

EduBridge



A Project Report

On

Student Management System

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1. INTRODUCTION

Student Management System is software which is helpful for students as well as the school authorities. In the current system all the activities are done manually. It is very time consuming and costly. Our Student Management System deals with the various activities related to the students.

There are mainly 3 modules in this software

- Administrator Module
- Faculty Module
- Student Module.

In the Software we can register as a faculty as well as a student for every student the authentication code and the roll no is provided by the head of the department faculty and for the registration of a faculty the Registration ID and the authentication code is provided by the administrator the institute.

In this project an admin can manage the faculty and take decision about the students like deletion of any student admin is authorized to create the token for the registration of the faculty as same as a faculty is authorized for creating token for the registration of a student.

1.1 Purpose:

The objective of **Student information System** is to allow the administrator of any organization to edit and find out the personal details of a student and allows the student to keep up to date his profile .It'll also facilitate keeping all the records of students, such as their id, name, mailing address, phone number, DOB etc. So all the information about an student will be available in a few seconds.

Overall, it'll make Student Information Management an easier job for the administrator and the student of any organization.

The main purpose of this SRS document is to illustrate the requirements of the project

Student information System and is intended to help any organization to maintain and manage its student's personal data.

1.2 Scope :

Without a **Student information System**, managing and maintaining the details of the student is a tedious job for any organization.

Student Information system will store all the details of the students including their background information, educational qualifications, personal details and all the information related to their resume .

2. SYSTEM ANALYSIS

2.1 Existing System: Student Information Management System:-

System Analysis is a detailed study of the various operations performed by a system and their relationships within and outside of the system. Analysis begins when a user or manager begins a study of the program using existing system.

During analysis, data collected on the various files, decision points and transactions handled by the present system. The commonly used tools in the system are Data Flow Diagram, interviews, etc. Training, experience and common sense are required for collection of relevant information needed to develop the system. The success of the system depends largely on how clearly the problem is defined, thoroughly investigated and properly carried out through the choice of solution. A good analysis model should provide not only the mechanisms of problem understanding but also the frame work of the solution. Thus it should be studied thoroughly by collecting data about the system. Then the proposed system should be analyzed thoroughly in accordance with the needs.

2.2 Proposed System - Student Information Management System

In our proposed system we have the provision for adding the details of the students by themselves. So the overhead of the school authorities and the teachers is become less. Another advantage of the system is that it is very easy to edit the details of the student and delete a student when it found unnecessary. The marks of the student are added in the database and so students can also view the marks whenever they want.

Our proposed system has several advantages

- User friendly interface
- Fast access to database
- Less error
- More Storage Capacity
- Search facility
- Look and Feel Environment
- Quick transaction

Software Requirements

- JVM(Eclipse IDE)
- MYSQL Workbench 8.0

Hardware Requirements

- Hard Disk – 2 GB.
- RAM required – 1 GB (minimum)
- Processor – Dual Core or Above.
- OS supported: Windows, Linux

Technology Used

- Java
- My Sql

The modules of the project are:

Login Module:

- This will help users to login into the system using institute id and password. A user who has the valid id and password can only log in to their respective accounts.
- It will help the authentication of the user who enters the system. The module provides a layer of security over the system as only authorized personnel can login into the system.
- This prevents any anonymous person to enter the system and mishandle the records. It is better than the manual method as they do not have any security measure of who can access the system and who cannot.

Registration Module:

- In this module, the student will get registered as it is new in the educational institute. It will be formed like a structure where all the student details will be filled.
- It will have the fields regarding their personal information like date of birth and address along with that it will also ask its professional details of previous education if it has.
- As this module is present online, the student can register them from anywhere on the internet is present. After registration information will go to the admin for authentication.
- This module will reduce the hectic task of taking multiple forms from the institute and filling them carefully as any mistake will lead to getting new sets of the forms.

Course Module:

- Each student will be able to select various courses present in the system. It will be published by the administrator under the specific department.
- Every course has the qualification criteria, it will be available to those students who are eligible for it. The student will pick the course from the given choices according to his/her interest.
- It will be added to their professional information details. All the courses will be handled by the department assigned to them by the administrator.

