

FULL STACK DEVELOPMENT WITH MERN

API DEVELOPMENT AND INTEGRATION REPORT

Date	17 th July 2024
Team ID	PNT2022TMIDxxxxxx
Project Name	Project - xxx
Maximum Marks	

Objective

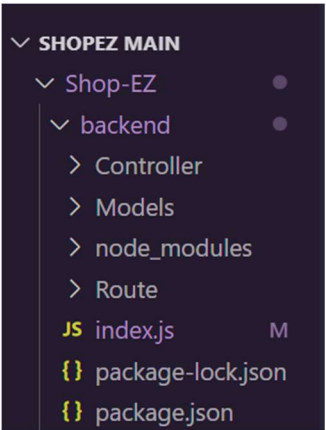
The objective of this report is to document the API development progress and key aspects of the backend services implementation for the [Your Project Title] project.

Technologies Used

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

Project Structure

Provide a screenshot of the backend project structure with explanations for key directories and files



Key Directories and Files

1. **/controllers**
 - Contains functions to handle requests and responses.

2. **/models**
 - Includes Mongoose schemas and models for MongoDB collections.
3. **/routes**
 - Defines the API endpoints and links them to controller functions.
4. **/middlewares**
 - Custom middleware functions for request processing.
5. **/config**
 - Configuration files for database connections, environment variables, etc.
6. **/index.js** This file contains an Express.js application setup with MongoDB for user authentication, including endpoints for user signup and login using JWT tokens.

API Endpoints

A summary of the main API endpoints and their purposes:

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.

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.