IDE & Tools

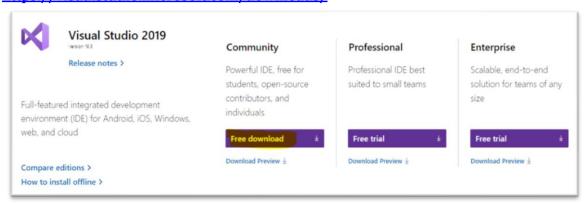
- 1. Visual Studio 2019 (Community version)
- 2. MSSQL Server (Express version)

ssms?view=sql-server-ver15

- 3. SQL Server Management Studio (SSMS)
- 4. Source Tree

Download Link:

1. Go to this link and download Visual Studio 2019 (Community version) : https://visualstudio.microsoft.com/downloads/



2. Go to this link and download MSSQL Server (Express version) https://www.microsoft.com/en-us/sql-server/sql-server-downloads



3. Go to this link and Download SQL Server Management Studio (SSMS): https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-



4. Go to this link and Download SourceTree: https://www.sourcetreeapp.com/

Installation Process:

Install Visual Studio 2019 (Community)

Step 1 - Make sure your computer is ready for Visual Studio

Before you begin installing Visual Studio:

- 1. Check the system requirements. These requirements help you know whether your computer supports Visual Studio 2019.
- 2. Apply the latest Windows updates. These updates ensure that your computer has both the latest security updates and the required system components for Visual Studio.
- 3. Reboot. The reboot ensures that any pending installs or updates don't hinder the Visual Studio install.
- 4. Free up space. Remove unneeded files and applications from your %SystemDrive% by, for example, running the Disk Clean-up app.

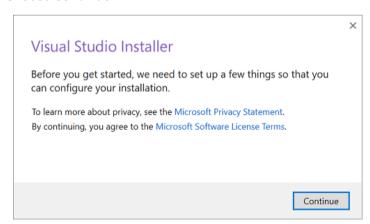
Step 2 - Download Visual Studio

Next, download the Visual Studio bootstrapper file. To do so, choose the following button, choose the edition of Visual Studio that you want, choose Save, and then choose Open folder.

Step 3 - Install the Visual Studio installer

Run the bootstrapper file to install the Visual Studio Installer. This new lightweight installer includes everything you need to both install and customize Visual Studio.

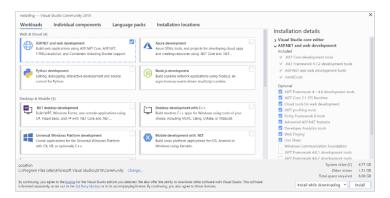
- 1. From your Downloads folder, double-click the bootstrapper that matches or is like one of the following files:
 - vs_community.exe for Visual Studio Community vs_professional.exe for Visual Studio Professional vs_enterprise.exe for Visual Studio Enterprise
- 2. We'll ask you to acknowledge the Microsoft License Terms and the Microsoft Privacy Statement. Choose Continue.



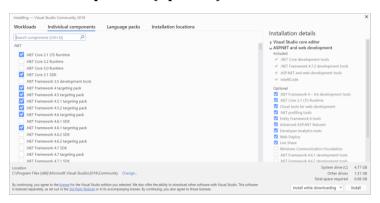
Step 4 - Choose workloads

After the installer is installed, you can use it to customize your installation by selecting the feature sets—or workloads—that you want. Here's how.

1. Find the workload you want in the Visual Studio Installer. After you choose the workload(s) you want, choose Install.



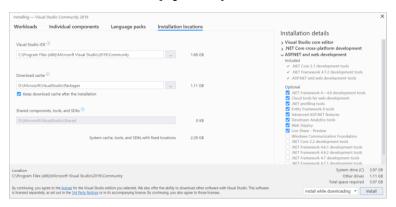
Step 5 - Choose individual components (Optional)



Step 6 - Install language packs (Optional)



Step 7 - Select the installation location (Optional)

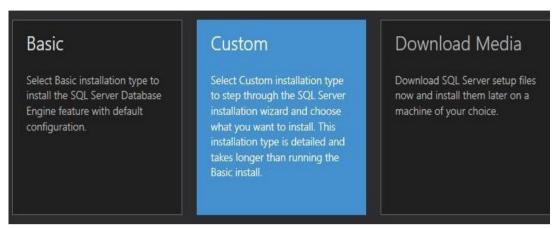


Step 8 - Start developing

After Visual Studio installation is complete, choose the Launch button to get started developing with Visual Studio.

Install Microsoft SQL Server Express

1. Click installation file and select Custom installation, as this allows you to choose what you want to install from the extended tools.



2. On the next page, select a directory for the installation folder. You can leave tis as the default or select a custom installation directory.



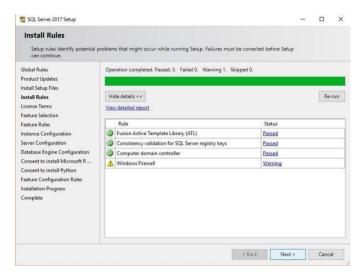
3. Click the Install button to download the installation packages.



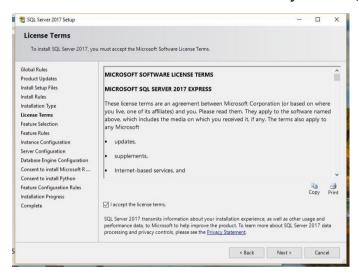
4. After the installation package is downloaded, select New SQL Server stand-alone installation, as shown below



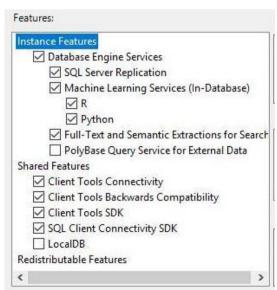
5. On the next screen, you'll see a setup process. Once it completes, click Next.