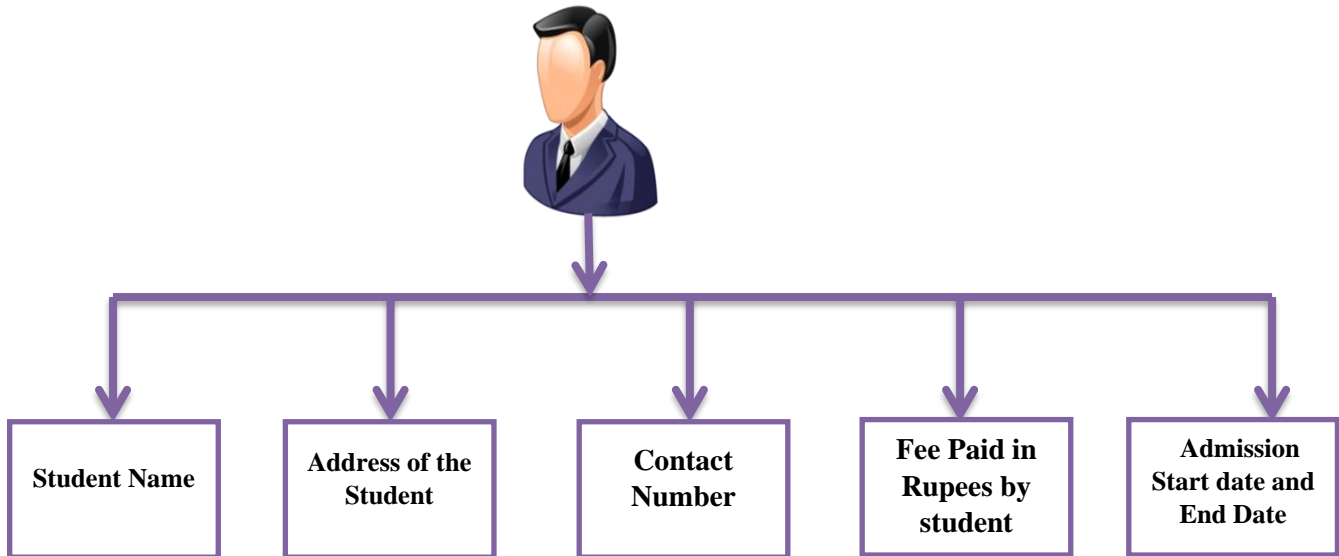
Search Module:

- In the institution there will be thousands of students and suppose from this there is a need to find the detail of specific students. The only information provided to search is the name of the student. In the manual system, it will be catastrophic to find the student as it is a very tedious job to do so. But with the computerized system admin can easily find the specific student by just typing the name and click the search button. This module will help the admin in searching the student record for alteration and maintenance.

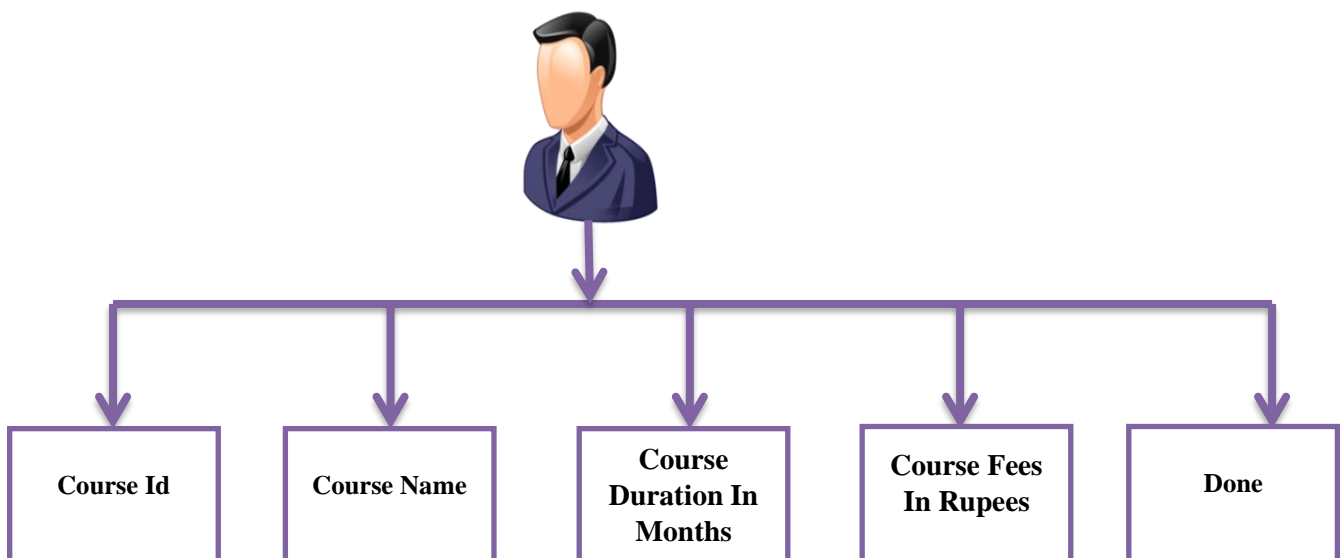
Attendance Module:

This module is one of the essential parts of the system as this will act as the official document of student presence in the institution. It will show the attendance of the student in every course.

