Software Requirement Specification for NPTEL Course Exemption

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Project ID	15
Problem Statement	NPTEL Course Exemption

1. Introduction

1.1. Purpose:

The purpose of this document is to present a detailed description of the NPTEL course exemption. The NPTEL course exemption project aims to recognize and exempt students from certain university course requirements based on their successful completion of equivalent courses offered by the National Programme on Technology Enhanced Learning (NPTEL).

1.2. Scope of Project:

- This software system will serve as a portal for the NPTEL course exemption, enabling students to submit their proof for the completion of the NPTEL course and claim their exemption by meeting the eligible criteria - A duration of 12 weeks and 3 credits course which is not in the academic curriculum.

- Administrators have the ability to approve or reject the applied course

exemptions by evaluating the originality of the uploaded certificates and checking if the particular student has already claimed reward points for the particular course.

1.3. Stack:

Front End	Angular
Backend	Spring boot
Data Base	MySQL

2. System Overview:

2.1. Users:

1. **Students**:

They have the ability to submit their proofs upon successful completion of the course and apply for course exemption.

2. **Admins:**

Review the submitted proofs with eligibility criteria and originality. They have the access to approve or reject the exemption.

2.2. Features:

1. Login and registration:

Students can register for an account or login with their existing account

2. Course Exemption Application Submission:

Students can input relevant details regarding their NPTEL course including course title, description, duration, credits, and

certificate attachments. Upon completion, the application is submitted to the admin interface for review and further processing

3. Application Status:

Students can view the current status of their application and also see the history logs in the option Activity

5. Admin Access:

Admin can view all submitted Course Exemption applications, view application details, approve or reject the application with suitable remarks.

6. Admin's Analytical Dashboard:

Admin can view the number of applications by category of approved and rejected list and can download them.

3. System Requirements Specification:

3.1 Functional Requirements:

- **User Management:**
  - Students can register and login.
  - Admins have access control with an analytical dashboard anddedicated features.
- **Course Exemption Application:**
  - Students can submit applications with appropriate details ○ Application form contains:
    - Course details - Name, Duration, Credits
    - Certificate Proof
- **Application Status:**
  - Students can view the current status of their application