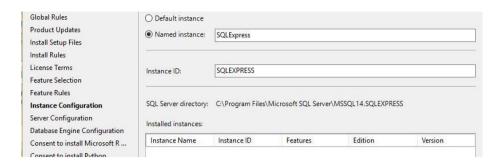
6. You should now see the license terms. Review these if you'd like, and click Accept



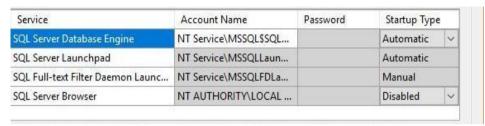
7. You'll then be taken to the Feature Selection screen, where you can choose custom SQL Server 2017 features you would like to install.



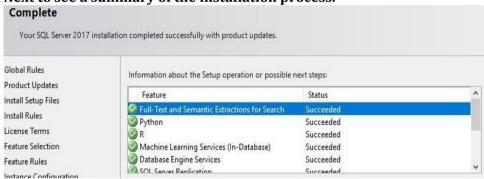
8. Click the Next button. You can also go with the Default instance name.



9. Click Next. You'll be taken to the Server Configuration screen. You can leave these settings untouched.



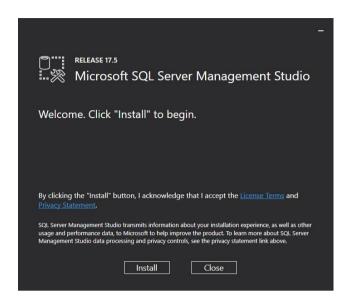
- 10. Click Next. Select windows authentication mode and click next.
- 11. Click Next to see a summary of the installation process.



12. Once the installation is complete, click Close to finish.

Install Microsoft SQL Server Management Studio

1. Simply run through the steps and click the Install button at the end.



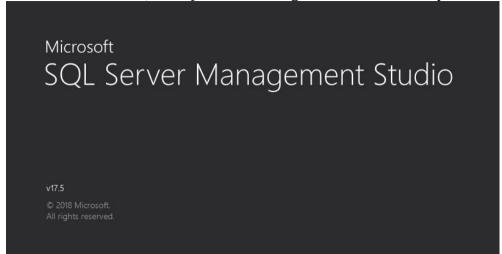
2.



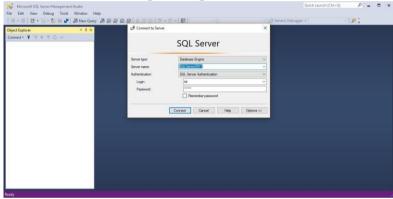
3.



4. After the installation, the SQL Server Management Studio is ready to launch:

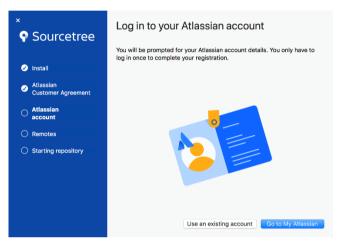


5. First, you'll see the Connect to Server window. Select the name of the server you'd like to connect to and enter the login and password for it. Click the Connect button.

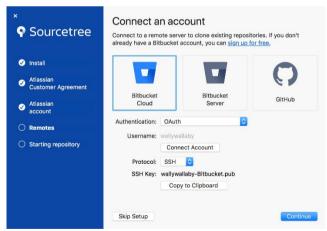


Install SourceTree

- 1. Go to the Sourcetree website and click the download button.
- 2. From the ZIP file you download, click the application file (EXE for Windows or DMG for Mac) to download.
- 3. After you install, you'll have to agree to the Atlassian Customer Agreement and hit **Continue**.
- 4. You need an Atlassian account to use Sourcetree. When you get to this screen, cick either **Use an existing account** or **Go to My Atlassian** and follow the prompts to <u>create a new account</u>. Once you've got an account, you'll be able to log in with **Use an existing account**.



5. If you want to connect to a remote hosting service, use the default options as you enter your Bitbucket or GitHub credentials. If you can't continue without generating an SSH key, select **HTTPS** to continue or see <u>Set up an SSH key</u> for more details about setting up SSH with Sourcetree.



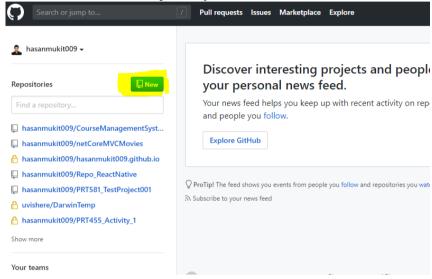
6. Follow the prompts until you're done with the setup. If you aren't ready to clone a repository, click **Skip Setup**.

Download the sample project from GitHub

https://github.com/hasanmukit009/CourseManagementSystem

GitHub Setup:

- 1. Go to https://github.com/ and sign up and open an account
- 2. Go to GitHub account and create repository from here.



3. Put repository name and create

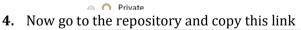
Create a new repository

Owner Repository name *

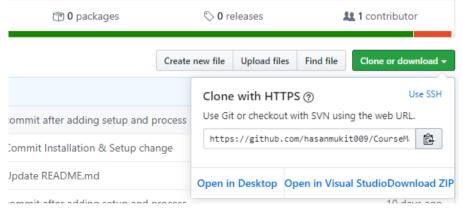
| hasanmukit009 \ / Course_Management_System |
| Great repository names are short and memorable. Need inspiration? How about glowing-octo-fortnight?

