

# **ASSIGNMENTDFSD2501**

## **Student Management System**

### **Problem Statements:**

Application should automate the Student information management.

In the given college, there are multiple departments. Each department has attributes like Department ID and Department name. The entire learning is divided into semesters. There can be multiple courses that belongs to a given department and the given semester. Each course will be identified by Course ID and Course name.

Application should manage data of Both Staff and Student those belongs to the college. Staff has attributes like StaffID, Name, Designation, Date Of Joining and department he belongs to. Student will have StudentID, Name, Date Of Birth, Address.

Application should manage data of Department, Semester, course, staff and students. Application should manage scores of the student he/she scored in different courses.

### **Identifying Modules/components:**

#### **Layers:**

1. User Interface layer
  - a. Web Client App
    - i. Asp.NET Core
2. Business layer
  - a. Class library
3. Data layer (Class Library)
  - a. ADO.NET application
4. Data base
  - a. SQL server

## Database Schema

The Details of Entities are as follows:

**Student:**

<u>ST_ID</u>	ST_FNAME	ST_LNAME	DOB	JOIN_DATE	HOUSE_NAME	STREET_NAME	CITY	ZIPCODE	STAFF_INCHARGE_ID
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**STAFFS**

<u>STAFF_ID</u>	SF_FIRSTNAME	SF_LASTNAME	DESIGNATION	STAFF_DOB	STAFF_DEPT_ID	STAFF_DOJ	STAFF_EXPERIENCE
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**COURSE\_DETAILS**

<u>COURSE_ID</u>	COURSE_NAME	SEM_ID	DEPT_ID	COURSE_TYPE
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**DEPARTMENT**

<u>DEPT_ID</u>	DEPT_NAME
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**SEMESTER**

<u>SEM_ID</u>	SEM_NAME	ACADEMIC YEAR
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**STUDENTS\_MARKS**

