



ព្រះរាជាណាចក្រកម្ពុជា  
ជាតិ សាសនា ព្រះមហាក្សត្រ

**Software Engineering**

**Project : Student Internship Management System**

**Group: B2**

| Name of Student | ID of Student | Score |
|-----------------|---------------|-------|
| SAM NANGALEX    | e20220253     | ..... |
| PENG SEYHA      | e20220620     | ..... |
| OUN RITHI       | e20220420     | ..... |
| SOEUN SEREYVATH | e20220907     | ..... |
| YI MONIROM      | e20220175     | ..... |

**Lecturer: Roeun Pacharoth**

**Academic year 2025-2026**

## Progress Report 2

Name: SAM NANGALEX

### Login System + Security

- ☒ ~~Add form validation~~
- ☒ ~~Add error message handling (wrong password)~~
- ☒ ~~create custom AuthenticationSuccessHandler~~

```
@Controller
public class AuthController {

    @GetMapping("/login")
    public String loginPage(Model model, String error) {
        if (error != null) {
            model.addAttribute(attributeName: "error", attributeValue: "Invalid email or password");
        }
        return "/login";
    }
}
```

```
package project.demo.security;

import org.springframework.context.annotation.Bean;
import org.springframework.context.annotation.Configuration;
import org.springframework.security.config.annotation.method.configuration.EnableMethodSecurity;
import org.springframework.security.config.annotation.web.builders.HttpSecurity;
import org.springframework.security.crypto.bcrypt.BCryptPasswordEncoder;
import org.springframework.security.crypto.password.PasswordEncoder;
import org.springframework.security.web.SecurityFilterChain;

@EnableMethodSecurity
@Configuration
public class SecurityConfig{

    @Bean
    public PasswordEncoder passwordEncoder(){
        return new BCryptPasswordEncoder();
    }

    @Bean
    public SecurityFilterChain securityFilterChain(HttpSecurity http) throws Exception{
        http
            .authorizeHttpRequests(auth ->
                auth.requestMatchers(...patterns: "/login").permitAll()
                .requestMatchers(...patterns: "/supervisor/").hasRole(role: "/SUPERVISOR")
                .anyRequest().authenticated()
            )
            .formLogin(form -> form
                .loginPage(loginPage: "/login")
                .loginProcessingUrl(loginProcessingUrl: "/login")
                .usernameParameter(usernameParameter: "email")
                .passwordParameter(passwordParameter: "password")
                .defaultSuccessUrl(defaultSuccessUrl: "/home", alwaysUse: true)
                .permitAll()
            );

        return http.build();
    }
}
```

```

package project.demo.service;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.security.core.userdetails.UserDetails;
import org.springframework.security.core.userdetails.UserDetailsService;
import org.springframework.security.core.userdetails.UsernameNotFoundException;
import org.springframework.stereotype.Service;
import project.demo.entity.User;
import project.demo.repository.UserRepository;

@Service
public class CustomServiceUser implements UserDetailsService{
    @Autowired
    private UserRepository userRepository;

    @Override
    public UserDetails loadUserByUsername(String email) throws UsernameNotFoundException{
        User user = userRepository.findUsersByEmail(email).orElseThrow(()->new UsernameNotFoundException(msg: "User not found"));

        return org.springframework.security.core.userdetails.User
            .withUsername(user.getEmail())
            .password(user.getPassword())
            .roles(user.getRoles().toArray(new String[0]))
            .disabled(!user.isEnabled())
            .build();
    }
}

```

## Database

- ☒ role table
- ☒ user\_role table
- ☒ Add foreign keys for relationships
- ☒ Create internship\_app table
- ☒ Create evaluation table
- ☒ Add foreign key student\_id
- ☒ Add foreign key supervisor\_id
- ☒ Add foreign key for evaluation
- ☒ Create supervisor table
- ☒ Add foreign key user\_id → supervisor
- ☒ Add constraints (unique user\_id)

```

create table supervisors(
  id int auto_increment primary key,
  user_id int,
  full_name varchar(64) not null,
  email varchar(128) not null,
  phone_number int,
  department varchar(128)
);

create table internship_application(
  id int auto_increment primary key,
  student_id int,
  supervisor_id int,
  company_id int,
  title varchar(255) not null,
  description varchar(255),
  status enum('Pending', 'Approved', 'Rejected') default 'Pending' not null,
  created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
  updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP
);

