

Group 5

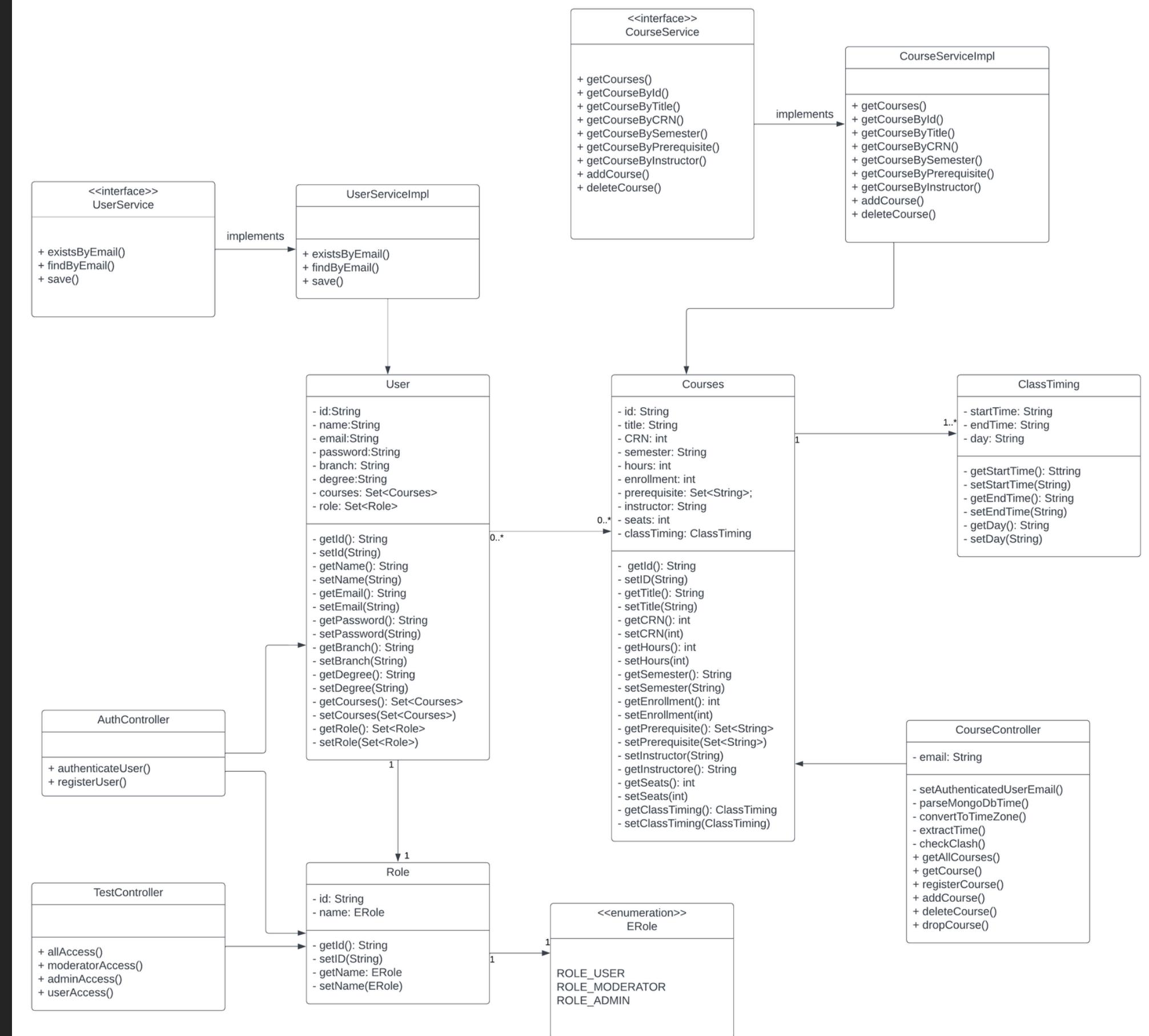


COURSE REGISTRATION

Tech Stack:

- JAVA
- SPRING BOOT
- JAVASCRIPT
- CSS
- HTML
- MONGODB
- REACT

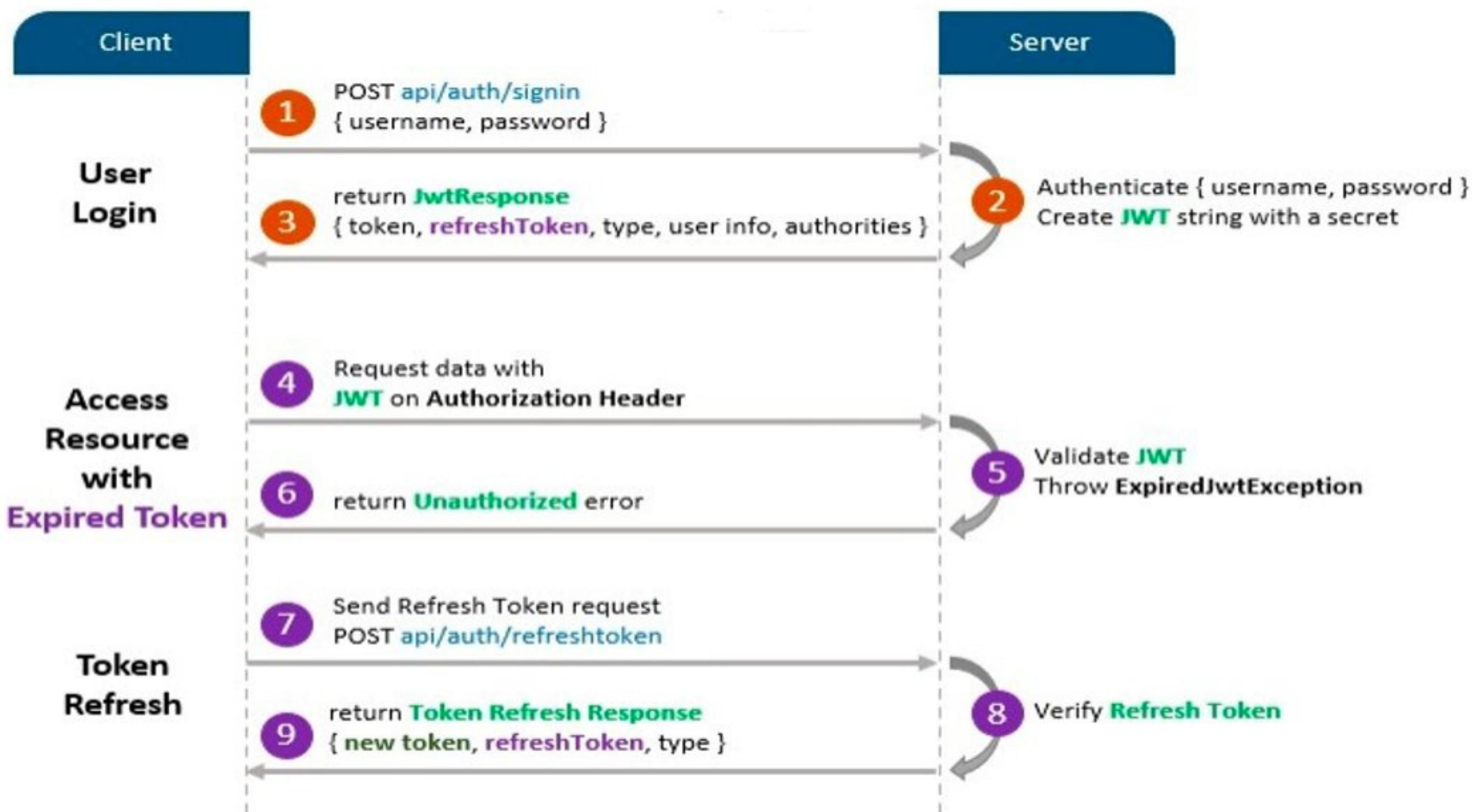
UML diagram

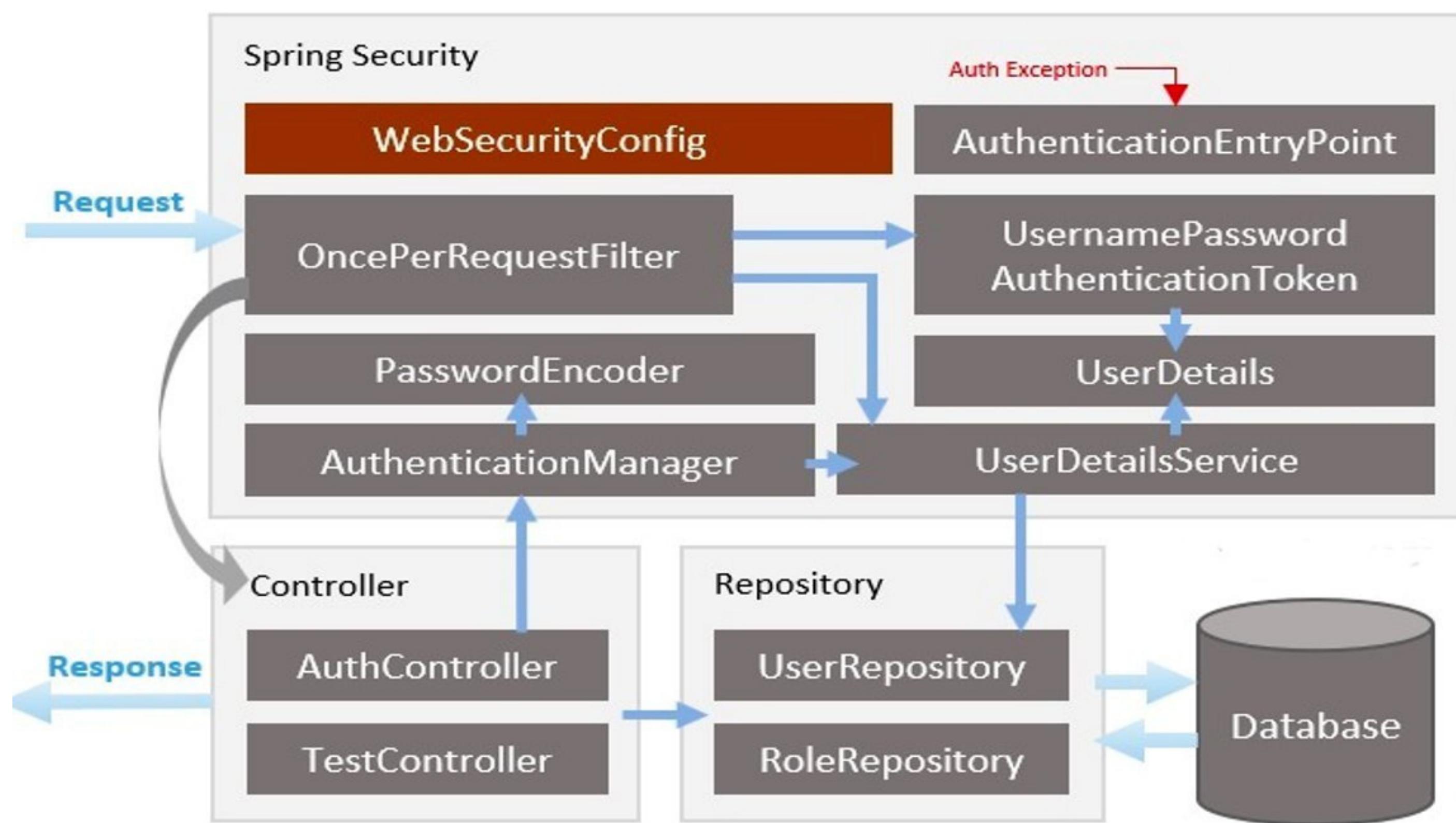


Functionalities

- Sign in with existing credentials.
- Sign up with a new account.
- Use JWT tokens for secure and authenticated access.
- Browse and search for available courses.
- Access detailed information about each course, including description, schedule, instructor, and available seats.
- Add courses to the user's schedule.
- Drop courses if needed.

JWT WORKFLOW





SPRING SECURITY WITH JWT

USE Cases:

01

Students should be able to browse available courses, view course details, and enroll in courses for upcoming semesters.

02

Check whether there are conflicts or an excessive number of credit hours among courses in a semester.

03

Allow students to drop courses.

FUTURE Enhancements:

- Allow students to drop courses within specified deadlines without academic penalties and provide administrators with tools to handle cancellations.
- Notify students about important registration dates, upcoming course openings, waitlist status changes, and other relevant information.
- Assist students in planning their academic schedule by providing tools to search for courses, check schedule conflicts, and optimize their class timetable.