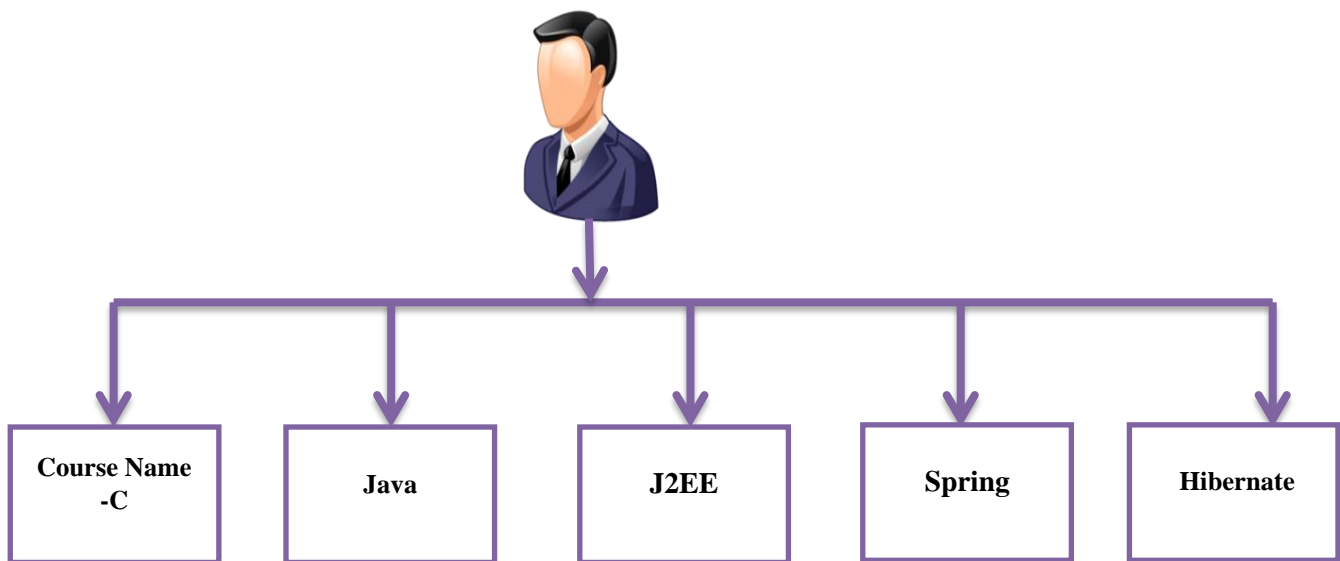
Student Module



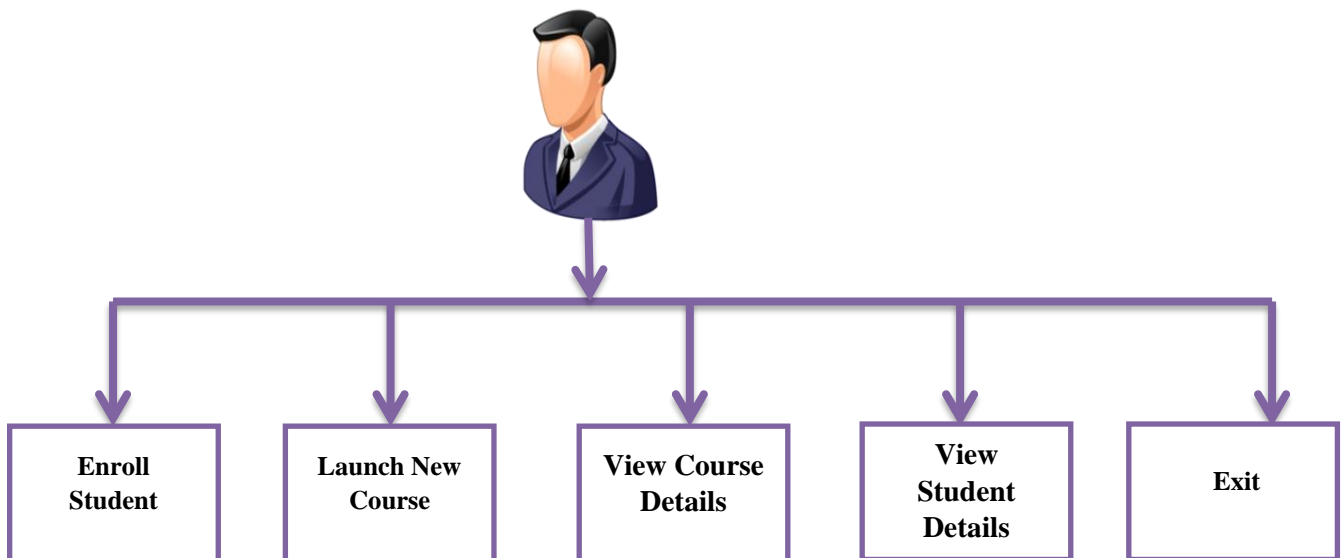
Course Details



Course Name Details



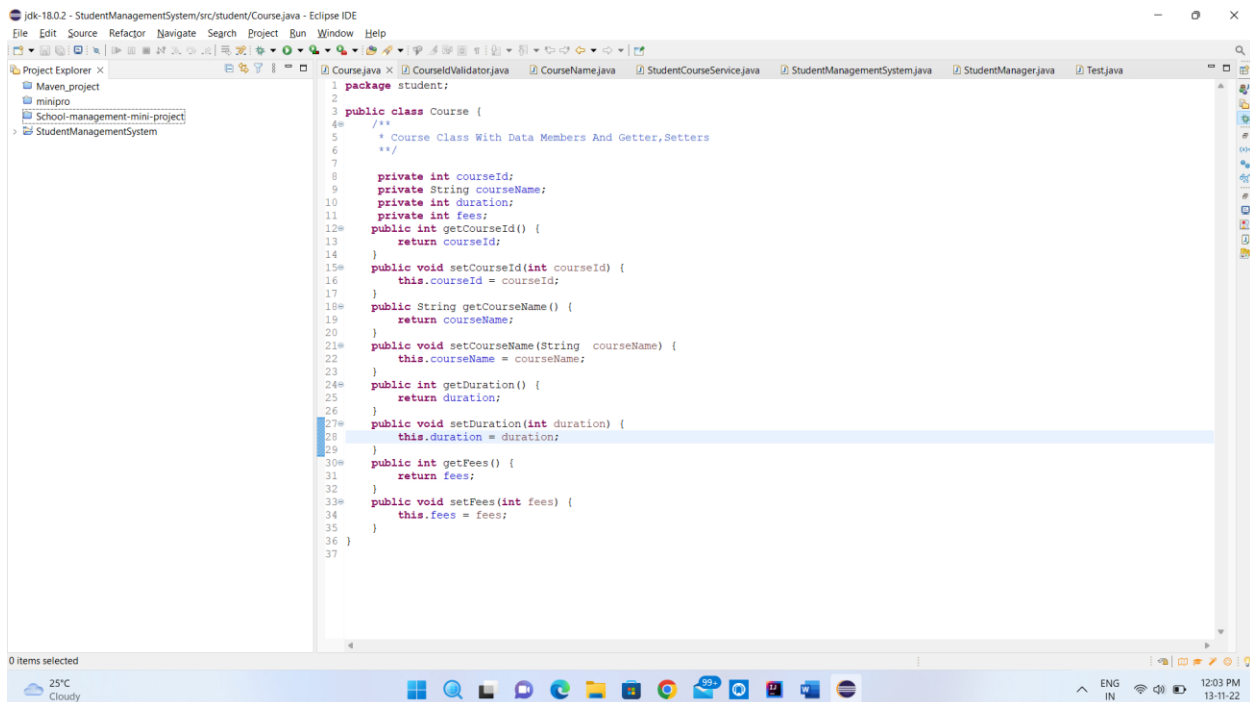
Enroll Student



Description of Student Management System

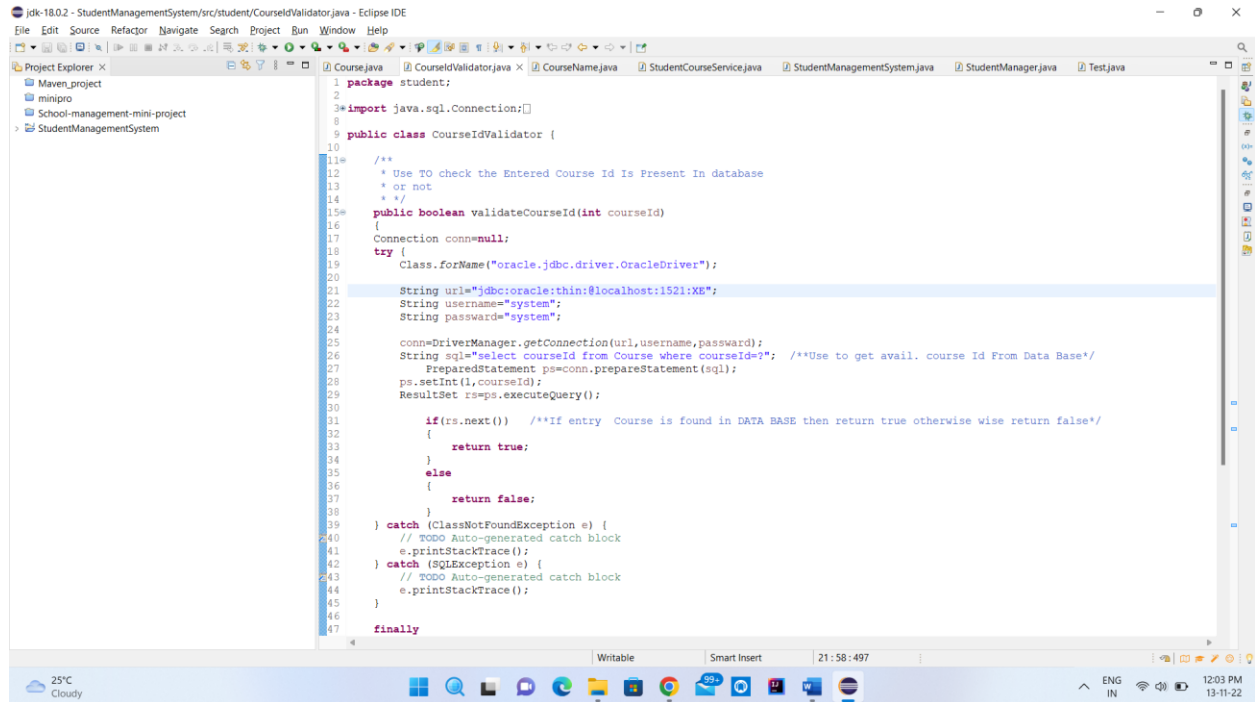
- The student management system is an environment where all the process of the student in the institution is managed. It is done through the automated computerized method. Conventionally this system is done using papers, files, and binders.
- This system saves the time of the student and of the administrator. It includes processes like registration of the student's details, assigning the department based on their course, and maintenance of the record. This system reduces the cost and workforce required for this job. As the system is online the information is globally present to everyone.
- This makes the system easy to handle and feasible for finding the omission with updating at the same time. As for the existing system, they use to maintain their record manually which makes it vulnerable to security. If filed a query to search or update in a manual system, it will take a lot of time to process the query and make a report which is a tedious job.