```

```

CREATE TABLE document (
  id int PRIMARY KEY AUTO_INCREMENT,
  student_id int,
  internship_app_id int,
  file_name VARCHAR(255) NOT NULL,
  file_path VARCHAR(255) NOT NULL,
  uploaded_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);

create table evaluations(
  id int primary key auto_increment,
  internship_app_id int,
  supervisor_id int,
  comment varchar(255),
  score int,
  evaluations_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);

```

Reading table information for completion of table and column names  
You can turn off this feature to get a quicker startup with -A

```

Database changed
mysql> show tables;
+-----+
| Tables_in_internship |
+-----+
| company               |
| document              |
| evaluations           |
| flyway_schema_history |
| internship_application |
| roles                |
| students              |
| supervisors           |
| user_role             |
| users                 |
+-----+
10 rows in set (0.00 sec)

mysql> ~

```

```

alter table user_role
add constraint user_role_userID foreign key (user_id) references users(id)
on update cascade on delete restrict;

alter table user_role
add constraint user_role_roleID foreign key (role_id) references roles(id)
on update cascade on delete restrict;

alter table students
add constraint students_userID foreign key (user_id) references users(id)
on update cascade on delete restrict;

alter table supervisors
add constraint supervisors_userID foreign key (user_id) references users(id)
on update cascade on delete restrict;

alter table internship_application
add constraint internship_app_students_id foreign key (student_id) references students(id)
on update cascade on delete restrict;

alter table internship_application
add constraint internship_app_supervisors_id foreign key (supervisor_id) references supervisors(id)
on update cascade on delete restrict;

alter table internship_application
add constraint internship_app_company_id foreign key (company_id) references company(id)
on update cascade on delete restrict;

alter table document
add constraint document_student_id foreign key (student_id) references students(id)
on update cascade on delete restrict;

alter table document
add constraint document_internship_app_id foreign key (internship_app_id) references internship_application(id)
on update cascade on delete restrict;
alter table evaluations
add constraint evaluations_supervisor_id foreign key(supervisor_id) references supervisors(id)
on update cascade on delete restrict;

alter table evaluations
add constraint evaluations_internship_app_id foreign key(internship_app_id) references internship_application(id)
on update cascade on delete restrict;