Description (optional)

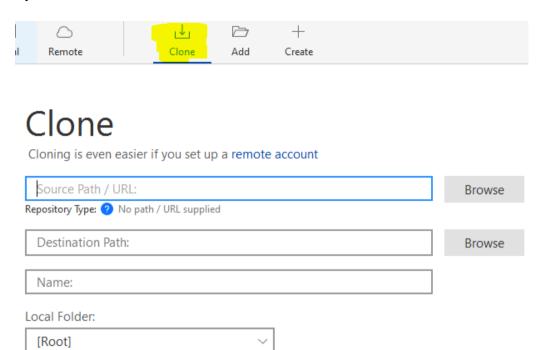
A repository contains all project files, including the revision history. Already have a project repository elsewhere?



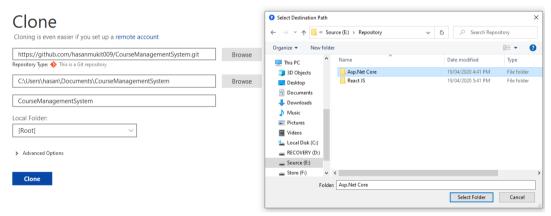
Anyone can see this repository. You choose who can commit



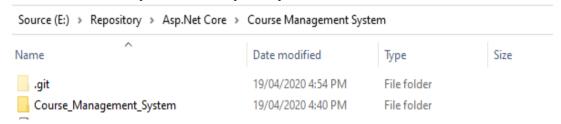
5. Open source tree and click clone



6. In the source path put GitHub copied link and in destination path give local pc folder path

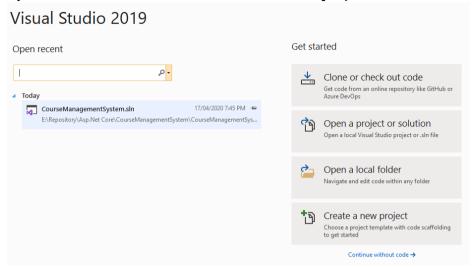


7. Now click clone and your GitHub repository and Local PC folder will be connected.

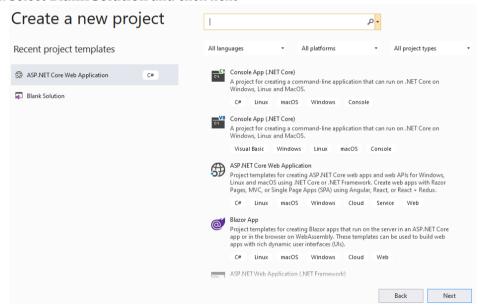


- **8.** Now go to that folder.
- **9.** Create visual studio project here in this folder.

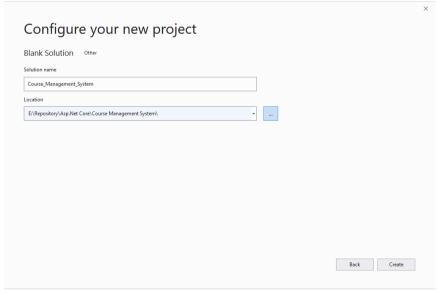
10. Open Visual Studio 2019 and click Create a new project



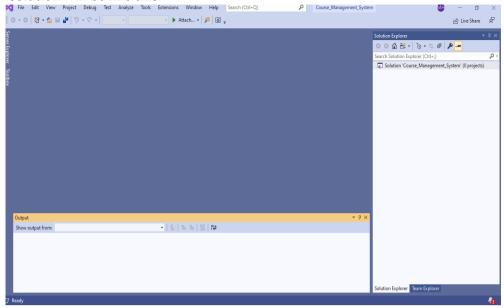
11. Select Blank Solution and click next



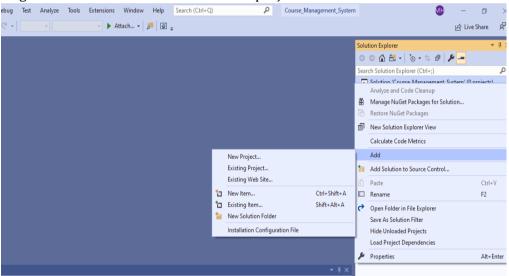
12. Write the solution name "Course_Management_System" and click Create.



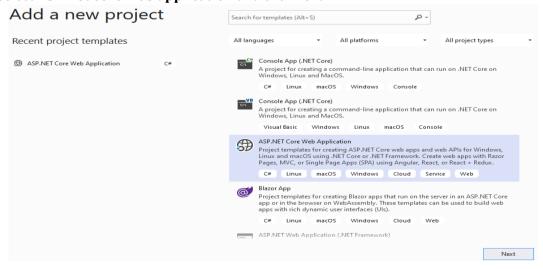
13. Now solution will be like this.



