

FULL-STACK PROJECT

EMPLOYEE MANAGEMENT SYSTEM

USING REACT, SPRING BOOT AND MySQL

Prepared by

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PROJECT DESCRIPTION:

- This is a small full-stack application that simulates the Employee Management System allowing the user to add/edit/delete data to the system.
- The application also allows the user to view the list of employees and make changes to the data dynamically without involving direct database access to the user.

TECHNOLOGY STACK USED:

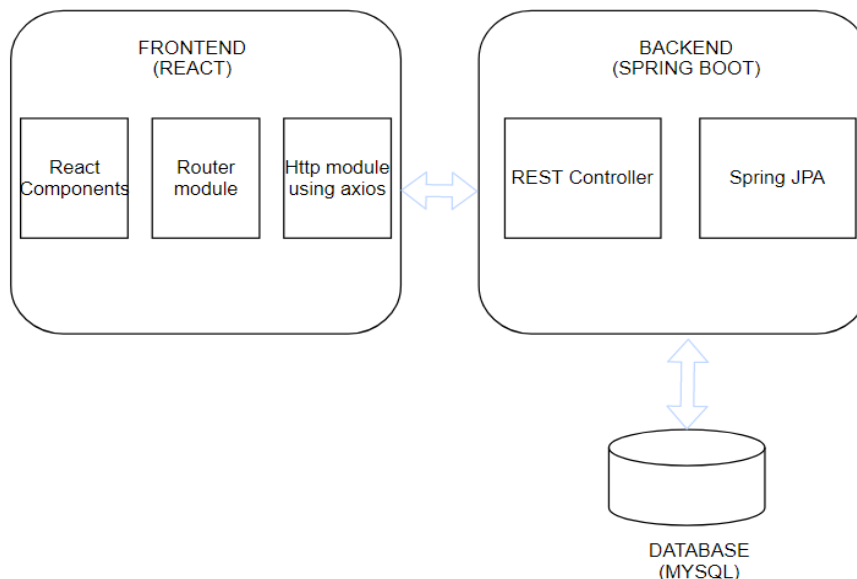
Front-end: React.js, HTML,CSS and Bootstrap

Back-end: Spring Boot

Database: MySQL

Other Tools used: Postman, Spring tool suite and Visual Studio Code

PROJECT ARCHITECTURE:



FRONT END

USER INTERFACE WIREFRAMING

EMPLOYEE MANAGEMENT SYSTEM

EMPLOYEES

ADD EMPLOYEES

EMPLOYEE LIST

Alex
Tom Curran
John Smith
Mark Wood
Sam Raj
James

EMPLOYEE DETAIL

Name:
E_ID:
Email:
Phone#:
Dept:
Age:

EMPLOYEE LISTE_ID: Name: Email: Phone#: Dept # Age

Save

Update

Remove

Status: Employee added registered successfully.

SAMPE UIs

← → localhost:3000/add

EMPLOYEE MANAGEMENT SYSTEM EMPLOYEES REGISTER

Employee Name

Employee E-mail

Employee Phone

Department

Age

← → localhost:3000

EMPLOYEE MANAGEMENT SYSTEM EMPLOYEES REGISTER

Search by Employee Name

Employees List Select an Employee

← → localhost:3000/employees

EMPLOYEE MANAGEMENT SYSTEM EMPLOYEES REGISTER

Search by Employee Name

Employees List

Employee

Employee ID: 7

Name: Bala

Email: bala@gmail.com

Phone: 1234565671

Department: CS

Age: 24

← → localhost:3000/add

EMPLOYEE MANAGEMENT SYSTEM EMPLOYEES REGISTER

Employee Name

Employee E-mail

Employee Phone

Department

Age

Database

Used one table to store the employee details.

The database contains the following fields:

1. Emp_id (Primary key)
2. Emp_age
3. Emp_dept
4. Emp_email
5. Emp_name
6. Emp_phone

Note: Emp_id is auto-generated in the backend every time for whenever a new employee is registered.

```
1 • CREATE DATABASE IF NOT EXISTS Employee;
2 • Use Employee;
3 • CREATE TABLE employee_info;
4 • DROP TABLE employee_info;
5 • SHOW TABLES;
```

Result Grid

	emp_id	emp_age	emp_dept	emp_email	emp_name	emp_phone
▶	7	24	CS	bala@gmail.com	BalaUpdated	1234565671
	8	21	ECE	random@gmail.com	Random	1234555555
*	NULL	NULL	NULL	NULL	NULL	NULL