- Generate reports on course enrollment trends, student demographics, and other key metrics to aid in academic planning and resource allocation.



Lessons
Learned from
Class and Used
In Project

Inheritance

Polymorphism

Abstraction

Encapsulation

Enum

collections

Code Screenshots

Here we are showing abstraction by implementing the CourseService interface

```
public class CourseServiceImpl implements CourseService {  
  
    private CourseRepository courseRepository;  
  
    @Autowired  
    public CourseServiceImpl(CourseRepository courseRepository)  
    {  
        this.courseRepository = courseRepository;  
    }  
  
    @Override  
    public List<Courses> getCourses(){  
        return courseRepository.findAll();  
    }  
  
    @Override  
    public Courses getCourseById(String id){  
        return courseRepository.findById(id).orElse(null);  
    }  
}
```

Here we are using the Repository pattern as well as the Factory pattern for object creation

```
● ● ●  
// Repository Pattern  
UserRepository userRepository;  
  
// Factory Pattern  
AbstractResponseFactory MessageResponseFactory = new MessageResponseFactory();  
  
// Optional (Abstraction)  
Optional<User> user = userRepository.findByEmail(loginRequest.getUsername());  
  
if (user == null) {  
    return ResponseEntity.badRequest()  
        .body(MessageResponseFactory.getResponse("Invalid username or  
password"));
```

