

## Full Stack Assignment – 39

**Assignment ID:** FSD-39

**Title:** Delegation-Based Approval Management System

**Duration:** 3 Hours

### 1 Objective

Design and develop a **Delegation-Based Approval Management System** that allows users to submit approval requests while enabling managers to delegate approval authority to other users.

The system must enforce delegation rules and ensure **data persistence using a database**.

### 2 User Roles

#### REQUESTER

- Register and log in to the system
- Create approval requests
- View own request status

#### MANAGER

- Register and log in to the system
- Approve or reject requests
- Delegate approval authority to another user

#### DELEGATE

- Register and log in to the system
- Approve or reject delegated requests

### 3 Functional Requirements

#### Authentication & Authorization

- Implement user registration and login
- Use **JWT-based authentication**
- Protect all backend APIs using JWT
- Enforce **role-based access control** on APIs and frontend views

#### Request Management

- REQUESTER can submit approval requests with details
- Requests must be stored in the database
- MANAGER or DELEGATE can act on requests based on delegation status
- Request status must be retrieved dynamically

## Delegation Management

- MANAGER can delegate approval authority to a DELEGATE
- Delegation details must be stored in the database
- Delegation can be time-bound or active/inactive (basic flag is enough)

## 4 Business Rule (Critical)

 **A delegate can approve requests only while the delegation is active.**

Approval attempts outside an active delegation window must be rejected.

## 5 Technical Constraints (Mandatory)

- All request and delegation data **must persist in a database**
- Hardcoded or in-memory storage is **not allowed**
- Backend APIs must reflect actual database state
- JWT authentication and role validation are mandatory
- Use environment variables for sensitive configuration

## 6 Frontend Requirements

- Login and registration pages
- Role-based dashboards for REQUESTER, MANAGER, and DELEGATE
- Request creation view for REQUESTER
- Delegation management view for MANAGER
- Approval action view for MANAGER / DELEGATE

UI design is not evaluated; delegation logic and correctness matter.

## 7 Submission Requirements

- GitHub repository (frontend and backend)
- Live frontend deployment link
- Live backend deployment link
- README.md must include:
  - Project overview
  - Tech stack
  - User roles and permissions
  - API endpoints
  - Database schema
  - Live deployment links



## 8 Evaluation Note

Evaluation focuses on **delegation enforcement, role resolution, and end-to-end execution.**