```

## Backend

- ☒ ~~Create Student /entity/repository~~
- ☒ ~~Create User /entity//repository~~
- ☒ ~~Create Role /entity/repository~~
- ☒ ~~Create User\_role /entity/repository~~

```
UserRepository.java  UserRoleId.java  RoleName.java X
demo > src > main > java > project > demo > enums > RoleName.java > ...
1  package project.demo.enums;
2
3  public enum RoleName {
4      ROLE_STUDENT,
5      ROLE_ADMIN,
6      ROLE_SUPERVISOR
7  }
8
```

```
application.properties  Role.java  StudentRepository.java  CustomServiceUser.java  ...  RoleRepository.java X
demo > src > main > java > project > demo > entity > Role.java > Role > roleName
1  package project.demo.entity;
2
3  import jakarta.persistence.*;
4  import project.demo.enums.RoleName;
5
6  @Entity
7  @Table(name = "roles")
8  public class Role {
9
10     @Id
11     @GeneratedValue(strategy = GenerationType.IDENTITY)
12     private Integer id;
13
14     @Enumerated(EnumType.STRING)
15     @Column(name = "role_name", nullable = false, unique = true)
16     private RoleName roleName;
17
18     public Role() {}
19
20     public Integer getId() {
21         return id;
22     }
23
24     public RoleName getRoleName() {
25         return roleName;
26     }
27
28     public void setRoleName(RoleName roleName) {
29         this.roleName = roleName;
30     }
31 }
demo > src > main > java > project > demo > repository > RoleRepository.java > Language Support for Ja
1  package project.demo.repository;
2
3  import project.demo.entity.Role;
4  import project.demo.enums.RoleName;
5
6  import java.util.List;
7
8  import org.springframework.data.jpa.repository.JpaRepository;
9
10 public interface RoleRepository extends JpaRepository<Role, Integer> {
11     List<Role> findRoleByRoleName(RoleName roleName);
12 }
```

```
src > main > java > project > demo > entity > Student.java > {} project.demo.entity
package project.demo.entity;
import jakarta.persistence.*;

@Entity
@Table(name = "students")
public class Student {
    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private Integer id;

    @Column(name = "full_name", nullable = false)
    private String full_name;

    @Column(name = "phone_number", unique = true)
    private Integer phone_number;

    @Column(name = "email", unique = true)
    private String email;

    @Column(name = "year")
    private Integer year;

    @Column(name = "department")
    private String department;

    @ManyToOne
    @JoinColumn(name = "user_id")
    private User user;

    public void student(){}

    public Integer getId(){
        return id;
    }

    public void setId(Integer id){
        this.id = id;
    }

    public String getFullName(){
        return full_name;
    }

    public void setFullName(String full_name){
        this.full_name = full_name;
    }

    public String getEmail(){
        return email;
    }

    public void setEmail(String email){
        this.email = email;
    }
}

demo > src > main > java > project > demo > repository > StudentRepository.java > Language support for Java(TM) by Red Hat
1 package project.demo.repository;
2
3
4 import java.util.Optional;
5
6 import project.demo.entity.User;
7 import org.springframework.data.jpa.repository.JpaRepository;
8
9 import project.demo.entity.Student;
10
11 public interface StudentRepository extends JpaRepository<Student, Integer> {
12     Optional<Student> findByUserId(User userId);
13 }
14
```

```
atomServiceUser.java UserRoleId.java Student.java UserRole.java User.java M X ... UserRepository.java X
demo > src > main > java > project > demo > entity > User.java > User
package project.demo.entity;
import jakarta.persistence.*;
import java.time.LocalDateTime;
import java.util.Set;

@Entity
@Table(name = "users")
public class User {
    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private Integer id;

    @Column(nullable = false, unique = true)
    private String email;

    private String username;

    @Column(nullable = false)
    private String password;

    @Column(name = "enable")
    private boolean enable = true;

    @Column(name = "created_at")
    private LocalDateTime createdAt;

    @OneToMany(mappedBy = "user", fetch = FetchType.LAZY)
    private Set<UserRole> userRoles;

    public User() {
    }

    public Integer getId() {
        return id;
    }

    public void setId(Integer id) {
        this.id = id;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }
}

demo > src > main > java > project > demo > repository > UserRepository.java > ...
1 package project.demo.repository;
2
3 import java.util.Optional;
4
5 import project.demo.entity.User;
6 import org.springframework.data.jpa.repository.JpaRepository;
7
8 public interface UserRepository extends JpaRepository<User, Integer> {
9     Optional<User> findUsersByEmail(String email);
10 }

LocofMoew (1 hour ago) Ln 2, Col 1 Spaces: 4 UTF-8 LF Java Quota reached Go Live Prettier
```

**Name: OUN RHITI**

## Backend

- ☒ ~~Implement create company entity and repository~~
- ☒ ~~Implement view all companies~~
- ☒ ~~Implement update company~~
- ☒ ~~Implement delete company~~
- ☒ ~~Test using Postman~~

```
src > main > java > project > demo > controller > CompanyController.java > ...  
  
import java.util.List;  
  
import org.springframework.web.bind.annotation.*;  
  
import project.demo.entity.Company;  
import project.demo.repository.CompanyRepository;  
  
@RestController  
@RequestMapping("/api/companies")  
public class CompanyController {  
  
    private final CompanyRepository companyRepository;  
  
    public CompanyController(CompanyRepository companyRepository) {  
        this.companyRepository = companyRepository;  
    }  
  
    @PostMapping  
    public Company createCompany(@RequestBody Company company) {  
        return companyRepository.save(company);  
    }  
  
    @GetMapping  
    public List<Company> getAllCompanies() {  
        return companyRepository.findAll();  
    }  
  
    @PutMapping("/{id}")  
    public Company updateCompany(@PathVariable int id,  
                                @RequestBody Company company) {  
        company.setId(id);  
        return companyRepository.save(company);  
    }  
  
    // DELETE company  
    @DeleteMapping("/{id}")  
    public void deleteCompany(@PathVariable Integer id) {  
        companyRepository.deleteById(id);  
    }  
}
```



