**Project Overview**

The "ETG Project Tracker" is a web-based application that allows users to manage and track their projects. It is built using React for the frontend, Spring Boot for the backend, and MySQL for the database.

**Technology Stack**

The project utilizes the following technologies:

**Frontend**

* React: A JavaScript library for building user interfaces.
* React Router: A library for handling client-side routing in React applications.
* Axios: A popular HTTP client for making API requests.

**Backend**

* Spring Boot: A Java-based framework for building web applications and micro services.
* Spring Data JPA: A module of the Spring Framework that provides integration with the Java Persistence API (JPA).

**Database**

* MySQL: A popular open-source relational database management system.

**Features**

The "ETG Project Tracker" application provides the following features:

**User Management**

* User registration and login
* Role-based access control (RBAC)

**Project Management**

* Create, update, and delete projects
* Generate project reports
* Filter the data as per the Column and Data

**Reporting and Analytics**

* Visualize project data using charts and graphs
* Export data in various formats (PDF, Excel)

**Architecture**

The "ETG Project Tracker" application follows a client-server architecture, where the frontend (React) communicates with the backend (Spring Boot) through a RESTful API.

**Frontend**

The frontend is built using React, which provides a component-based architecture for building the user interface. The application uses React Router for client-side routing and Axios for making API requests to the backend.

**Backend**

The backend is built using Spring Boot, which provides a robust and scalable framework for building web applications. The application uses Spring Data JPA for interacting with the MySQL database and Spring Security for handling user authentication and authorization.

**Database**

The application uses a MySQL database to store project, task, and user data. The database schema is designed to support the various features of the application, including project management, task management, and user management.

**Prerequisites**

Node.js (version 14 or higher)

Java Development Kit (JDK) 11 or higher

MySQL server

**1. Set up the backend:**

* Install the Java 17 version and all the required extension for java, Maven, Spring boot in VS Code
* Build the project
* Connect to the Database using the application.properties file
* Run the application

**2. Set up the frontend:**

* Install Node Js and required Extension for react and js
* Build The Project
* Install dependencies: `npm install`
* Start the development server: `npm start`

**3. Access the application:**

Open your web browser and enter the IPv4 of the Server and at end add a ‘/’.

**Conclusion**

The "ETG Project Tracker" is a comprehensive project management application that leverages the power of React, Spring Boot, and MySQL to provide a robust and feature-rich solution for managing projects and tasks. This documentation should provide you with a solid understanding of the project's architecture, features, and deployment process.