Course



```
1 package student;
2
3 public class Course {
4     /**
5      * Course Class With Data Members And Getter,Setters
6      */
7
8     private int courseId;
9     private String courseName;
10    private int duration;
11    private int fees;
12    public int getCourseId() {
13        return courseId;
14    }
15    public void setCourseId(int courseId) {
16        this.courseId = courseId;
17    }
18    public String getCourseName() {
19        return courseName;
20    }
21    public void setCourseName(String courseName) {
22        this.courseName = courseName;
23    }
24    public int getDuration() {
25        return duration;
26    }
27    public void setDuration(int duration) {
28        this.duration = duration;
29    }
30    public int getFees() {
31        return fees;
32    }
33    public void setFees(int fees) {
34        this.fees = fees;
35    }
36 }
37
```

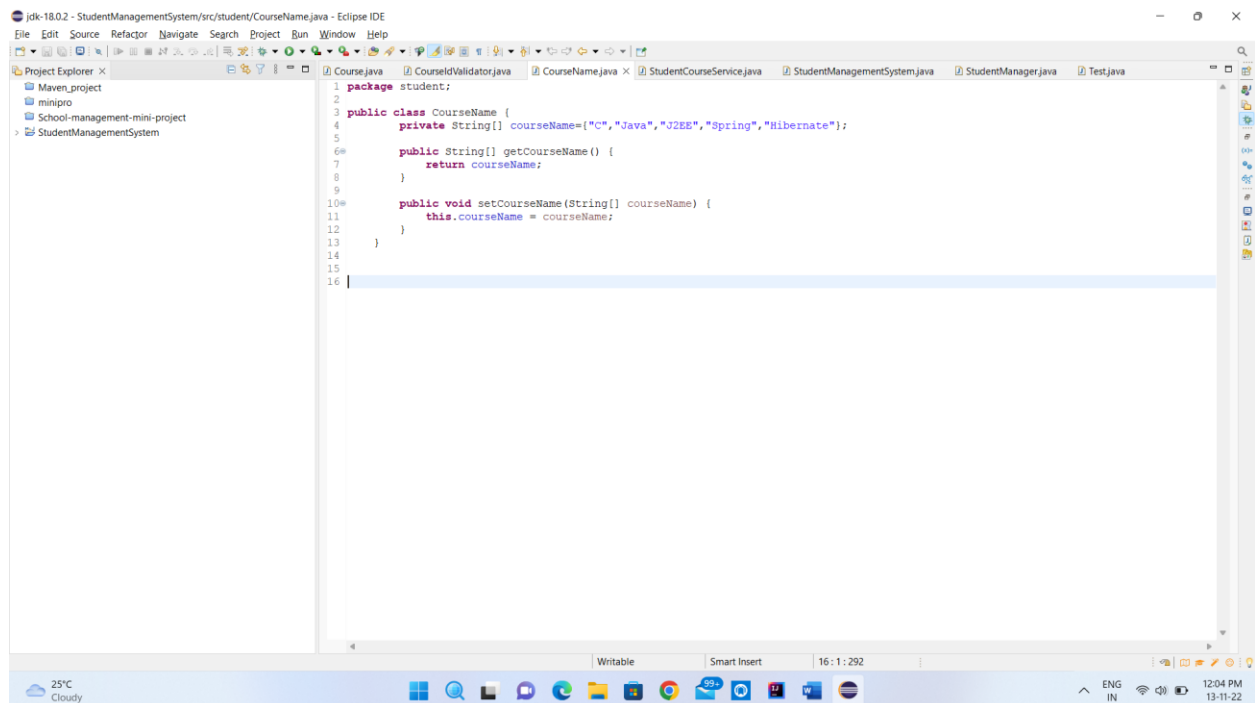

Course Id Validation



The screenshot shows the Eclipse IDE with the 'CourseIdValidator.java' file open. The code is a Java class within the 'student' package that implements a method to validate a course ID against a database. The code includes imports for 'java.sql.*', a JDBC driver, and a connection manager. It uses a try-catch block to handle database connection and query execution, returning true if the course ID is found and false otherwise. The IDE interface includes a Project Explorer on the left, a Package Explorer at the top, and a status bar at the bottom showing system information like temperature and time.

```
1 package student;
2
3 import java.sql.*;
4
5 public class CourseIdValidator {
6
7     /**
8      * Use TO check the Entered Course Id Is Present In database
9      * or not
10     */