Here we are showing Abstraction with the interface as well as Inheritance extending the MongoRepository

```
● ● ●

import com.example.Course.Registration.models.Courses;

public interface CourseRepository extends MongoRepository<Courses, String>
{
    List<Courses> findByTitle(String title);
    List<Courses> findByCRN(Integer CRN);
    List<Courses> findBySemester(String semester);
    List<Courses> findByInstructor(String instructor);
}
```

Technology used In Project



Springboot and mvc
design pattern



Front End Development
with react



Connecting to MongoDB from
the backend and creating
cluster in MongoDB Atlas

Individual contributions

Front-End

- Akshit – Course Tables ,Session
- Sarthak – Admin Dashboard
- Divya Kasa – Navbar & Signout Logic
- Ayush – Sigin & Sign up
- Zakir – Routing & Error Handling

Individual contributions

Back-end

- Akshit – Authentication with JWTs & Course Endpoints
- Divya Kasa – Admin Endpoints
- Sarthak – User Endpoints
- Ayush – Data Management
- Zakir – Endpoint Response

Screenshots



Sign Up

Sign In

Email

example@northeastern.edu

Password

password

Sign In

A screenshot of a mobile application's sign-in interface. At the top right is a "Sign Up" button. Below it is a large, bold "Sign In" button. To the left of the buttons are two input fields: one for "Email" containing "example@northeastern.edu" and one for "Password" containing "password". The entire interface is set against a dark background.



Sign In

Sign Up

Name

John Doe

Email

example@northeastern.edu

Password

password

Branch

CSE

Degree

B.Tech

Sign Up



Course Catalog

Your Courses

Resgister for Course

[Register Selected](#)

<input type="checkbox"/> Title	CRN	Semester	Hours	Enrolled	Instructor	Day & Time
<input type="checkbox"/> Program Structure and Algorithms	6205	Spring 2024	4	0 of 100	Jagadeesh Vasudevmurthy	Tuesday 12:00 PM - 3:00 PM
<input type="checkbox"/> Enterprise Software Design	6299	Spring	4	0 of 101	Yosuf Ozbek	Thursday 5:00 PM - 6:30 PM
<input type="checkbox"/> Smartphone-based Web Development	6905	Spring	4	2 of 116	Dr. Frank	Thursday 4:00 AM - 6:00 AM
<input type="checkbox"/> Web Development Tools and Methods	7200	Spring 2024	4	1 of 50	DSousa Ashwin	Monday 10:00 AM - 12:00 PM
<input type="checkbox"/> Advanced Big-Data Applications and Indexing Techniques	7255	Spring 2024	4	0 of 61	Sabbouh Marwan	Wednesday 1:35 PM - 3:00 PM
<input type="checkbox"/> User Experience Design and Testing	7280	Spring 2024	4	1 of 51	Padmanabhan Neeresh	Thursday 12:00 PM - 1:30 PM
<input type="checkbox"/> Design Patterns	7391	Spring 2024	4	1 of 100	Daniel Peters	Thursday 5:00 PM - 6:30 PM

0 of 7 row(s) selected.

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0 of 7 row(s) selected.

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Course Catalog

Your Courses

Your Courses

[Drop Selected](#)

<input type="checkbox"/>	Title	CRN	Semester	Hours	Enrolled	Instructor	Day & Time
<input type="checkbox"/>	Program Structure and Algorithms	6205	Spring 2024	4	1 of 100	Jagadeesh Vasudevmurthy	Tuesday 12:00 PM - 3:00 PM
<input type="checkbox"/>	Enterprise Software Design	6299	Spring	4	1 of 101	Yosuf Ozbek	Thursday 5:00 PM - 6:30 PM

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Admin Dashboard

[Delete Selected](#)[Add Course](#)

<input type="checkbox"/> Title	CRN	Semester	Hours	Enrolled	Instructor	Day & Time
<input type="checkbox"/> Program Structure and Algorithms	6205	Spring 2024	4	0 of 101	Jagadeesh Vasudevmurthy	Tuesday 12:00 PM - 3:00 PM
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0 of 7 row(s) selected.

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Admin Dashboard

Add course

Title **Instructor**

Object Oriented Design John Doe

Semester **Start Time**

Fall 2023 --:-- --

Hours **End Time**

4 --:-- --

CRN **Days**

97257 Select a day ▾

Seats

100

Body

Add course



THANK YOU!