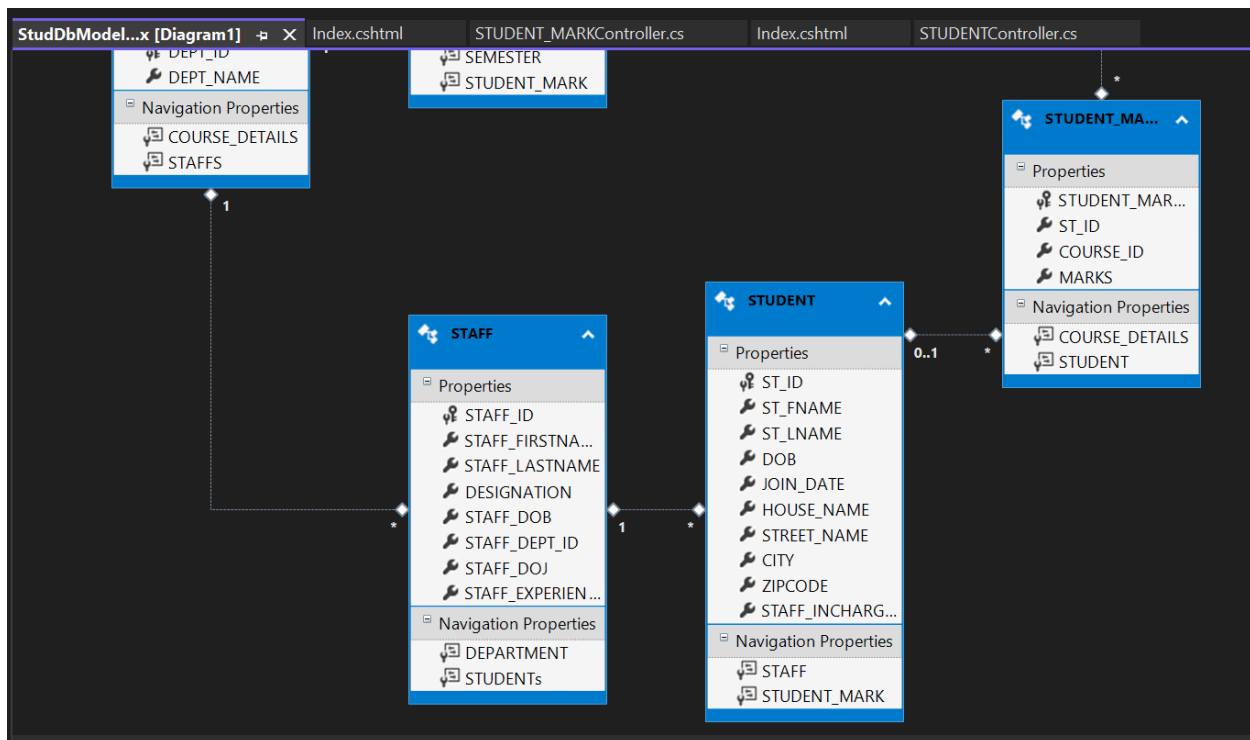
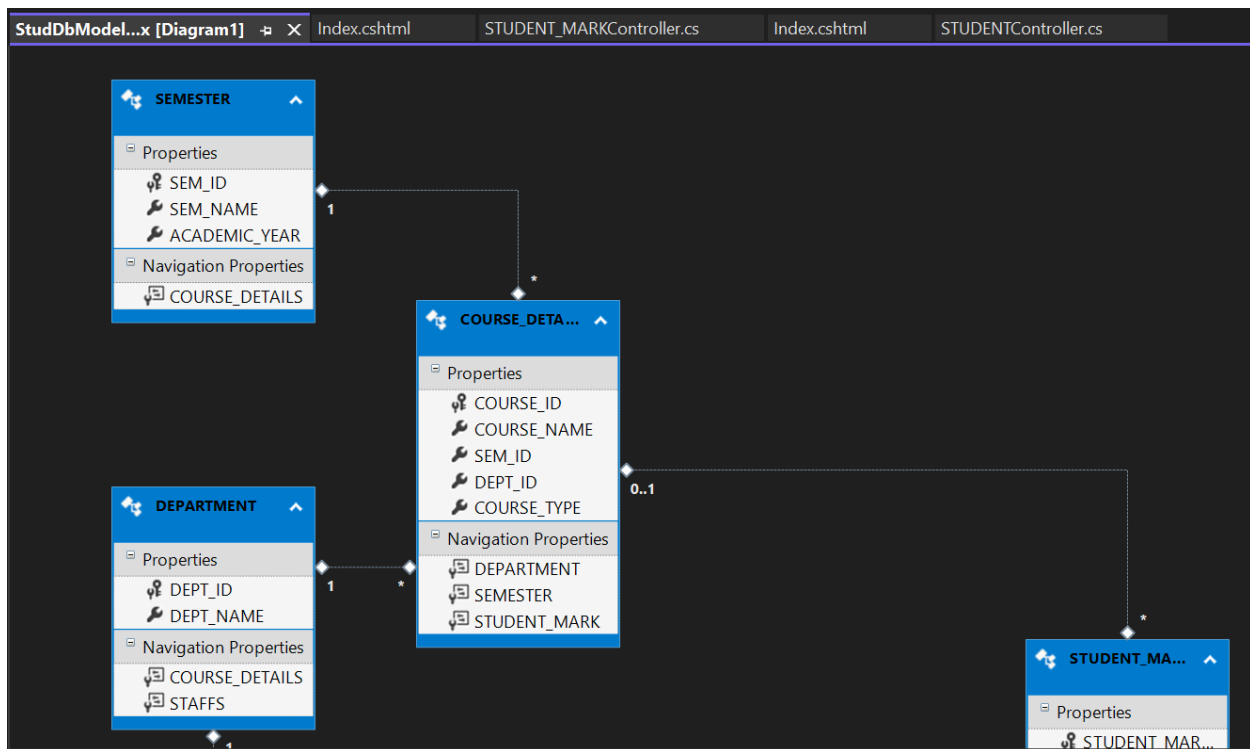
<u>STUDENT_MARKS_ID</u>	<u>ST_ID</u>	<u>COURSE_ID</u>	Marks					