src > main > java > project > demo > entity > Company.java > Company

```
package project.demo.entity;

import jakarta.persistence.*;

@Entity
@Table(name = "company")
public class Company {

    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private Integer id;

    @Column(name = "name", nullable = false)
    private String name;

    @Column(name = "address")
    private String address;

    @Column(name = "phone number")
    private Integer phoneNumber;

    // Constructors
    public Company() {}

    // Getters and Setters
    public Integer getId() {
        return id;
    }

    public void setId(Integer id) {
        this.id = id;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }
}
```

src > main > java > project > demo > repository > CompanyRepository.java > ...

```
package project.demo.repository;

import org.springframework.data.jpa.repository.JpaRepository;
import project.demo.entity.Company;

public interface CompanyRepository extends JpaRepository<Company, Integer> {
}
```

- ☒ Create document model
- ☒ Create document entity / repository
- ☒ Create upload controller
- ☒ Add file validation (size, type: pdf, docx, etc.)
- ☒ Add file storage logic

- ☒ Save file path to DB
- ☒ Link document → user or internship

```
src > main > java > project > demo > controller > DocumentController.java > Language Support for Java(TM) by Red Hat > DocumentController.java
package project.demo.controller;

import org.springframework.http.ResponseEntity;
import org.springframework.web.bind.annotation.*;
import org.springframework.web.multipart.MultipartFile;
import project.demo.entity.Document;
import project.demo.repository.DocumentRepository;

import java.io.IOException;
import java.nio.file.Files;
import java.nio.file.Path;
import java.nio.file.Paths;

@RestController
@RequestMapping("/api/documents")
public class DocumentController {

    private final DocumentRepository documentRepository;

    public DocumentController(DocumentRepository documentRepository) {
        this.documentRepository = documentRepository;
    }

    @PostMapping("/upload")
    public ResponseEntity<?> uploadDocument(
        @RequestParam("file") MultipartFile file,
        @RequestParam("userId") Long userId
    ) throws IOException {

        if (file.isEmpty()) {
            return ResponseEntity.badRequest().body("File is empty");
        }

        // ✓ Project root/uploads
        Path uploadPath = Paths.get("uploads");

        // create folder if not exists
        if (!Files.exists(uploadPath)) {
            Files.createDirectories(uploadPath);
        }

        // save file
        Path filePath = uploadPath.resolve(file.getOriginalFilename());
        Files.copy(file.getInputStream(), filePath);

        // save to DB
        Document document = new Document();
        document.setFileName(file.getOriginalFilename());
        document.setFilePath(filePath.toString());
    }
}
```

API Network

http://localhost:8080/api/documents/upload

POST

Send

DocsParamsAuthorizationHeaders (9)BodyScriptsSettings

noneform-datax-www-form-urlencodedrawbinaryGraphQL

| Key                                        |      | Value                   | Description | Bulk Edit |
|--------------------------------------------|------|-------------------------|-------------|-----------|
| <input checked="" type="checkbox"/> file   | File | TP Activity Diagram.pdf |             |           |
| <input checked="" type="checkbox"/> userId | Text | 1                       |             |           |
|                                            | Text | Value                   | Description |           |

BodyCookies (1)Headers (11)Test Results

200 OK • 366 ms • 360 B

RawPreviewVisualize

1 File uploaded successfully

FilesBETA

Cloud ViewConsoleTerminalRunnerVault

```
src > main > java > project > demo > entity > Document.java > {} project.demo.entity
package project.demo.entity;

import jakarta.persistence.*;

@Entity
@Table(name = "documents")
public class Document {

    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private Long id;

    private String fileName;
    private String filePath;
    private String fileType;

    @Column(name = "user_id")
    private Long userId;

    // getters & setters
    public Long getId() {
        return id;
    }

    public String getFileName() {
        return fileName;
    }

    public void setFileName(String fileName) {
        this.fileName = fileName;
    }

    public String getFilePath() {
        return filePath;
    }

    public void setFilePath(String filePath) {
        this.filePath = filePath;
    }

    public String getFileType() {
        return fileType;
    }

    public void setFileType(String fileType) {
        this.fileType = fileType;
    }

    public Long getUserId() {
```