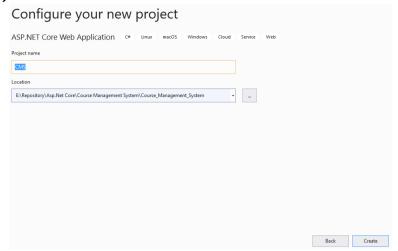
14. Now right click on the solution and add new project



15. Select **ASP.Net core web application** and click next.

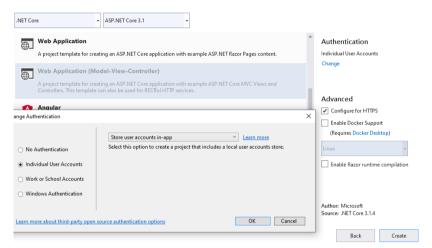


16. Give the **Project Name** and click create.

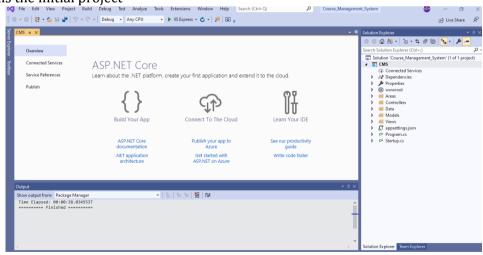


17. After creating Project select these things and click create

Create a new ASP.NET Core web application

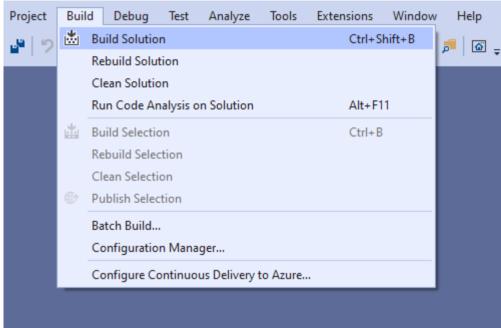


18. So, this the initial project

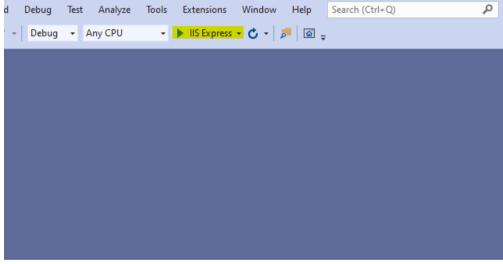


19. Build the project and Click run

• To build a project you need to right click on the solution and click build or rebuild Or you can click here



• To run the project, you need to click here



After running, project will be shown in browser



© 2020 - CMS - Privacy

20. Now change the connection string here

Copy the code from this link

(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course Management System/CMS/appsettings.json)

DefaultConnection":

 $"Server=HASANMUKIT\\\SQLEXPRESS; Database=CMS; Trusted_Connection=True; MultipleActiveResultSets=true"$

You need change the server name HASANMUKIT to 'YourServerName'

To find your server name you need to open "Microsoft SQL Server Management Studio 2018" and you will get the server name from there.

DefaultConnection":

"Server = "Your Server Management Studio"

Microsoft SQL Server Management Studio

Window Help

Object Explorer

SQL Server

SQL Server

Server name

Adhericution:

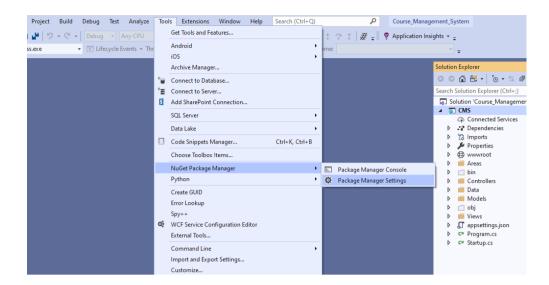
History Password

Remember password

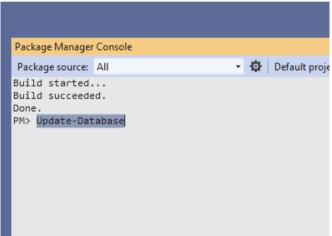
Remember password

Remember password

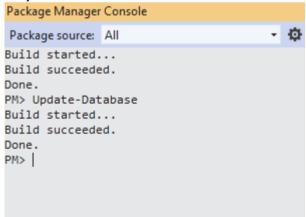
21. Now go to the visual studio and click Package Manager Console



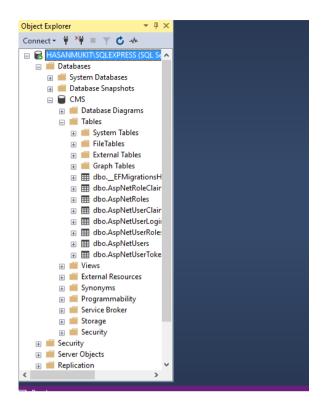
22. Write "update-database"



23. Then database will be updated



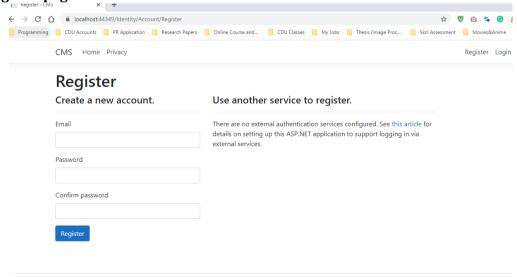
24. When you go to **SQL SERVER MANAGEMENT STUDIO**, you will see the database CMS has been created.