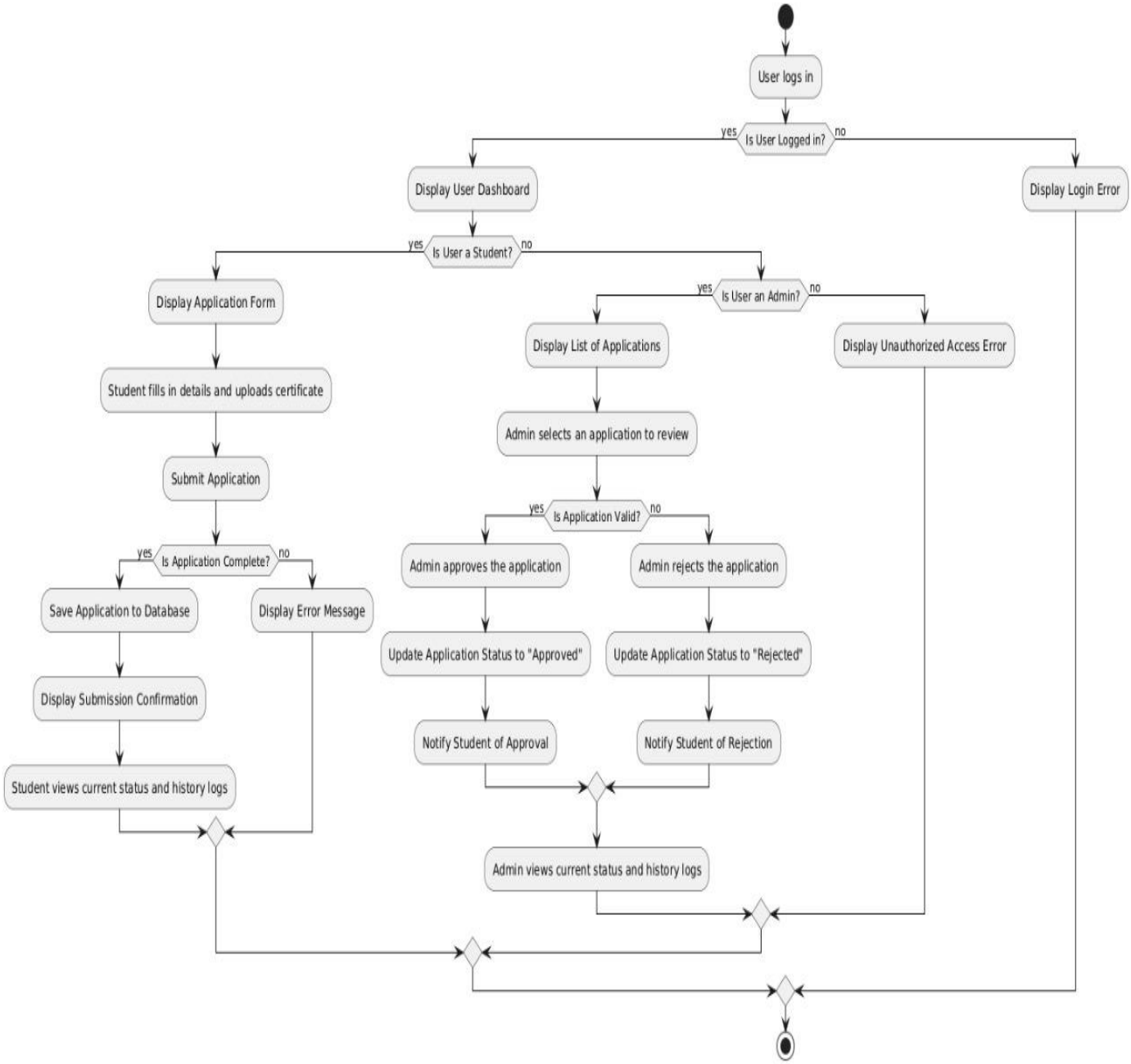
- If the application is rejected then the remarks is shown
- Students can also see the logs of their applications

- **Admin Dashboard:**
  - Admins can view a list of all submitted Course exemption applications.
  - Admins can view details of each application.
  - Admins can approve or reject applications with suitableremarks.

