Full Stack Development with MERN

API Development and Integration Report

Date	15.07.24
Team ID	PNT2022TMIDSWTID1721142115
Project Name	Video Conferencing Application
Maximum Marks	6 + 6= 12 marks

Project Title: Video Conferencing Application (Smart Meet)
Date: 15.07.24
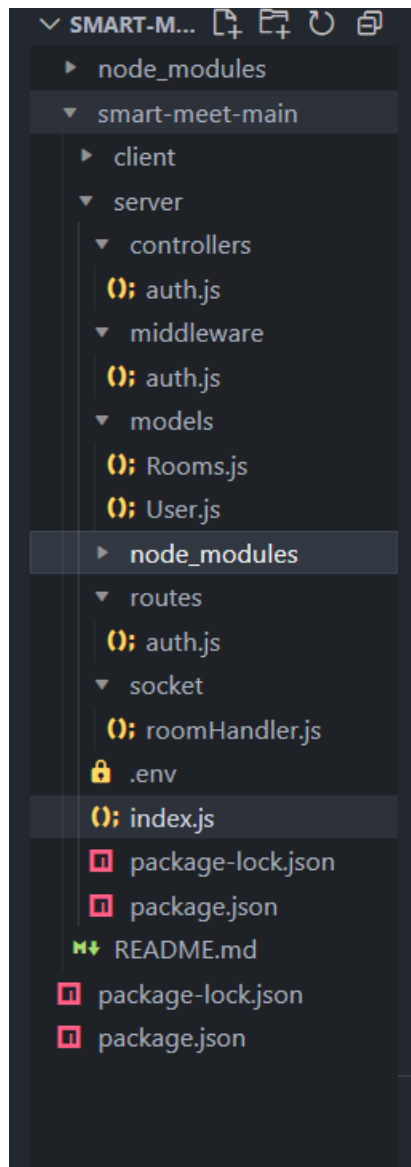**Prepared by:** MeetMinds(SWTID1721142115)

Objective

The objective of this report is to document the API development progress and key aspects of the backend services implementation for the Video Conferencing project.

Technologies Used

- **Backend Framework:** Node.js with Express.js
- **Database:** MongoDB
- **Authentication:** JWT

Project Structure

Key Directories and Files

1. **/controllers**
   o Contains functions to handle requests and responses.
2. **/models**
   o Includes Mongoose schemas and models for MongoDB collections.
3. **/routes**
   o Defines the API endpoints and links them to controller functions.
4. **/middlewares**
   o Custom middleware functions for request processing.
5. **/config**
   o Configuration files for database connections, environment variables, etc.

API Endpoints

User Authentication

- **POST /api/user/register** - Registers a new user.
- **POST /api/user/login** - Authenticates a user and returns a token.

User Management

- **GET /api/user/-** Retrieves user information by ID.
- **PUT /api/user/-** Updates user information by ID.

Room Creation

- **GET /api/rooms**- Retrieves all the created Meeting rooms.
- **POST /api/rooms** - Creates a new Meeting Room.

Integration with Frontend
The backend communicates with the frontend via RESTful APIs. Key points of integration include:

- **User Authentication:** Tokens are passed between frontend and backend to handle authentication.
- **Data Fetching:** Frontend components make API calls to fetch necessary data for display and interaction.

Error Handling and Validation
Describe the error handling strategy and validation mechanisms:

- **Error Handling:** Centralized error handling using middleware.
- **Validation:** Input validation using libraries like Joi or express-validator.

Security Considerations
Outline the security measures implemented:

- **Authentication:** Secure token-based authentication.
- **Data Encryption:** Encrypt sensitive data at rest and in transit.