25. Now click on Register and register page will be open



26. Register page will be like this

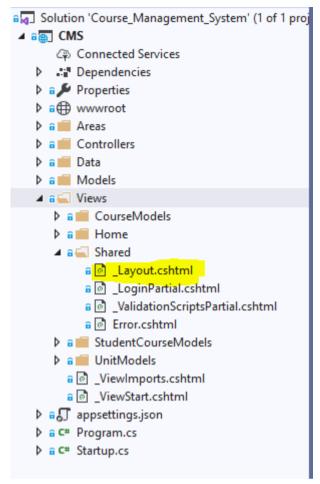


27. Give all the information and click register and a new user(hasanmukit009@gmail.com) has been created. Now you can login Hello hasanmukit009@gmail.com! Logout √IS Home Privacy Welcome To The Course Management System 28. Click log out and then click login CMS Home Privacy Register Login Log in Use a local account to log in. Use another service to log in. There are no external authentication services configured. See this article for details on setting up this ASP.NET application to support logging in via hasanmukit009@gmail.com external services. Password Remember me? Log in Forgot your password? Register as a new user © 2020 - CMS - Privacy 29. This page will open CMS Home Hello hasanmukit009@gmail.com! Logout

Welcome

To The Course Management System

30. Open layout page (/CMS/Views/Shared/_Layout.cshtml) from project.



Copy the code from this link

(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course Management System/CMS/Views/Shared/ Layout.cshtml)

Add this code and run

```
content="width=device-width, initial-scale=1.0" />
    <ti><title>@ViewData["Title"] - CMS</title>

k rel="stylesheet" href="%/lib/bootstrap/dist/css/bootstrap.min.css" />
k rel="stylesheet" href="%/css/site.css" />

</head>
<body>
         <nav class="navbar navbar-expand-sm navbar-toggleable-sm navbar-light bg-white border-bottom box-shadow mb-3">

div class="navbar-havbar-expand-sm havbar-toggleable-sm havbar-light og-white border-bottom box-shadow mb-> >

div class="container">

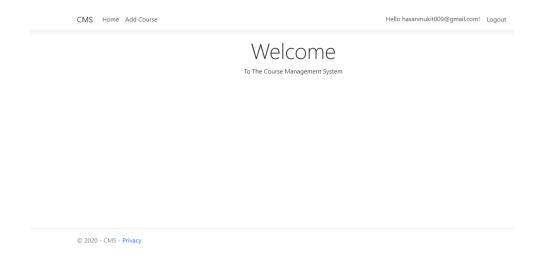
da class="navbar-brand" asp-area="" asp-controller="Home" asp-action="Index">CMS</a>

data-target=".navbar-collapse" aria-con-aria-expanded="false" aria-label="Toggle navigation">

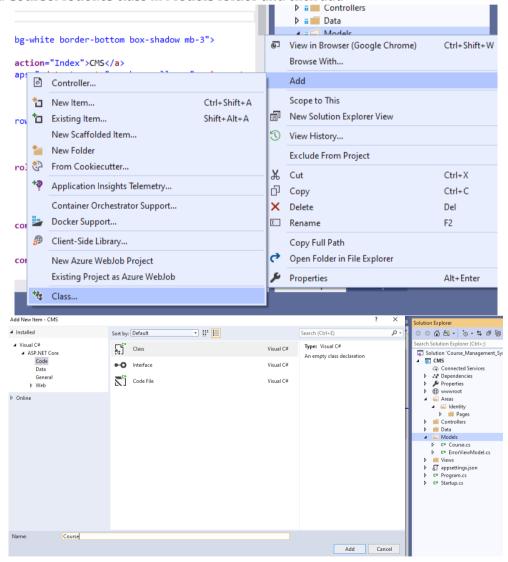
aria-expanded="false" aria-label="Toggle navigation">

                       <span class="navbar-toggler-icon"></span>
                  <div class="navbar-collapse collapse d-sm-inline-flex flex-sm-row-reverse">
                       </div
              </div>
         </nav>
    </header>
    <div class="container">
  <main role="main" class="pb-3">
             @RenderBody()
         </main>
```

31. Now click run and this will open



32. Add CourseModel.cs class in Models folder and click add



${\bf 33.}\, {\bf Add}\, {\bf these}\, {\bf codes}\, {\bf in}\, {\bf Course Model.cs}\, {\bf Class}$

Copy code from this link

(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course Management System/CMS/Models/CourseModel.cs)

```
anamespace CMS.Models
{
    [Table("Course")]
    22 references
    public class CourseModel
    {
        [Key]
        [DatabaseGenerated(DatabaseGeneratedOption.Identity)]
        12 references
        public int ID { get; set; }
        12 references
        public string CourseName { get; set; }
}
```

34. Now open Package Manager Console from **(Tools>Nuget Manager>Package Manager console)** and write **"Add-Migration AddCourse"** command

```
Package Manager Console

Package source: All

Package Manager Console Host Version 5.5.0.6473

Type 'get-help NuGet' to see all available NuGet commands.

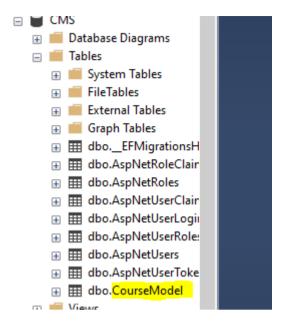
PM> Add-Migration AddCourse
Build started...
Build succeeded.

To undo this action, use Remove-Migration.
```

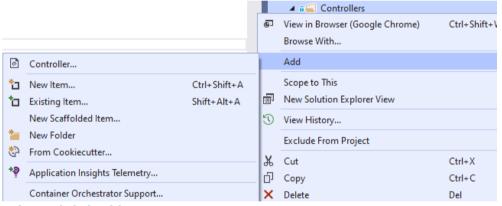
35. Now execute "**Update-Database**" command in Package Manager Console

```
PM> Update-Database
Build started...
Build succeeded.
Done.
PM> |
```

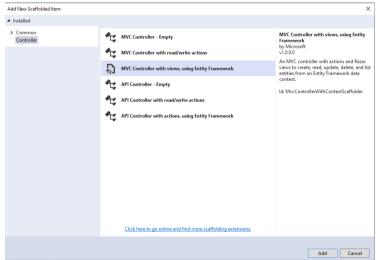
36. Now open **SQL SERVER MANAGEMENT STUDIO** and you will see the new table "**CourseModel**" has been added.