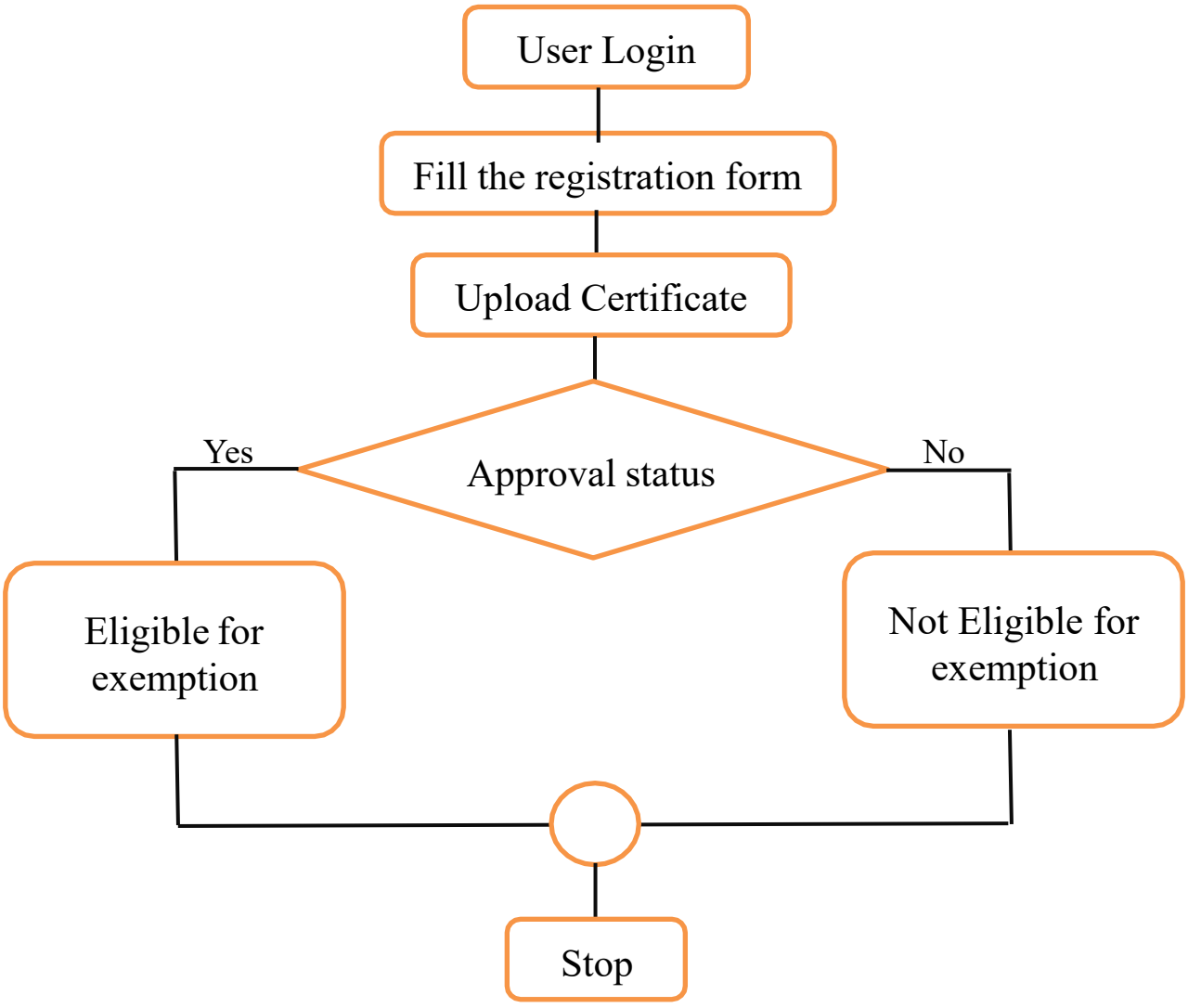
3.2. Non-Functional Requirements:

- **Performance**: The system must respond to user actions within 2 seconds to ensure efficient usability and must handle a concurrent user load of at least 100 users without significant performance degradation.
- **Security**: User data must be encrypted during transmission and storage, and access to sensitive functionalities should be restricted to authorized admin users through secure authentication mechanisms.
- **Usability**: The user interface should be intuitive and user-friendly, with clear and concise error messages provided to guide users in case of input errors or system failures.
- **Reliability**: The system should be available 24/7 with minimal downtime and should have a backup and recovery mechanism in place to prevent data loss in case of system failures or crashes.
- **Scalability**: The system should be designed to accommodate an increasing number of users and data volume over time, and it should be scalable to support additional features and functionalities as per future requirements.