**Name: PENG SEYHA**

☒ ~~Create Student controller~~

```

src > main > java > project > demo > controller > StudentController.java > Language Support for Java (TM) by Red Hat > [ ] project.demo.controller
import org.springframework.stereotype.Controller;
import org.springframework.ui.Model;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.security.core.Authentication;
import org.springframework.security.core.context.SecurityContextHolder;

// Removed the generic Application import to prevent naming conflicts
import project.demo.entity.Student;
import project.demo.entity.User;
import project.demo.entity.Company;
import project.demo.repository.StudentRepository;
import project.demo.repository.UserRepository;
import project.demo.repository.CompanyRepository;
import project.demo.service.ApplicationService;

import java.util.Comparator;
import java.util.List;
import java.util.Optional;
import java.util.stream.Collectors;

@Controller
@RequestMapping("/student")
public class StudentController {

    @Autowired
    private UserRepository userRepository;

    @Autowired
    private StudentRepository studentRepository;

    @Autowired
    private ApplicationService applicationService;

    @Autowired
    private CompanyRepository companyRepository;

```

## Frontend

### Student Dashboard

- ☒ ~~Dashboard UI layout~~
- ☒ ~~Show basic information about student~~
- ☒ ~~Add menu links (Profile, Application, Evaluation, Status)~~

### Student Forms

- ☒ ~~Student registration or edit profile form~~
- ☒ ~~Validation (email, phone, required fields)~~
- ☒ ~~Add success/error messages~~

## My Profile

Update your personal information

Full Name

Your name

Email Address

you@email.com

Phone Number

+855...

Save Changes

Cancel

Profile updated successfully.

Failed to update profile.

## Application Form

- ☒ Create form UI
- ☒ Validation for required fields
- ☒ Integrate API to submit

Fill in internship details

Title

Description

Save

Editing is disabled after approval.

## Application Detail Page

- ☒ Display all application info
- ☒ Show status
- ☒ Show company assigned

## My Applications

Internship submissions

New

| Description     | Status | Company |
|-----------------|--------|---------|
| <div>View</div> |        |         |

## Evaluation List Page

- ☒ ~~Table listing all evaluations~~
- ☒ ~~Filter by student/supervisor~~
- ☒ ~~View evaluation detail~~
- ☒ ~~Edit evaluation (supervisor only)~~

## My Evaluations

Supervisor feedback

| Application | Score | Comment |
|-------------|-------|---------|
|-------------|-------|---------|

**Name: YI MONIROM**

## Backend

- ☒ ~~Create supervisor service~~
- ☒ ~~Create supervisor repository~~
- ☒ ~~Create supervisor entity~~
- ☒ ~~Implement Create supervisor~~
- ☒ ~~Implement Read supervisor~~
- ☒ ~~Implement Update supervisor~~
- ☒ ~~Implement Delete supervisor~~
- ☒ ~~Validate inputs (e.g., name, email, dept)~~

```

package project.demo.controller;

import jakarta.validation.Valid; // The import jakarta.validation cannot be resolved
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.web.bind.annotation.*;
import project.demo.entity.Supervisor;
import project.demo.Model.SupervisorDTO;
import project.demo.repository.SupervisorRepository;

import java.util.List;
import java.util.stream.Collectors;

@RestController
@RequestMapping("/api/supervisors")
public class SupervisorController {

    @Autowired
    private SupervisorRepository supervisorRepository;

    // --- CREATE supervisor ---
    @PostMapping
    public SupervisorDTO createSupervisor(@Valid @RequestBody SupervisorDTO dto) { // Valid cannot be resolved to a type
        if (supervisorRepository.existsById(dto.getUserId())) {
            throw new RuntimeException("User is already a supervisor");
        }

        Supervisor supervisor = new Supervisor();
        supervisor.setUserId(dto.getUserId());
        supervisor.setFullName(dto.getFullName());
        supervisor.setEmail(dto.getEmail());
        supervisor.setPhoneNumber(dto.getPhone());
        supervisor.setDepartment(dto.getDepartment());

        Supervisor saved = supervisorRepository.save(supervisor);

        return toDTO(saved);
    }

    // --- READ all supervisors ---
    @GetMapping
    public List<SupervisorDTO> getAllSupervisors() {
        return supervisorRepository.findAll()
            .stream()
            .map(this::toDTO)
            .collect(Collectors.toList());
    }

    // --- READ supervisor by ID ---
    @GetMapping("/{id}")