37. Now Add controller in Controller folder



Select this and click add



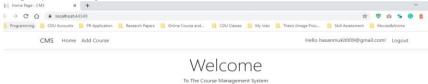
38. Give all this information and click Add

Add MVC Controller with views, using Entity Framework		
Model class:	Course (CMS.Models)	•
Data context class:	ApplicationDbContext (CMS.Data)	- +
Views:		
✓ Generate views		
✓ Reference script li	braries	
✓ Use a layout page:		
(Leave empty if it	is set in a Razor_viewstart file)	
Controller name:	Courses Controller	
		Add Cancel

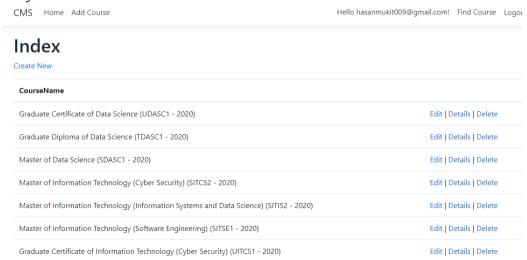
39. CourseModelsController.cs controller has been added, and it will be like this

```
▼ cMS.Controllers.CoursesController
        using System.Threading.Tasks;
using Microsoft.AspNetCore.Mvc;
using Microsoft.AspNetCore.Mvc.Render
using Microsoft.EntityFrameworkCore;
using CMS.Data;
using CMS.Models;
       ⊟namespace CMS.Controllers
                 1reference
public class CoursesController : Controller
                    private readonly ApplicationDbContext _context;
                     Oreferences
public CoursesController(ApplicationDbContext context)
17
18
19
20
21
22
                   _context = context;
}
                    // GET: Courses
23
24 2
25
26
27
28
                        ublic async Task<IActionResult> Index()
                          return View(await _context.CourseModel.ToListAsync());
                     // GET: Courses/Details/5
                       ublic async Task<IActionResult> Details(int? id)
                          if (id == null)
                               return NotFound();
```

40. Now run the project and you will see this



41. When you click Add course it will be shown like this and then click Create New



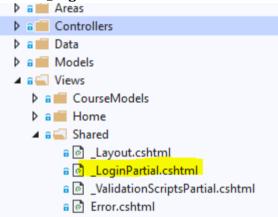
42. This page will open and write Course Name in the text box and click **Create**

CMS Home Add Course	Hello hasanmukit009@gmail.com!	Find Course	Logout
CourseName			
Create Registre Liet			

43. New course will be added to the list

CourseName	
Graduate Certificate of Data Science (UDASC1 - 2020)	Edit Details Delete
Graduate Diploma of Data Science (TDASC1 - 2020)	Edit Details Delete
Master of Data Science (SDASC1 - 2020)	Edit Details Delete
Master of Information Technology (Cyber Security) (SITCS2 - 2020)	Edit Details Delete
Master of Information Technology (Information Systems and Data Science) (SITIS2 - 2020)	Edit Details Delete
Master of Information Technology (Software Engineering) (SITSE1 - 2020)	Edit Details Delete
Graduate Certificate of Information Technology (Cyber Security) (UITCS1 - 2020)	Edit Details Delete

- 44. You can Edit and Delete and show Details from here
- 45. Now add this piece of code in _LoginPartial.cshtml



Copy the code from this link

(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course Management System/CMS/Views/Shared/ LoginPartial.cshtml)

46. Run the project and it will be like this



47. Add this code in CourseModelsController.cs

Copy code from this link

(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course Management System/CMS/Controllers/CourseModelsController.cs)

```
152
153

Oreferences
public async Task<IActionResult> FindCourse()

{
    return View();

157
158
}
159
}
160
```

48. Run the Project and click **Find Course** link



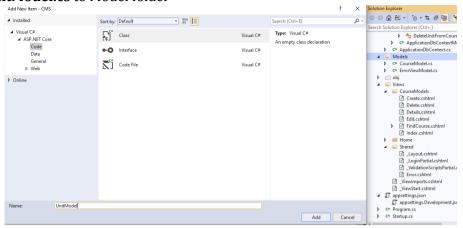
FindCourse

49. Add this code to _Layout.cshtml

Copy code from this link

(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course Management System/CMS/Views/Shared/ Layout.cshtml)

50. Add UnitModel.cs to Model folder



51. Add these codes to UnitModel.cs

Copy code from this link

(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course Management System/CMS/Models/UnitModel.cs)

```
public class UnitModel
{
    [Key]
    [DatabaseGenerated(DatabaseGeneratedOption.Identity)]
    Oreferences
    public int ID { get; set; }
    Oreferences
    public string UnitName { get; set; }
    Oreferences
    public string UnitCode { get; set; }
    Oreferences
    public int CourseID { get; set; }
}
```