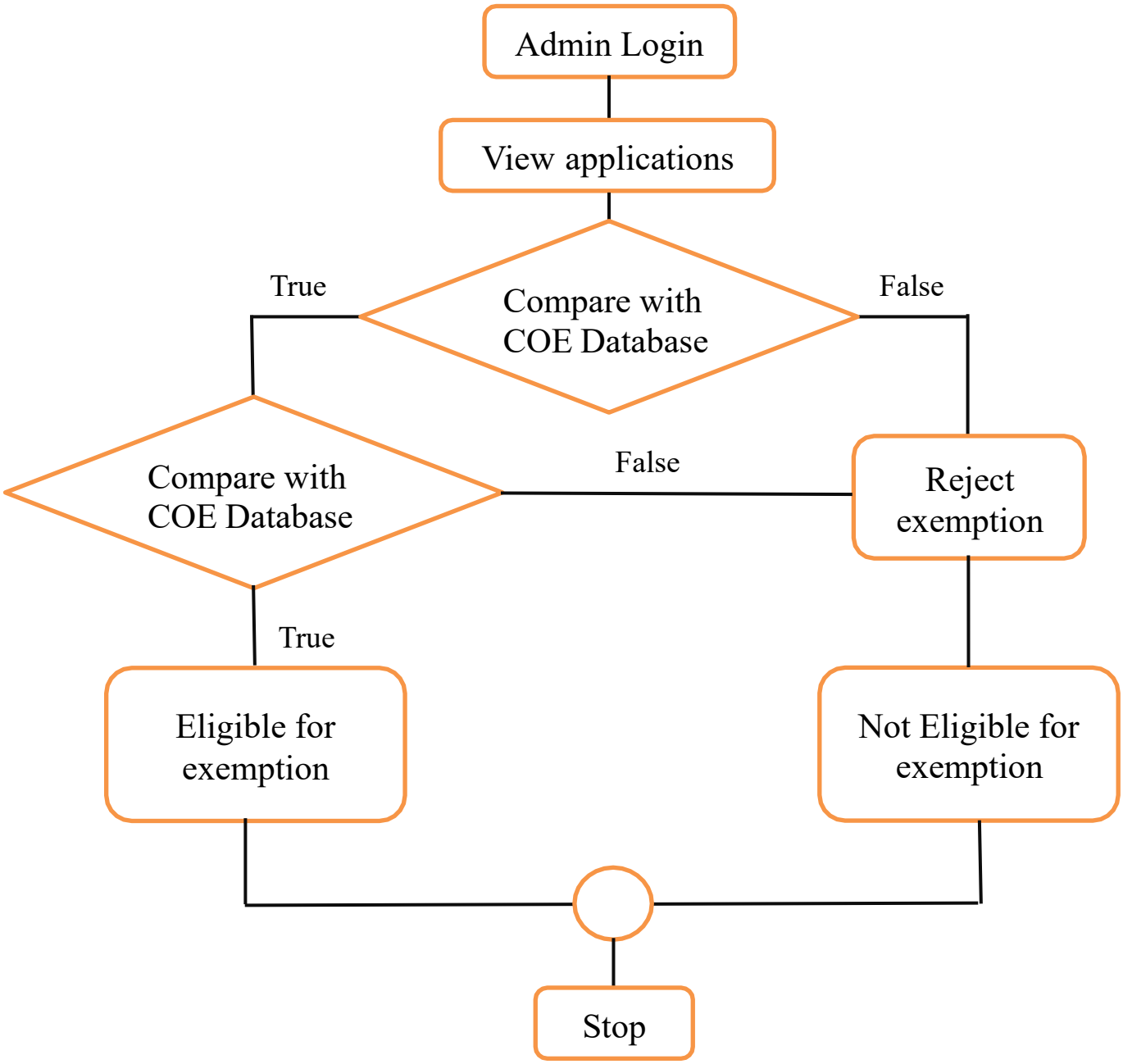
4.Flow Chart:


User logs in
Is User Logged in?
yes
no
Display User Dashboard
Display Login Error
Is User a Student?
yes
no
Display Application Form
Is User an Admin?
yes
no
Display List of Applications
Display Unauthorized Access Error
Student fills in details and uploads certificate
Admin selects an application to review
Submit Application
Is Application Valid?
yes
no
Is Application Complete?
yes
no
Admin approves the application
Admin rejects the application
Save Application to Database
Display Error Message
Update Application Status to "Approved"
Update Application Status to "Rejected"
Display Submission Confirmation
Notify Student of Approval
Notify Student of Rejection
Student views current status and history logs
Admin views current status and history logs