```

```

package project.demo.Model;

import jakarta.validation.constraints.Email; // The import jakarta.validation cannot be resolved
import jakarta.validation.constraints.NotBlank; // The import jakarta.validation cannot be resolved

public class SupervisorDTO {

    private Integer id;

    private Integer userId;

    @NotBlank(message = "Full name is required") // NotBlank cannot be resolved to a type
    private String fullName;

    @Email(message = "Email must be valid") // Email cannot be resolved to a type
    private String email;

    private Integer phone;

    @NotBlank(message = "Department is required") // NotBlank cannot be resolved to a type
    private String department;

    // --- Constructors ---
    public SupervisorDTO() {}

    public SupervisorDTO(Integer userId, String fullName, String email, Integer phone, String department) {
        this.userId = userId;
        this.fullName = fullName;
        this.email = email;
        this.phone = phone;
        this.department = department;
    }

    // --- Getters & Setters ---
    public Integer getId() { return id; }
    public void setId(Integer id) { this.id = id; }

    public Integer getUserId() { return userId; }
    public void setUserId(Integer userId) { this.userId = userId; }

    public String getFullName() { return fullName; }
    public void setFullName(String fullName) { this.fullName = fullName; }

    public String getEmail() { return email; }
    public void setEmail(String email) { this.email = email; }

    public Integer getPhone() { return phone; }
    public void setPhone(Integer phone) { this.phone = phone; }

```



```

src > main > java > project > demo > repository > SupervisorRepository.java > ...
package project.demo.repository;

import org.springframework.data.jpa.repository.JpaRepository;

import jakarta.persistence.criteria.CriteriaBuilder.In; The import jakarta.persistence.criteria.CriteriaBuilder.In is never used
import project.demo.entity.Supervisor;

public interface SupervisorRepository extends JpaRepository<Supervisor,Integer> {
    boolean existsByUserId(Integer userId);
}

```

**Name: SOEUN SEREYVATH**

- ☒ Create student service
- ☒ Create Admin Controller
- ☒ Create Admin Controller on Supervisor

```

src > main > java > project > demo > controller > AdminPagesController.java > ...
package project.demo.controller;

import org.springframework.stereotype.Controller;
import org.springframework.ui.Model;
import org.springframework.web.bind.annotation.GetMapping;

@Controller
public class AdminPagesController {

    @GetMapping("/admin/dashboard")
    public String dashboard(Model model) {
        model.addAttribute(attributeName: "studentCount", attributeValue: 0);
        model.addAttribute(attributeName: "supervisorCount", attributeValue: 0);
        model.addAttribute(attributeName: "applicationCount", attributeValue: 0);
        model.addAttribute(attributeName: "recentLogs", java.util.Collections.emptyList());
        return "admin-dashboard";
    }

    @GetMapping("/admin/assign-supervisor")
    public String assignSupervisor() {
        return "assign-supervisor";
    }

    @GetMapping("/admin/approvals")
    public String approvals() {
        return "approvals";
    }
}

```

```

import java.util.List;

@Service
public class StudentService {

    private final StudentRepository repo;

    public StudentService(StudentRepository repo) {
        this.repo = repo;
    }

    public List<Student> getAll() {
        return repo.findAll();
    }

    public Student getById(Long id) {
        return repo.findById(id); // The method findById(Integer) in the type CrudRepository<Student,Integer> is not applicable for the arguments (Long)
        // .orElseThrow() -> new IllegalArgumentException("Student not found");
    }

    public Student create(Student s) {
        if (repo.existsByEmail(s.getEmail())) { // The method existsByEmail(String) is undefined for the type StudentRepository
            throw new IllegalArgumentException("Email already exists");
        }
        return repo.save(s);
    }

    public Student update(Long id, Student s) {
        Student existing = getById(id);
        existing.setFullName(s.getFullName());
        existing.setEmail(s.getEmail());
        return repo.save(existing);
    }

    public void delete(Long id) {
        repo.deleteById(id); // The method deleteById(Integer) in the type CrudRepository<Student,Integer> is not applicable for the arguments (Long)
    }
}

