

Lab 6

1- Create an Employee Management System with the specified validations and endpoints.
Below is a structured guide on how define the Employee model, and implement the required functionalities:

Use: Spring web Lombok and Validation Dependencies.

Create: Employee Model and EmployeeController.

Employees Model has: ID , name, email , phoneNumber ,age, position, onLeave, hireDate and annualLeave.

Validation:

□ ID:

- Cannot be null.
- Length must be more than 2 characters.

□ Name:

- Cannot be null.
- Length must be more than 4 characters.
- Must contain only characters (no numbers).

□ Email:

- Must be a valid email format.

□ Phone Number:

- Must start with "05".
- Must consists of exactly 10 digits.

□ Age:

- Cannot be null.
- Must be a number.
- Must be more than 25.

□ Position:

- Cannot be null.

- Must be either "supervisor" or "coordinator" only.

□ onLeave:

- Must be initially set to false.

□ hireDate:

- Cannot be null.
- should be a date in the present or the past.

□ AnnualLeave:

- Cannot be null.
- Must be a positive number.

EmployeeController Endpoint:

1. **Get all employees:** Retrieves a list of all employees.
2. **Add a new employee:** Adds a new employee to the system.
3. **Update an employee:** Updates an existing employee's information.
4. **Delete an employee:** Deletes an employee from the system.

Note:

□ Verify that the employee exists.

5. **Search Employees by Position:** Retrieves a list of employees based on their position (supervisor or coordinator).

Note:

□ Ensure that the position parameter is valid (either "supervisor" or "coordinator").

6. **Get Employees by Age Range:** Retrieves a list of employees within a specified age range.

Note:

□ Ensure that minAge and maxAge are valid age values.

7. **Apply for annual leave:** Allow employees to apply for annual leave.

Note:

□ Verify that the employee exists.

□ The employee must not be on leave (the onLeave flag must be false).

□ The employee must have at least one day of annual leave remaining.

□ Behavior:

□ Set the onLeave flag to true.

□ Reduce the annualLeave by 1.

8. **Get Employees with No Annual Leave:** Retrieves a list of employees who have used up all their annual leave.

9. **Promote Employee:** Allows a supervisor to promote an employee to the position of supervisor if they meet certain criteria. **Note:**
- Verify that the employee with the specified ID exists.
 - Ensure that the requester (user making the request) is a supervisor.
 - Validate that the employee's age is at least 30 years.
 - Confirm that the employee is not currently on leave.
 - Change the employee's position to "supervisor" if they meet the criteria.

2- Validation Checklist Creation:

- Choose a specific domain or industry, such as healthcare, finance, or education.
- Create a validation checklist for data or processes relevant to that domain.
- Include items that should be validated, validation rules or criteria, and the potential consequences of failing to validate.
- Share your checklist with colleagues or mentors in that domain for feedback and refinement.
- Use this exercise to practice creating comprehensive validation guidelines for a specific context.