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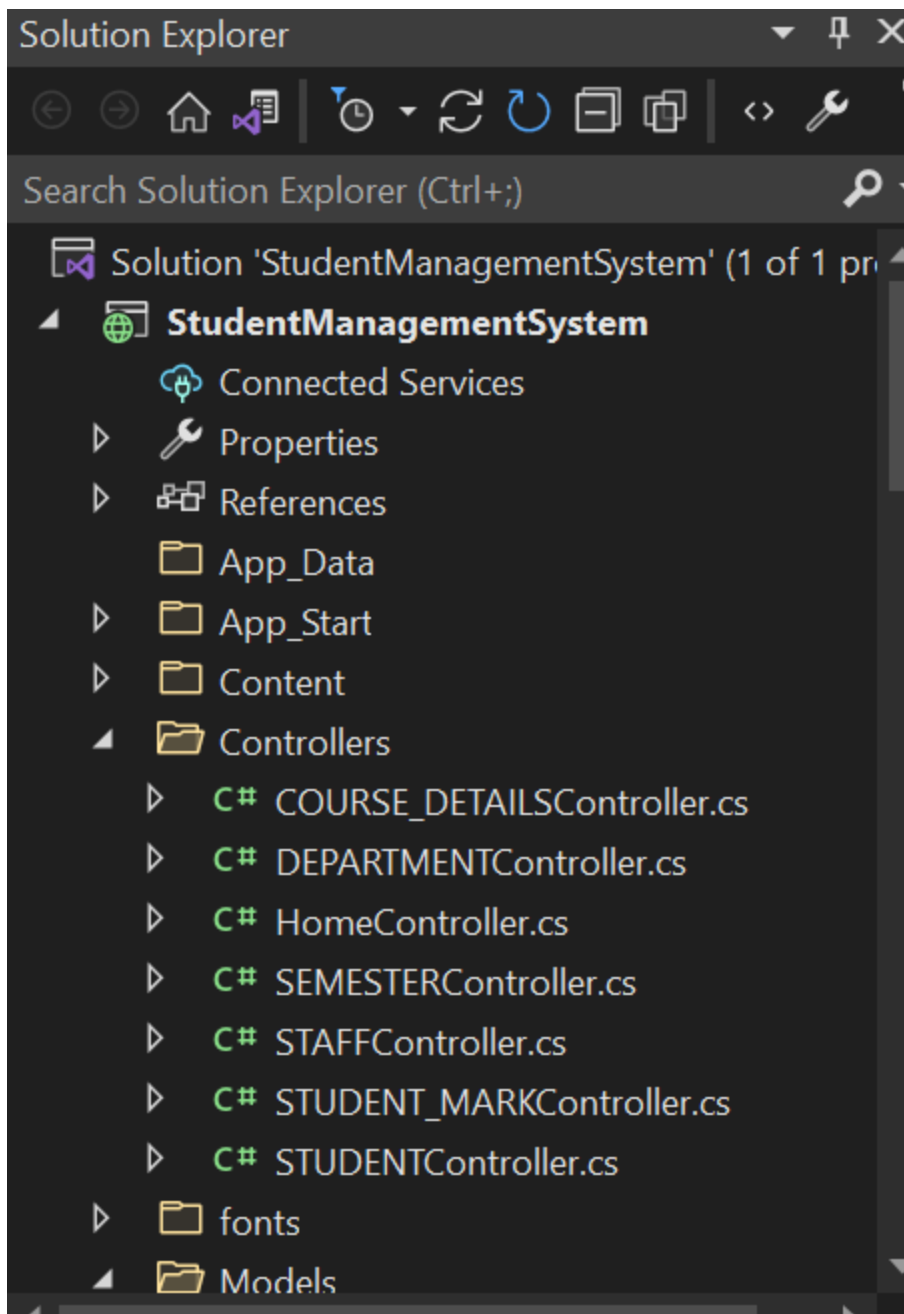
## Object Explorer

