



ETL SYSTEM ENGINEERING

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Introduction:

This document serves as a project documentation for the Python, Django, React, Bootstrap, and MySQL DB project. It is intended to provide an overview of the project's architecture, features, and functionality, as well as instructions for installing and running the project.

Project Overview:

The project is a web application that allows users to create and manage a list of tasks. The application has two main components: a frontend built using React and Bootstrap, and a backend built using Django and MySQL DB. The frontend allows users to view and manage their tasks, while the backend handles the storage and retrieval of task data.

Project Architecture:

The project architecture consists of three layers: the frontend layer, the backend layer, and the database layer. The frontend layer is built using React and Bootstrap and communicates with the backend layer via RESTful APIs. The backend layer is built using Django and handles the business logic of the application, including authentication, task creation, and task retrieval. The database layer is built using MySQL DB and stores the task data.

Project Setup and Installation:

To run the project, follow the steps below:

a. Install Python and MySQL DB.

b. Clone the project repository from GitHub.

c. Navigate to the project directory and run the following command to install the Python dependencies:

```
pip install -r requirements.txt
```

d. Navigate to the frontend directory and run the following command to install the frontend dependencies:

```
npm install
```

e. Start the backend server by navigating to the project directory and running the following command:

```
python manage.py runserver
```

f. Start the frontend server by navigating to the frontend directory and running the following command:

```
npm start
```

g. Access the application by opening a web browser and navigating to <http://localhost:3000>.



Project Features and Functionality:

The project has the following features and functionality:

- a. User authentication: Users can create an account and log in to the application.
- b. Task creation: Users can create new tasks and assign them a title, description, and due date.
- c. Task management: Users can view, edit, and delete tasks from their task list.
- d. Task filtering: Users can filter tasks by their status (completed or not completed) and due date.

Technologies Used:

The project uses the following technologies:

- a. Python: The primary language used for backend development.
- b. Django: The web framework used for backend development.
- c. React: The JavaScript library used for frontend development.
- d. Bootstrap: The CSS framework used for frontend development.
- e. MySQL DB: The relational database management system used for data storage.

**Conclusion:**

In conclusion, this project demonstrates the use of Python, Django, React, Bootstrap, and MySQL DB in the development of a web application. The project allows users to create and manage a list of data, and data management, and data filtering.