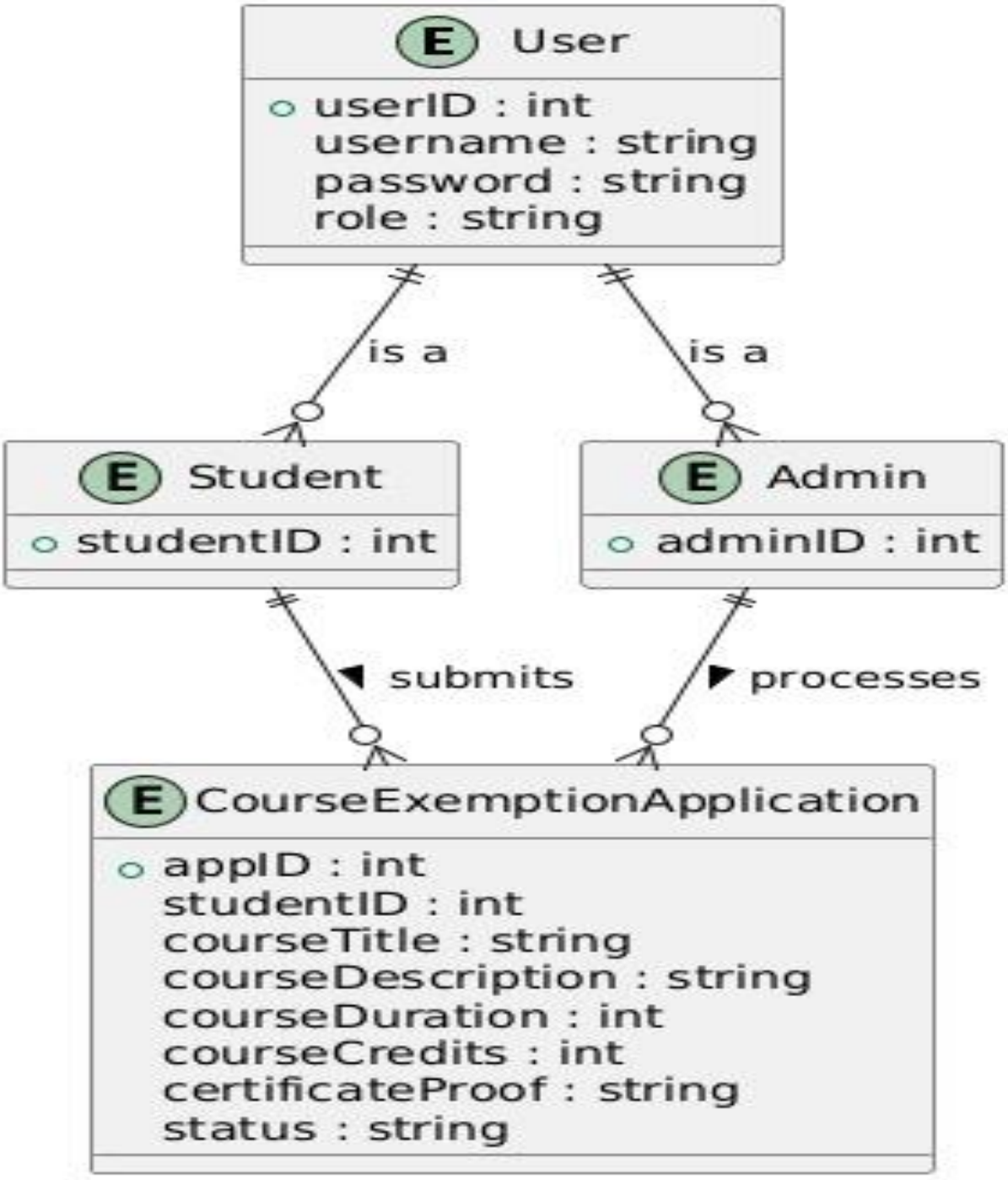
User Interface



Admin Interface



ER DIAGRAM:


User
userID : int
username : string
password : string
role : string
is a
is a
Student
studentID : int
Admin
adminID : int
submits
processes
CourseExemptionApplication
appID : int
studentID : int
courseTitle : string
courseDescription : string
courseDuration : int
courseCredits : int
certificateProof : string
status : string