Backend

```
1 package com.app.ens.controller;
2
3 import java.util.List;
4
5 public class EmployeeController {
6
7     @RestController
8     private EmployeeService employeeService;
9
10    @RequestMapping(method=RequestMethod.GET, value="/employees")
11    public List<EmployeeInfo> getAllEmployees() {
12        return employeeService.getAllEmployees();
13    }
14
15    @RequestMapping(method=RequestMethod.GET, value="/employees/{id}")
16    public EmployeeInfo getEmployee(@PathVariable Long id) {
17        return employeeService.getEmployee(id);
18    }
19
20    @ResponseStatus(value = HttpStatus.CREATED)
21    @RequestMapping(method=RequestMethod.POST, value="/employees")
22    public void addEmployee(@RequestBody EmployeeInfo data) {
23        employeeService.addEmployee(data);
24    }
25
26    @RequestMapping(method=RequestMethod.PUT, value="/employees/{id}")
27    public void updateEmployee(@RequestBody EmployeeInfo data, @PathVariable Long id) {
28        employeeService.updateEmployee(data, id);
29    }
30
31 }
```

```
2021-04-20 20:45:32.117 INFO 2224 --- [main] a.e.EmployeeManagementSystemApplication : Starting EmployeeManagementSystemApplication using Java 15.0.1 on DESKTOP-P8H045W with PID 2224 (C:\Us
2021-04-20 20:45:32.120 INFO 2224 --- [main] a.e.EmployeeManagementSystemApplication : No active profile set, falling back to default profiles: default
2021-04-20 20:45:32.679 INFO 2224 --- [main] a.s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA repositories in DEFAULT mode.
2021-04-20 20:45:32.734 INFO 2224 --- [main] a.s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 46 ms. Found 1 JPA repository interfaces.
2021-04-20 20:45:33.240 INFO 2224 --- [main] o.s.b.w.embedded.tomcat.TomcatStarter : Tomcat initialized with port(s): 8080 (http)
2021-04-20 20:45:33.249 INFO 2224 --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2021-04-20 20:45:33.250 INFO 2224 --- [main] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.45]
2021-04-20 20:45:33.339 INFO 2224 --- [main] o.s.w.s.c.ServletWebServerApplicationContext : Initializing Spring embedded WebApplicationContext
2021-04-20 20:45:33.339 INFO 2224 --- [main] o.hibernate.jpa.internal.util.LogHelper : Root WebApplicationContext: initialization completed in 1180 ms
2021-04-20 20:45:33.498 INFO 2224 --- [main] org.hibernate.Version : HHH000204: Processing PersistenceUnitInfo [name: default]
2021-04-20 20:45:33.552 INFO 2224 --- [main] org.hibernate.Version : HHH000412: Hibernate ORM core version 5.4.38.Final
2021-04-20 20:45:33.695 INFO 2224 --- [main] org.hibernate.annotations.common.Version : HCANN000001: Hibernate Commons Annotations (5.1.2.Final)
2021-04-20 20:45:33.759 INFO 2224 --- [main] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
2021-04-20 20:45:34.164 INFO 2224 --- [main] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start completed.
2021-04-20 20:45:34.186 INFO 2224 --- [main] org.hibernate.dialect.Dialect : HHH000400: Using dialect: org.hibernate.dialect.MySQL5InnoDBDialect
2021-04-20 20:45:34.743 INFO 2224 --- [main] o.h.e.t.j.p.i.i.BootstrapPlatformInitiator : HHH000040: Using JpaPlatform Implementation: [org.hibernate.engine.transaction.jta.platform.internal.H
2021-04-20 20:45:34.750 INFO 2224 --- [main] org.springframework.orm.jpa.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'default'
2021-04-20 20:45:34.976 INFO 2224 --- [main] spring.jpa.open-in-view is enabled by default. Therefore, database queries may be performed during vie
2021-04-20 20:45:35.223 INFO 2224 --- [main] o.s.b.w.embedded.tomcat.TomcatStarter : Tomcat started on port(s): 8080 (http) with context path
2021-04-20 20:45:35.239 INFO 2224 --- [main] a.e.EmployeeManagementSystemApplication : Started EmployeeManagementSystemApplication in 3.47 seconds (JVM running for 4.297)
2021-04-20 20:47:01.081 INFO 2224 --- [nio-8080-exec-1] o.s.c.x.c.Tomcat [localhost/1] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2021-04-20 20:47:01.081 INFO 2224 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
2021-04-20 20:47:01.082 INFO 2224 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : Completed initialization in 1 ms
```

GET http://localhost:8080/employees/ Send Save

Params Authorization Headers (13) Body Pre-request Script Tests Settings Cookies

Query Params

KEY	VALUE	DESCRIPTION
Key	Value	Description

Body Cookies Headers (8) Test Results Status: 200 OK Time: 13 ms Size: 478 B Save Response

Pretty Raw Preview Visualize JSON

```
1 {
2   "empId": 7,
3   "empName": "BalaUpdated",
4   "empEmail": "bala@gmail.com",
5   "empPhone": 1234565671,
6   "empDept": "CS",
7   "empAge": 24
8 },
9 {
10  "empId": 8,
11  "empName": "Random",
12  "empEmail": "random@gmail.com",
13  "empPhone": 1234555555,
14  "empDept": "ECE",
15  "empAge": 21
16 }
17
18 }
```