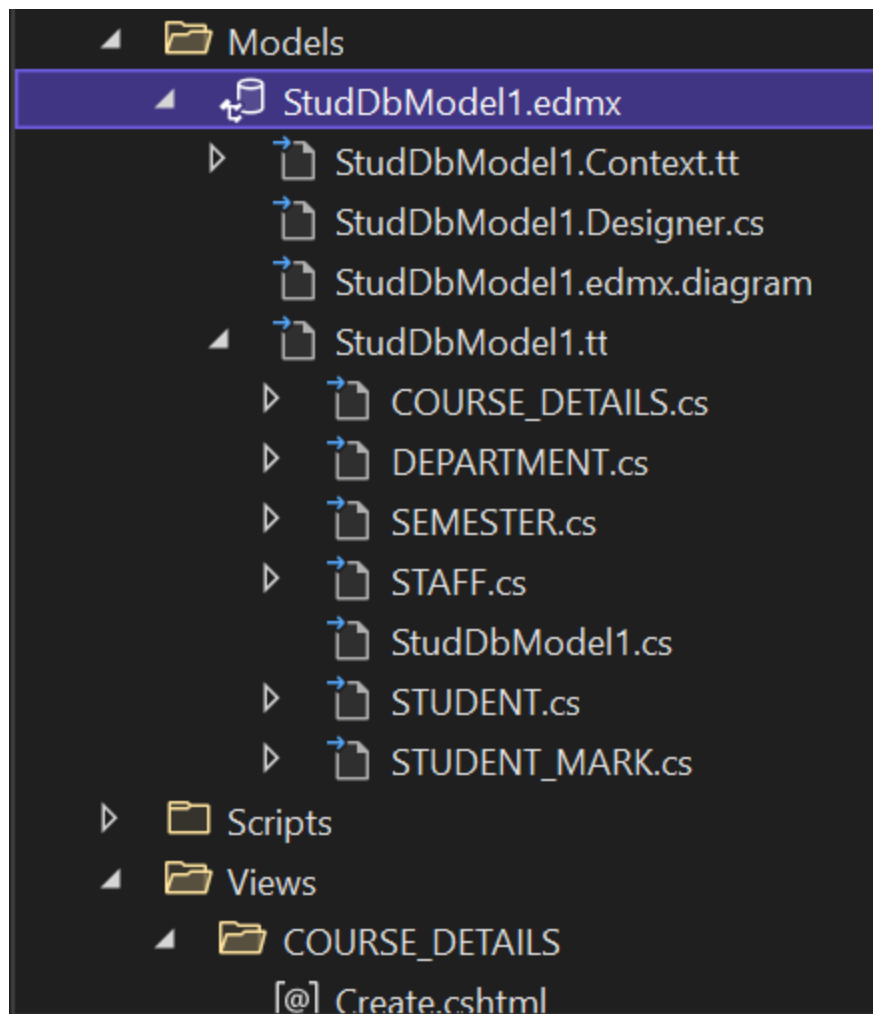
Connect ▾












- StudDB
  - Database Diagrams
  - Tables
    - System Tables
    - FileTables
    - External Tables
    - Graph Tables
    - dbo.COURSE\_DETAILS
    - dbo.DEPARTMENT
    - dbo.SEMESTER
    - dbo.STAFFS
    - dbo.STUDENT
    - dbo.STUDENT\_MARK
  - Views
  - External Resources
  - Synonyms
  - Programmability
  - Service Broker
  - Storage
  - Security







- ▲  Views
  - ▲  COURSE\_DETAILS
    - [@] Create.cshtml
    - [@] Delete.cshtml
    - [@] Details.cshtml
    - [@] Edit.cshtml
    - [@] Index.cshtml
  - ▲  DEPARTMENT
    - [@] Create.cshtml
    - [@] Delete.cshtml
    - [@] Details.cshtml
    - [@] Edit.cshtml
    - [@] Index.cshtml
  - ▶  Home
  - ▲  SEMESTER
    - [@] Create.cshtml

- ▲  SEMESTER
  - [@] Create.cshtml
  - [@] Delete.cshtml
  - [@] Details.cshtml
  - [@] Edit.cshtml
  - [@] Index.cshtml
- ▲  Shared
  - [@] \_Layout.cshtml
  - [@] Error.cshtml
- ▲  STAFF
  - [@] Create.cshtml
  - [@] Delete.cshtml
  - [@] Details.cshtml
  - [@] Edit.cshtml
  - [@] Index.cshtml
- ▲  STUDENT
  - [@] Create.cshtml
  - [@] Delete.cshtml



Index - My ASP.NET Application x +

localhost:50468/COURSE

Application name Home STUDENT STAFF **COURSE** DEPARTMENT SEMESTER STUDENT\_MARKS

## Index

[Create New](#)

COURSE_NAME	COURSE_TYPE	DEPT_NAME	SEM_NAME	
mathematics	regular	mathematics	1st	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
Java	regular	ComputerScience	2nd	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>

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localhost:50468/COURSE

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localhost:50468/DEPARTMENT

Application name Home STUDENT STAFF **DEPARTMENT** SEMESTER STUDENT\_MARKS

## Index

[Create New](#)

DEPT_NAME	
mathematics	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
Physics	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
ComputerScience	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>

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localhost:50468/SEMESTER

Application name Home STUDENT STAFF COURSE DEPARTMENT **SEMESTER** STUDENT\_MARKS

## Index

[Create New](#)

SEM_NAME	ACADEMIC_YEAR	
1st	2020	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
2nd	2020	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
3rd	2021	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
4th	2021	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>

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## Index

[Create New](#)

MARKS	COURSE_NAME	ST_FNAME
65	mathematics	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
70	Java	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>

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The screenshot displays the Microsoft SQL Server Enterprise Manager interface. The main window shows a query executed in the 'SMS!' database. The query is as follows:

```

/***** Script for SelectTopNRows command from SMS *****/
SELECT TOP (1000) [STUDENT_MARKS_ID]
,[ST_ID]
,[COURSE_ID]
,[MARKS]
FROM [SMS!].[dbo].[STUDENT_MARKS]
    
```

The results pane shows the following data:

STUDENT_MARKS_ID	ST_ID	COURSE_ID	MARKS
1	1	201	65
2	1	202	70

The status bar at the bottom indicates: "Query executed successfully. ML-RefVm-283861\SQLEXPRESS01 SMS! 0.00.000 2 rows".