52. Now Run these commands in Package Manager Console

```
PM> Add-Migration AddUnitToDB

Build started...

Build succeeded.

To undo this action, use Remove-Migration.

PM> Update-Database AddUnitToDB

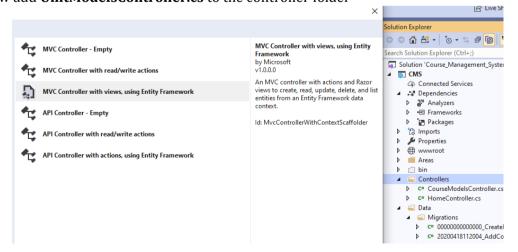
Build started...

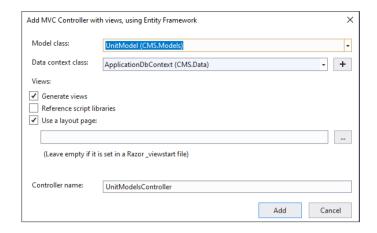
Build succeeded.

Done.

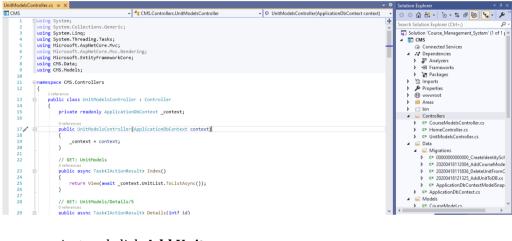
PM> |
```

53. Now add UnitModelsController.cs to the controller folder





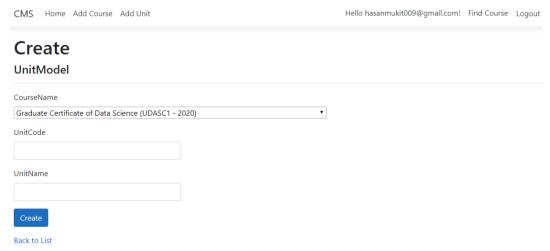
55. UnitModelsController has been added to the controller



56. Now run project and click **Add Unit**



57. Click Create New and this page will be opened



58. Now go to the **UnitModelsController.cs** and add these codes which will create Unit

Copy code from this link and paste in **UnitModelsController.cs**

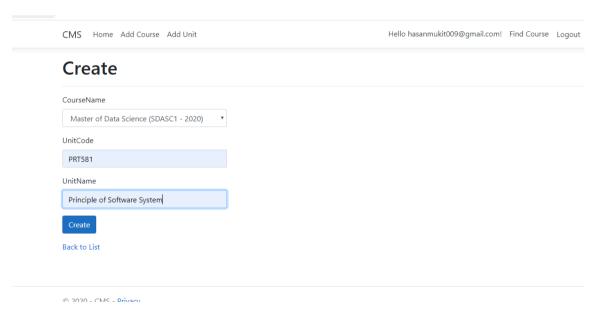
(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course Management System/CMS/Controllers/UnitModelsController.cs)

```
UnitModelsController.cs → X

■ CMS

                                                       CMS.Controllers.UnitModelsController
                                                                                                             public IActionResult Create()
     48
     49
                             List<CourseModel> courses = _context.CourseList.ToList();
                             ViewBag.ListOfCourses = courses;
     50
                             return View();
     52
     53
                        // POST: UnitModels/Create
                        // To protect from overposting attacks, please enable the specific properties you want to bind to, for // more details see <a href="http://go.microsoft.com/fwlink/?LinkId=317598">http://go.microsoft.com/fwlink/?LinkId=317598</a>.
     55
     57
                        [HttpPost]
     58
                        [ValidateAntiForgeryToken]
                        public async Task<IActionResult> Create([Bind("ID,UnitName,UnitCode,CourseID")] UnitModel unitModel)
     60
     62
63
                                  var courseObj = _context.CourseList.Find(unitModel.CourseID);
     64
65
                                  if (courseObj.ID > 0)
     66
67
                                      unitModel.CourseName = courseObj.CourseName;
                                       _context.Add(unitModel);
     68
                                 await _context.SaveChangesAsync();
return RedirectToAction(nameof(Index));
     69
70
                             return View(unitModel):
     72
                        // GET: UnitModels/Edit/5
```

Run the project then click Add Unit > Click Create New > Fill up the details and click Create



59. Now Click **Create** and new unit will be added.



- **60.** It also can be edit, details and delete if you check the code in that **UnitModelController.cs** file
- **61.** Now its time for the Find Course Functionality for students
- $\textbf{62.} \ \textbf{So first create a model: } \textbf{StudentCourseModel.cs}$

Copy code from this link

(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course Management System/CMS/Models/StudentCourseModel.cs) and **paste** the code in

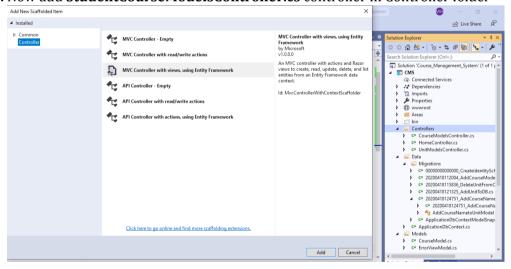
Student Course Model.cs

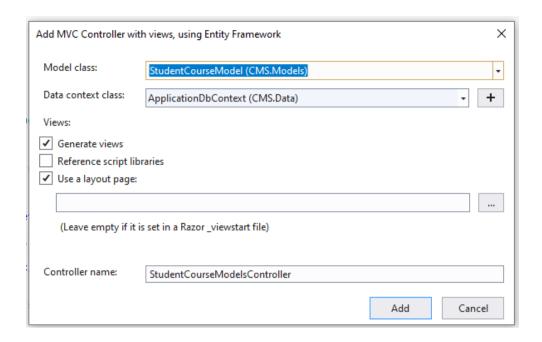
```
using System.Linq;
using System.Threading.Tasks;
                                                                                                                                                                                             [Table("StudentCourse")]
             public class StudentCourseModel
11
12
13
14
                    [Key]
[DatabaseGenerated(DatabaseGeneratedOption.Identity)]
                    Oreferences
public int ID { get; set; }
15
                   public string CourseID { get; set; }
                                                                                                                                                                                                Models
C**CourseModel.cs
C**StudentCourseModel.cs
C**StudentCourseModel.cs
C**StudentCourseModel.cs
Dipl
Views
CourseModels
Home
Shared
UnitModels
WinitModels
WinitModels
WinitModels
WinitModels
WinitModels
16
17
                      ublic string StudentID { get; set; }
                   public string UnitID { get; set; }
                  [Display(Name = "Course Name")]
                  Oreferences

public string CourseName { get; set; }

[Display(Name = "Unit Code")]
21
22
                   public string UnitCode { get; set; }
[Display(Name = "Unit Name")]
                    Oreferences
public string UnitName { get; set; }
[Display(Name = "StudentEmail")]
```