```

## Admin CRUD Students

- ☒ List all students
- ☒ Create student service
- ☒ Create new student
- ☒ Edit student
- ☒ Delete student

```

import org.springframework.web.bind.annotation.*;
import project.demo.entity.Student;
import project.demo.service.StudentService;

@Controller
@RequestMapping("/admin/students")
public class StudentAdminController {

    private final StudentService studentService;

    public StudentAdminController(StudentService studentService) {
        this.studentService = studentService;
    }

    // LIST
    @GetMapping
    public String list(Model model) {
        model.addAttribute(attributeName: "students", studentService.getAll());
        return "students";
    }

    // CREATE FORM
    @GetMapping("/create")
    public String createForm(Model model) {
        model.addAttribute(attributeName: "student", new Student());
        return "create-student";
    }

    // CREATE SUBMIT
    @PostMapping("/create")
    public String create(@ModelAttribute Student student, Model model) {
        try {
            studentService.create(student);
            return "redirect:/admin/students";
        } catch (Exception e) {
            model.addAttribute(attributeName: "error", e.getMessage());
            model.addAttribute(attributeName: "student", student);
            return "create-student";
        }
    }

    // EDIT FORM
    @GetMapping("/edit/{id}")
    public String editForm(@PathVariable Long id, Model model) {
        model.addAttribute(attributeName: "student", studentService.getById(id));
        return "edit-student";
    }
}

```

## Admin CRUD on supervisor

- ☒ List supervisors
- ☒ Add supervisor
- ☒ Edit supervisor
- ☒ Delete supervisor

```
package project.demo.controller;

import org.springframework.stereotype.Controller;
import org.springframework.ui.Model;
import org.springframework.web.bind.annotation.*;
import project.demo.entity.Supervisor;
import project.demo.service.SupervisorService;

@Controller
@RequestMapping("/admin/supervisors")
public class SupervisorAdminController {

    private final SupervisorService supervisorService;

    public SupervisorAdminController(SupervisorService supervisorService) {
        this.supervisorService = supervisorService;
    }

    @GetMapping
    public String list(Model model) {
        model.addAttribute(attributeName: "supervisors", supervisorService.getAll());
        return "supervisors";
    }

    @GetMapping("/create")
    public String createForm(Model model) {
        model.addAttribute(attributeName: "supervisor", new Supervisor());
        return "create-supervisor";
    }

    @PostMapping("/create")
    public String create(@ModelAttribute Supervisor supervisor, Model model) {
        try {
            supervisorService.create(supervisor);
            return "redirect:/admin/supervisors";
        } catch (Exception e) {
            model.addAttribute(attributeName: "error", e.getMessage());
            model.addAttribute(attributeName: "supervisor", supervisor);
            return "create-supervisor";
        }
    }

    @GetMapping("/edit/{id}")
    public String editForm(@PathVariable Long id, Model model) {
        model.addAttribute(attributeName: "supervisor", supervisorService.getById(id));
        return "edit-supervisor";
    }
}
```

## Frontend

### Admin Dashboard

- ☒ Show statistics (students, supervisors, applications)
- ☒ Students management UI
- ☒ Supervisors management UI
- ☒ Supervisor assignment UI
- ☒ Approval UI

Students

Manage students records

+ Add Student

| ID | Full Name | Email | Actions               |
|----|-----------|-------|-----------------------|
| 1  | Name      | email | <div>EditDelete</div> |

No students yet.

# Admin Dashboard

Student Internship Management System

Tip: Use the menu to manage data quickly.

Students

0

Manage Students

Supervisors

0

Manage Supervisors

Applications

0

ApprovalsAssign

Recent Updates / Logs

Latest activity

No logs yet.

| Time | Action | Actor | Target | Detail |
|------|--------|-------|--------|--------|
| time | action | actor | target | detail |

## Supervisors

Manage supervisors records

+ Add Supervisor

| ID                  | Full Name | Email | Actions    |
|---------------------|-----------|-------|------------|
| 1                   | Name      | email | EditDelete |
| No supervisors yet. |           |       |            |