Hotel Booking Backend Roadmap

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Team Distribution

- **Person A:** User Authentication, Booking System, Notifications

- **Person B:** Room Management, Admin Panel, APIs

Project Setup & Database Design

Project Initialization

- Set up GitHub repository & project structure

- Install Node.js, Express.js, MongoDB

- Install necessary dependencies (`express`, `mongoose`, `dotenv`, etc.)

Database Schema Design

- **User Schema:** email, password, role (user/admin)

- **Room Schema:** room number, status, price

- **Booking Schema:** user, check-in, check-out, room ID, status

- **Notification Schema:** user, message, status

Database Connection

- Connect MongoDB with Mongoose

- Test with dummy data using Postman

Authentication System (Person A)

User Authentication (JWT)

- Signup/Login API (bcrypt for hashing passwords)

- JWT Authentication & Middleware

Role-based Access

- Normal users can book rooms

- Admins can manage rooms

Session Handling

- Protect routes

- Store sessions in MongoDB

Room & Booking System (Person B)

Room Management API

- API to add, update, delete, and fetch rooms

- Mark rooms as available/booked

Booking System API

- API to book a room (Check-in, Check-out)

- Prevent double booking

- Track current & upcoming bookings

Payment Integration (if required)

- Implement dummy payment API

- Store payment status in booking

Notifications & User Dashboard (Person A)

Notification System

- Send notifications for successful booking, cancellations

- Store notifications in MongoDB

User Dashboard API

- Users can view past & upcoming bookings

- Cancel existing bookings

API Testing

- Use Postman to test all APIs

Admin Panel API (Person B)

Admin Dashboard API

- View all bookings, users, rooms

- Update room availability

Advanced Features (if time allows)

- Cancel a booking from admin side

- Modify room prices

Testing & Debugging

- Ensure admin controls work smoothly

Final Testing & Deployment (Both Persons)

Security & Performance Check

  - Secure JWT tokens

  - Handle error cases properly

Documentation & Final Debugging

  - Create README.md for APIs

  - Fix remaining bugs

Deployment

  - Deploy backend on Render/Vercel

  - Use MongoDB Atlas for production database

Final Deliverables

  - Fully functional **Hotel Booking Backend**

  - Secured **Authentication & Admin System**

  - **Room & Booking API**

  - Well-documented **GitHub repository**