11     public boolean validateCourseId(int courseId)
12     {
13         Connection conn=null;
14         try {
15             Class.forName("oracle.jdbc.driver.OracleDriver");
16
17             String url="jdbc:oracle:thin:@localhost:1521:XE";
18             String username="system";
19             String password="system";
20
21             conn=DriverManager.getConnection(url,username,password);
22             String sql="select courseId from Course where courseId=?"; /**Use to get avail. course Id from Data Base*/
23             PreparedStatement ps=conn.prepareStatement(sql);
24             ps.setInt(1,courseId);
25             ResultSet rs=ps.executeQuery();
26
27             if(rs.next()) /**If entry Course is found in DATA BASE then return true otherwise wise return false*/
28             {
29                 return true;
30             }
31             else
32             {
33                 return false;
34             }
35         } catch (ClassNotFoundException e) {
36             // TODO Auto-generated catch block
37             e.printStackTrace();
38         } catch (SQLException e) {
39             // TODO Auto-generated catch block
40             e.printStackTrace();
41         }
42     }
43     finally
44 }
```

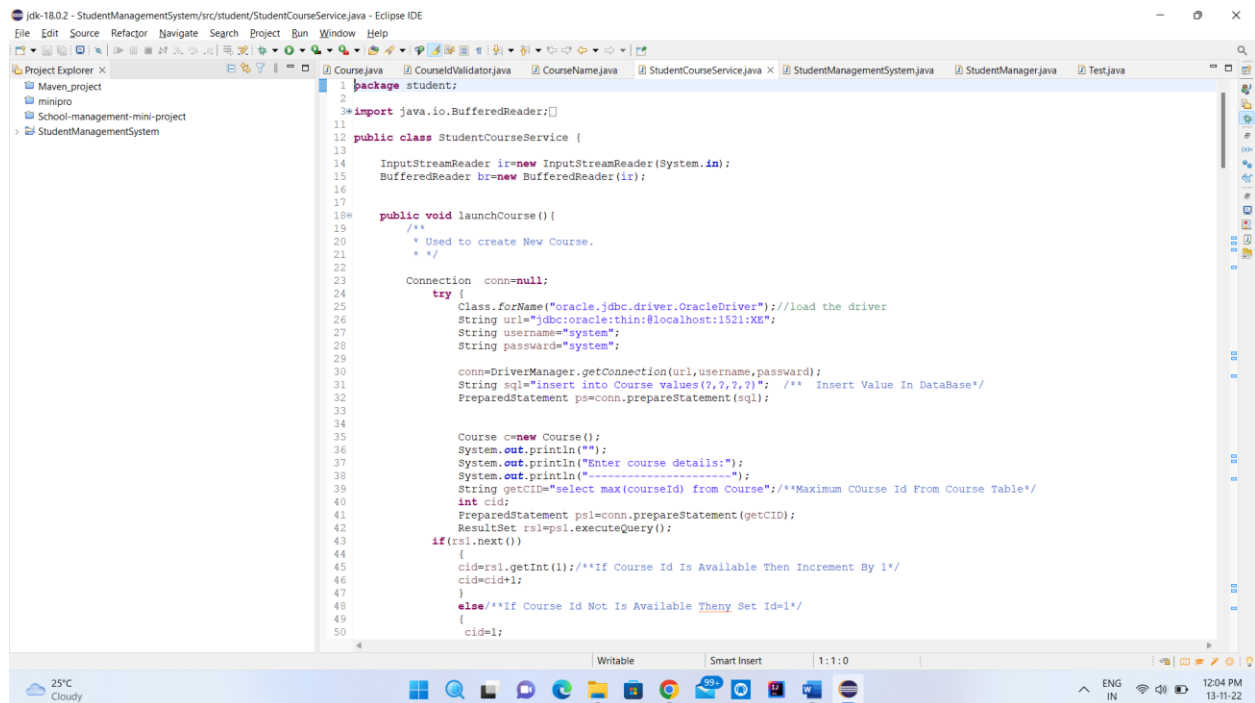
Course Name



The screenshot shows the Eclipse IDE with the 'CourseName.java' file open. The code is a Java class within the 'student' package that implements a simple data holder for course names. It has a private array 'courseName' and two public methods: 'getCourseName()' to retrieve the array and 'setCourseName()' to set it. The IDE interface is consistent with the previous screenshot, showing the same project structure and system status bar.

