

Project Name: Department Management CRUD App

(functionality: Functionality: Manage department name.

Endpoints: POST /departments GET /departments PUT /departments/{id} DELETE
/departments/{id} using spring boot)

Github link: <https://github.com/pratham19092006/Department-Management-System>

NAME : Pratham Mishra

Roll No. : 2400291520179

Department: CSEAI

Date: 29-12-2025

CODE:

DemoManagementApplication.java:

```
package com.example.deptmanagement;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication

public class DeptManagementApplication {

    public static void main(String[] args) {

        SpringApplication.run(DeptManagementApplication.class, args);

    }

}
```

DeptController.java:

```
package com.example.deptmanagement.controller;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.web.bind.annotation.*;

import com.example.deptmanagement.model.Dept;
import com.example.deptmanagement.service.DeptService;

@RestController
@RequestMapping("/depts")

public class DeptController {

    @Autowired

    private DeptService deptService;

    // POST /depts

    @PostMapping
```

```

    public Dept createDept(@RequestBody Dept dept) {
        return deptService.addDept(dept);
    }

    // GET /depts
    @GetMapping
    public List<Dept> getAllDepts() {
        return deptService.getAllDepts();
    }

    // PUT /depts/{id}
    @PutMapping("/{id}")
    public Dept updateDept(
        @PathVariable int id,
        @RequestBody Dept dept) {
        return deptService.updateDept(id, dept);
    }

    // DELETE /depts/{id}
    @DeleteMapping("/{id}")
    public String deleteDept(@PathVariable int id) {
        return deptService.deleteDept(id);
    }
}

```

DeptService.java:

```

package com.example.deptmanagement.service;

import java.util.ArrayList;
import java.util.List;

import org.springframework.stereotype.Service;

import com.example.deptmanagement.model.Dept;

@Service

```

```
public class DeptService {

    private List<Dept> depts = new ArrayList<>();

    // CREATE
    public Dept addDept(Dept dept) {
        depts.add(dept);
        return dept;
    }

    // READ
    public List<Dept> getAllDepts() {
        return depts;
    }

    // UPDATE
    public Dept updateDept(int id, Dept updatedDept) {
        for (Dept d : depts) {
            if (d.getId() == id) {
                d.setName(updatedDept.getName());
                return d;
            }
        }
        return null;
    }

    // DELETE
    public String deleteDept(int id) {
        depts.removeIf(d -> d.getId() == id);
        return "Dept deleted successfully";
    }
}
```

Dept.java:

```
package com.example.deptmanagement.service;

import java.util.ArrayList;

import java.util.List;

import org.springframework.stereotype.Service;

import com.example.deptmanagement.model.Dept;
```

@Service

```
public class DeptService {

    private List<Dept> depts = new ArrayList<>();

    // CREATE

    public Dept addDept(Dept dept) {

        depts.add(dept);

        return dept;

    }

    // READ

    public List<Dept> getAllDepts() {

        return depts;

    }

    // UPDATE

    public Dept updateDept(int id, Dept updatedDept) {

        for (Dept d : depts) {

            if (d.getId() == id) {

                d.setName(updatedDept.getName());

                return d;

            }

        }

    }

}
```

```

        return null;
    }

    // DELETE

    public String deleteDept(int id) {

        depts.removeIf(d -> d.getId() == id);

        return "Dept deleted successfully";

    }

}

```


Pom.xml:

```

<?xml version="1.0" encoding="UTF-8"?>

<project xmlns="http://maven.apache.org/POM/4.0.0"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
        http://maven.apache.org/xsd/maven-4.0.0.xsd">

    <modelVersion>4.0.0</modelVersion>

    <!--  CORRECT Spring Boot Parent -->

    <parent>

        <groupId>org.springframework.boot</groupId>

        <artifactId>spring-boot-starter-parent</artifactId>

        <version>3.2.5</version>

        <relativePath/>

    </parent>

    <groupId>com.example</groupId>

    <artifactId>dept-management-system</artifactId>

    <version>0.0.1-SNAPSHOT</version>

    <name>dept-management-system</name>

    <description>Dept Management CRUD Application</description>


    <properties>

        <java.version>17</java.version>

```

</properties>

<dependencies>

<!--  REQUIRED FOR REST CONTROLLERS -->

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-web</artifactId>

</dependency>

<!-- Testing -->

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-test</artifactId>

<scope>test</scope>

</dependency>

</dependencies>

<build>

<plugins>

<plugin>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-maven-plugin</artifactId>

</plugin>

</plugins>

</build>

</project>