- 63. Now Run these commands in Package Manager Console
 - Add-Migration AddStudentCourseModelToDB
 - Update-Database AddStudentCourseModelToDB
- 64. Now add StudentCourseModelsController.cs controller in Controller folder





Copy code from this link

(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course Management System/CMS/Controllers/StudentCourseModelsController.cs) and paste it to **StudentCourseModelsController.cs**

```
Studentc

Studentc

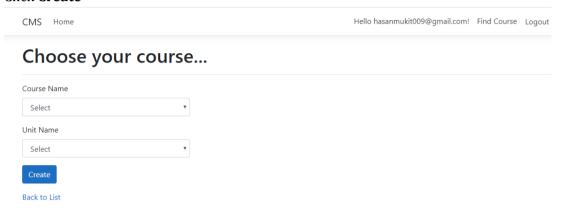
    CMS.Controllers.StudentCourseModelsController

                       ublic class StudentCourseModelsController : Controller
     13
14
15
16
                         private readonly ApplicationDbContext _context;
                          public StudentCourseModelsController(ApplicationDbContext context)
{
     17
18
19
20
21
22
                              _context = context;
                          // GET: StudentCourseModels
                          public async Task<IActionResult> Index()
{
     23 d
24
25
26
27
28
                              return View(await context.StudentCourseModel.ToListAsync());
                          // GET: StudentCourseModels/Details/5
                          Ureferences
public async Task<IActionResult> Details(int? id)
{
     29
30
31
32
33
34
35
36
37
38
39
40
41
42
                              if (id == null)
                                   return NotFound();
                              var studentCourseModel = await _context.StudentCourseModel
    .FirstOrDefaultAsync(m => m.ID == id);
if (studentCourseModel == null)
                                   return NotFound();
                                                                                                                                                   ln: 23 Ch: 37 SPC CRLF
```

65. Now Add code to give functionality for Add, Edit and Delete and Details. This is the page when you click Find Course



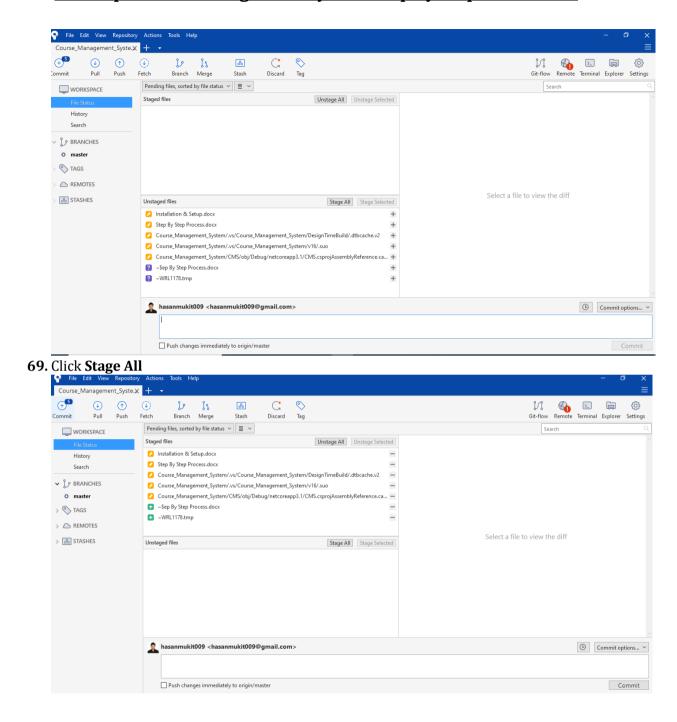
66. Run the project > Login > Click **Find Course** > Select Course Name and Unit Name > Click **Create**



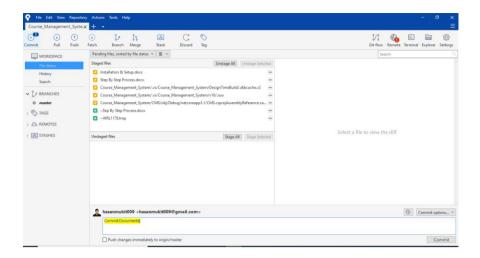
67. New course has been to the user's account.



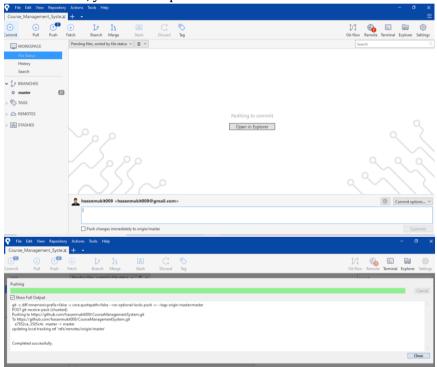
68. Now open Source Tree and you will see like this



70. Write comment in the comment section and click commit



71. After commit, you need to push and click Push



72. After **Push** go to the GitHub repository. And you will see the changes.