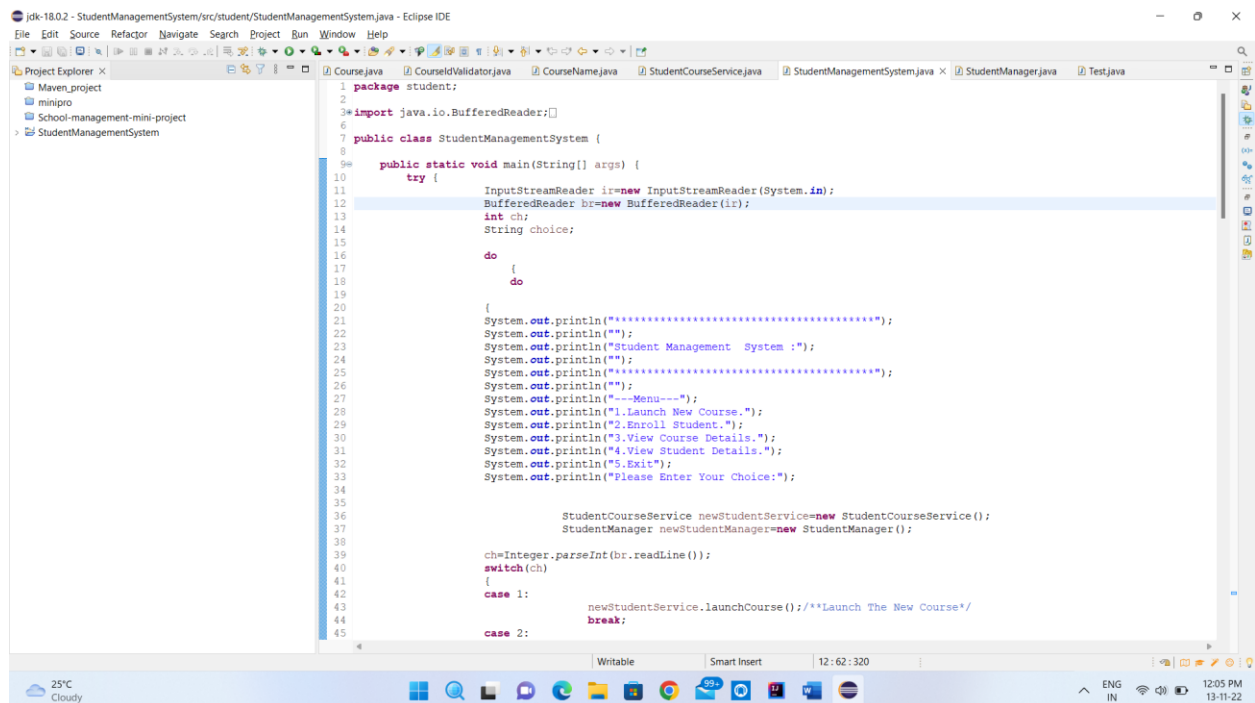
```
1 package student;
2
3 public class CourseName {
4     private String[] courseName={"C","Java","J2EE","Spring","Hibernate"};
5
6     public String[] getCourseName() {
7         return courseName;
8     }
9
10    public void setCourseName(String[] courseName) {
11        this.courseName = courseName;
12    }
13 }
14
15
16
```

Student Course Service



```
1 package student;
2
3 import java.io.BufferedReader;
4
5 public class StudentCourseService {
6
7     InputStreamReader ir=new InputStreamReader(System.in);
8     BufferedReader br=new BufferedReader(ir);
9
10    public void launchCourse() {
11        /**
12         * Used to create New Course.
13         */
14
15        Connection conn=null;
16        try {
17            Class.forName("oracle.jdbc.driver.OracleDriver");//load the driver
18            String url="jdbc:oracle:thin:@localhost:1521:XE";
19            String username="system";
20            String password="system";
21
22            conn=DriverManager.getConnection(url,username,password);
23            String sql="insert into Course values(?,?,?,?)"; /** Insert Value In DataBase*/
24            PreparedStatement ps=conn.prepareStatement(sql);
25
26            Course c=new Course();
27            System.out.println("");
28            System.out.println("Enter course details:");
29            System.out.println("-----");
30            String getCid="select max(courseId) from Course";/**Maximum Course Id From Course Table*/
31            int cid;
32            PreparedStatement psl=conn.prepareStatement(getCID);
33            ResultSet rsl=psl.executeQuery();
34            if(rsl.next())
35            {
36                cid=rsl.getInt(1);/**If Course Id Is Available Then Increment By 1*/
37                cid=cid+1;
38            }
39            else/**If Course Id Not Is Available Then Set Id=1*/
40            {
41                cid=1;
42            }
43        }
44    }
45 }
```

