments

Profile

₹ 499

Earnings

1

Appointments

1

Patients

Latest Bookings

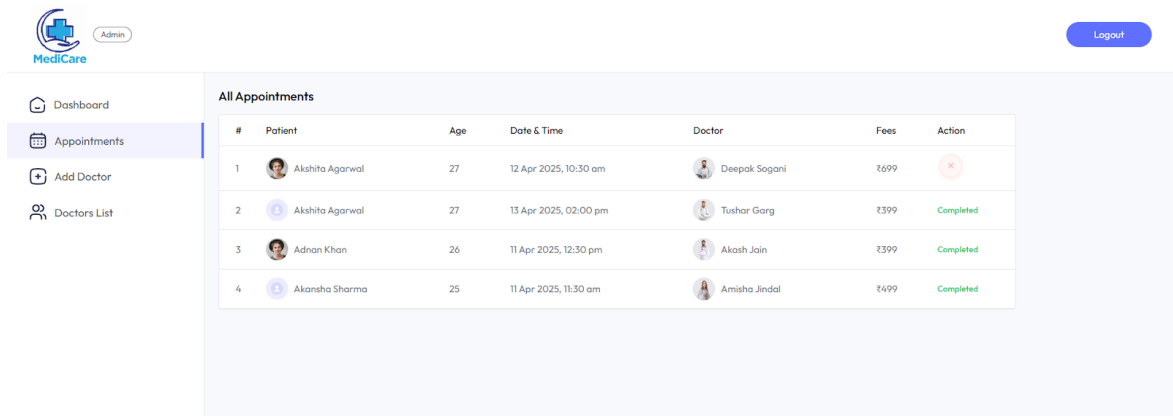
Akansha Sharma

Booking on 11 Apr 2025

Completed

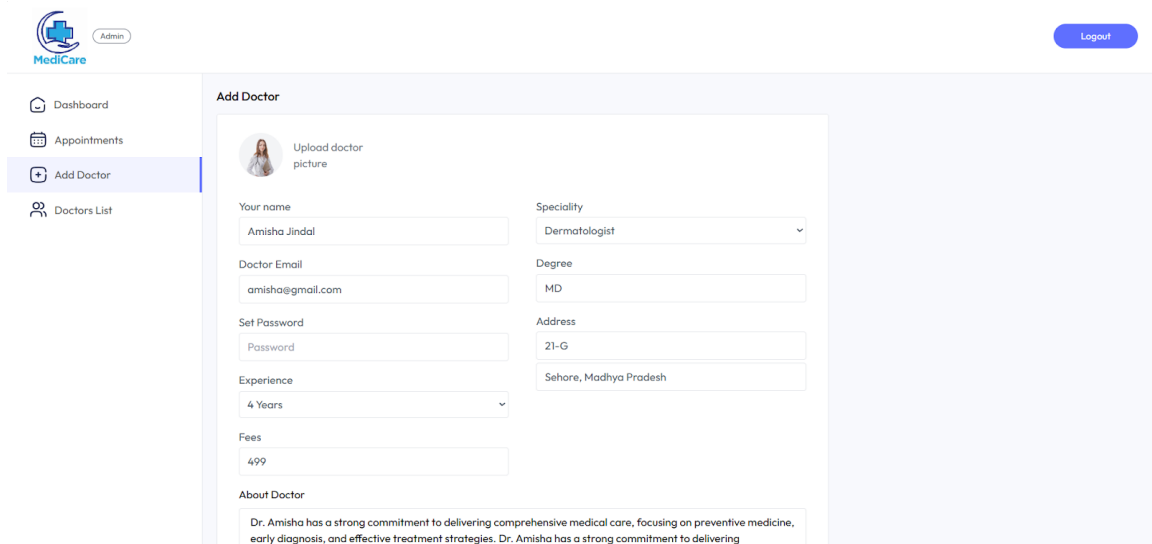
Fig. 11.6 Doctor's Dashboard





#	Patient	Age	Date & Time	Doctor	Fees	Action
1	Akshita Agarwal	27	12 Apr 2025, 10:30 am	Deepak Sogani	₹699	
2	Akshita Agarwal	27	13 Apr 2025, 02:00 pm	Tushar Garg	₹399	Completed
3	Adnan Khan	26	11 Apr 2025, 12:30 pm	Akash Jain	₹399	Completed
4	Akansha Sharma	25	11 Apr 2025, 11:30 am	Amisha Jindal	₹499	Completed

**Fig. 11.10 Appointment list**



**Add Doctor**

Upload doctor picture

Your name: 
 Speciality:

Doctor Email: 
 Degree:

Set Password: 
 Address:

Experience:

Fees:

**About Doctor**  
 Dr. Amisha has a strong commitment to delivering comprehensive medical care, focusing on preventive medicine, early diagnosis, and effective treatment strategies. Dr. Amisha has a strong commitment to delivering

**Fig. 11.11 Add a Doctor**

## 12. Known Issues

- No OTP/email verification for user registration
- Appointment time conflict check could be improved
- Doctor earnings refresh may require manual reload

### **13. Future Enhancements**

- Add chat/video consultation feature
- SMS/Email appointment confirmation
- Filter doctors by location and rating
- Role-based access control using permissions
- Calendar view for doctors' schedules

### **14. Links:**

Github Link (for Project ) - <https://github.com/Anshika-Garg123/Medicare>

All Documentation Link -

<https://drive.google.com/drive/folders/18NvDtwrrhnFR5WTeQSi7vYWiyuPpe0QY?usp=sharing>