SQLQuery6.sql - ML-RefVm-283861\SQLEXPRESS01\SMS! (ML-RefVm-283861\dotnetadmin (60)) - Microsoft SQL Server Management Studio

File Edit View Project Tools Window Help

SQLQuery6.sql - ML-RefVm-283861\dotnetadmin (60) SQLQuery5.sql - ML-RefVm-283861\dotnetadmin (51) SQLQuery4.sql - ML-RefVm-283861\dotnetadmin (61) SQLQuery3.sql - ML-RefVm-283861\dotnetadmin (62)

```
/****** Script for SelectTopNRows command from SMS ******/
SELECT TOP (1000) [COURSE_ID]
, [COURSE_NAME]
, [SEM_ID]
, [DEPT_ID]
, [COURSE_TYPE]
FROM [SMS!].[dbo].[COURSE]
```

100 %

Results Messages

	COURSE_ID	COURSE_NAME	SEM_ID	DEPT_ID	COURSE_TYPE
1	201	mathematics	1	1	regular
2	202	java	2	4	regular

Query executed successfully.

ML-RefVm-283861\SQLEXPRESS01\SMS! 00:00:00 2 rows

Object Explorer

Connect

- ML-RefVm-283861\SQLEXPRESS01 (SQL Server 15.0.2)
- Databases
  - System Databases
  - Database Snapshots
  - ABC
  - DbContext
  - MyDataBase
  - MyDB
  - SMS
  - SMS!
  - Database Diagrams
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    - dbo.COURSE
    - dbo.DEPARTMENT
    - dbo.SEMESTERS
    - dbo.STAFFS
    - dbo.STUDENT\_MARKS
    - dbo.STUDENTS
  - Views
  - External Resources
  - Synonyms

SQLQuery8.sql - ML-RefVm-283861\SQLEXPRESS01\SMS! (ML-RefVm-283861\dotnetadmin (63)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

SQLQuery8.sql - ML-RefVm-283861\dotnetadmin (63) SQLQuery7.sql - ML-RefVm-283861\dotnetadmin (62) SQLQuery6.sql - ML-RefVm-283861\dotnetadmin (60) SQLQuery5.sql - ML-RefVm-283861\dotnetadmin (61)

```
/****** Script for SelectTopNRows command from SMS ******/
SELECT TOP (1000) [SEM_ID]
, [SEM_NAME]
, [ACADEMIC_YEAR]
FROM [SMS!].[dbo].[SEMESTERS]
```

100 %

Results Messages

	SEM_ID	SEM_NAME	ACADEMIC_YEAR
1	1	1st	2020
2	2	2nd	2020
3	3	3rd	2021
4	4	4th	2021

Query executed successfully.

ML-RefVm-283861\SQLEXPRESS01\SMS! 00:00:00 4 rows

Object Explorer

Connect

- ML-RefVm-283861\SQLEXPRESS01 (SQL Server 15.0.2)
- Databases
  - System Databases
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  - DbContext
  - MyDataBase
  - MyDB
  - SMS
  - SMS!
  - Database Diagrams
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    - dbo.COURSE
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    - dbo.STAFFS
    - dbo.STUDENT\_MARKS
    - dbo.STUDENTS
  - Views
  - External Resources
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SQLQuery7.sql - ML\_...dotnetadmin (52) X SQLQuery5.sql - ML\_...dotnetadmin (60) SQLQuery5.sql - ML\_...dotnetadmin (51) SQLQuery4.sql - ML\_...dotnetadmin (50)

```
/****** Script for SelectTopNRows command from SMS ******/  
SELECT TOP (1000) [DEPT_ID]  
,[DEPT_NAME]  
FROM [SMS].[dbo].[DEPARTMENT]
```

100 %

Results Messages

	DEPT_ID	DEPT_NAME
1	1	mathematics
2	3	Physics
3	4	ComputerScience

Query executed successfully.

ML-RefVm-283861\SQLEXPRESS01 ML-RefVm-283861\dotnetadmin SMS 000000 3 rows

Object Explorer

Connect ML-RefVm-283861\SQLEXPRESS01 (SQL Server 15.0.2)

- Databases
  - System Databases
  - Database Snapshots
  - ABC
  - DbContext
  - MyDataBase
  - MyDB
  - SMS
  - SMS!
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