Student Management System



```
1 package student;
2
3 import java.io.BufferedReader;
4
5 public class StudentManagementSystem {
6
7     public static void main(String[] args) {
8
9         try {
10
11             InputStreamReader ir=new InputStreamReader(System.in);
12             BufferedReader br=new BufferedReader(ir);
13             int ch;
14             String choice;
15
16             do
17             {
18
19                 System.out.println("*****");
20                 System.out.println("");
21                 System.out.println("Student Management System :");
22                 System.out.println("");
23                 System.out.println("*****");
24                 System.out.println("");
25                 System.out.println("----Menu----");
26                 System.out.println("1.Launch New Course.");
27                 System.out.println("2.Enroll Student.");
28                 System.out.println("3.View Course Details.");
29                 System.out.println("4.View Student Details.");
30                 System.out.println("5.Exit");
31                 System.out.println("Please Enter Your Choice:");
32
33                 StudentCourseService newStudentService=new StudentCourseService();
34                 StudentManager newStudentManager=new StudentManager();
35
36                 ch=Integer.parseInt(br.readLine());
37                 switch(ch)
38                 {
39                     case 1:
40                         newStudentService.launchCourse();/**Launch The New Course*/
41                         break;
42                     case 2:
43
44
45 
```

Student Manager

```
jdk-18.0.2 - StudentManagementSystem/src/student/StudentManager.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project Explorer Maven_project minipro School-management-mini-project StudentManagementSystem
Course.java CounselorValidator.java CourseName.java StudentCourseService.java StudentManagementSystem.java StudentManager.java Test.java

1 package student;
2
3 import java.io.BufferedReader;
4
5
6
7
8
9
10
11
12
13
14
15
16
17 public class StudentManager {
18     @SuppressWarnings("deprecation")
19     void enrollStudent()
20     {
21         /**
22          * Used To Enroll New Student.
23          */
24         Connection conn=null;
25         try {
26             Class.forName("oracle.jdbc.driver.OracleDriver");//load the driver
27             String url="jdbc:oracle:thin:@localhost:1521:XE";
28             String username="system";
29             String password="system";
30
31             conn=DriverManager.getConnection(url,username,password);
32             String sql="insert into Student values(?,?,?,?,?,?,?,?)";
33             PreparedStatement ps=conn.prepareStatement(sql);
34
35             Student stu=new Student();
36             InputStreamReader ir=new InputStreamReader(System.in);
37             BufferedReader br=new BufferedReader(ir);
38             System.out.println("Enter Student Details As Follows :");
39             System.out.println("-----");
40             String getSID="select max(regId) from Student";
41             int sid;
42             PreparedStatement psl=conn.prepareStatement(getSID);
43             ResultSet rsl=psl.executeQuery();
44             if(rsl.next())
45             {
46                 /**
47                  * If Course Is Present In DataBase Used TO set Student Id Automatically with Auto Increment.
48                  */
49                 sid=rsl.getInt(1);
50                 sid=sid+1;
51             }
52             else
53             {
54                 sid=1;
```

```
jdk-18.0.2 - StudentManagementSystem/src/student/StudentManager.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project Explorer Maven_project minipro School-management-mini-project StudentManagementSystem
Course.java CounselorValidator.java CourseName.java StudentCourseService.java StudentManagementSystem.java StudentManager.java Test.java

1 package student;
2
3 import java.io.BufferedReader;
4
5
6
7
8
9
10
11
12
13
14
15
16
17 public class StudentManager {
18     @SuppressWarnings("deprecation")
19     void enrollStudent()
20     {
21         /**
22          * Used To Enroll New Student.
23          */
24         Connection conn=null;
25         try {
26             Class.forName("oracle.jdbc.driver.OracleDriver");//load the driver
27             String url="jdbc:oracle:thin:@localhost:1521:XE";
28             String username="system";
29             String password="system";
30
31             conn=DriverManager.getConnection(url,username,password);
32             String sql="insert into Student values(?,?,?,?,?,?,?,?)";
33             PreparedStatement ps=conn.prepareStatement(sql);
34
35             Student stu=new Student();
36             InputStreamReader ir=new InputStreamReader(System.in);
37             BufferedReader br=new BufferedReader(ir);
38             System.out.println("Enter Student Details As Follows :");
39             System.out.println("-----");
40             String getSID="select max(regId) from Student";
41             int sid;
42             PreparedStatement psl=conn.prepareStatement(getSID);
43             ResultSet rsl=psl.executeQuery();
44             if(rsl.next())
45             {
46                 /**
47                  * If Course Is Present In DataBase Used TO set Student Id Automatically with Auto Increment.
48                  */
49                 sid=rsl.getInt(1);
50                 sid=sid+1;
51             }
52             else
53             {
54                 sid=1;
```

Conclusion

- Student Management System can be used by educational institutions to maintain their student records easily. Achieving this objective is difficult using the manual system as the information is scattered, can be redundant, and collecting relevant information may be very time-consuming. All these problems are solved by this project.
- This system helps in maintaining the information of pupils of the organization. It can be easily accessed by the manager and kept safe for a long period of time without any changes.