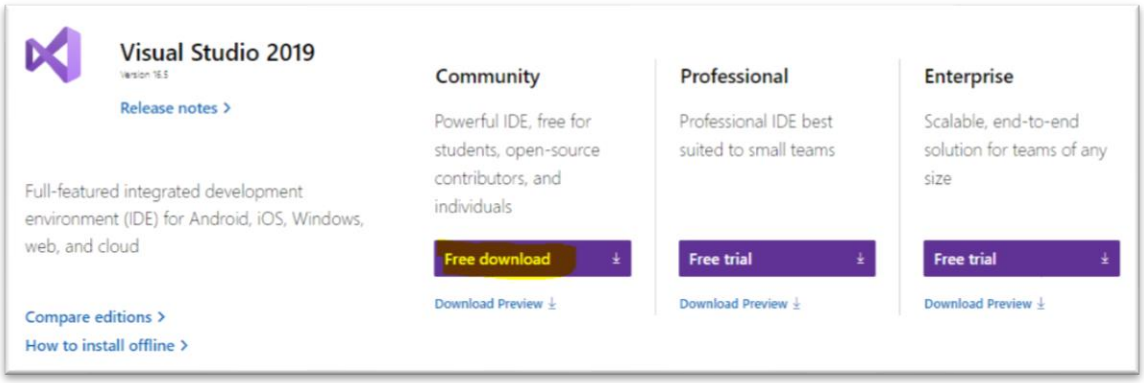
Develop Course Management System Step by Step in .net core

IDE & Tools

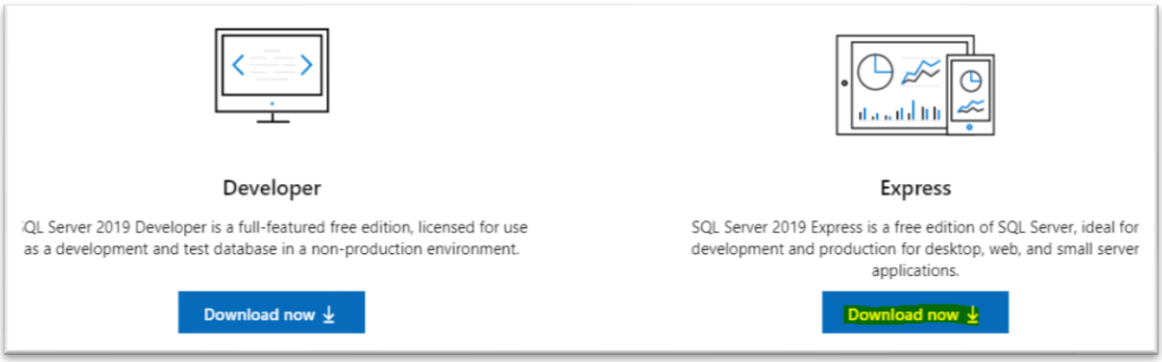
1. **Visual Studio 2019 (Community version)**
2. **MSSQL Server (Express version)**
3. **SQL Server Management Studio (SSMS)**
4. **Source Tree**

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-ssms?view=sql-server-ver15

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

Develop Course Management System Step by Step in .net core

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.

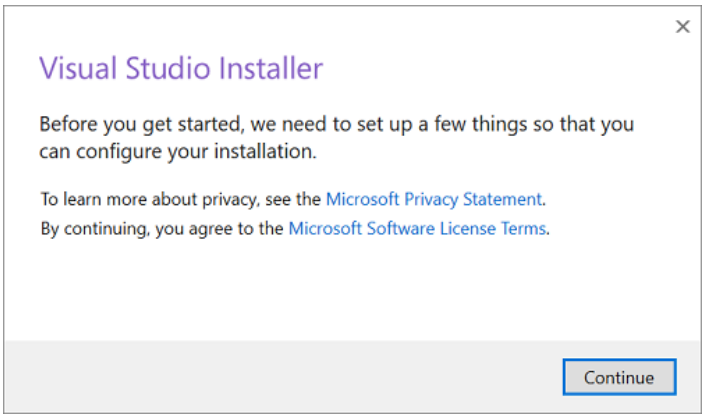
Step 2 - Download Visual Studio

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.

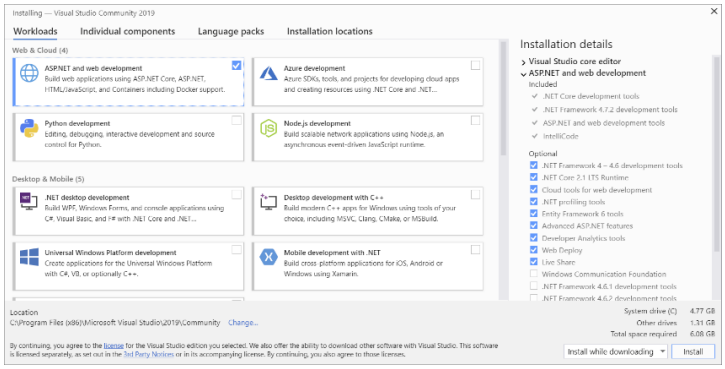


Step 4 - Choose workloads

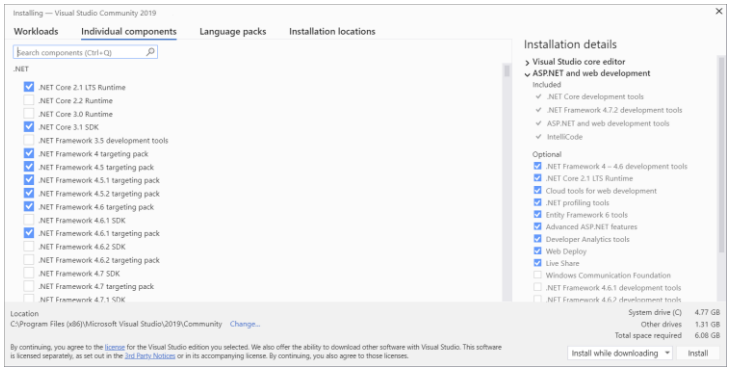
After the installer is installed, you can use it to customize your installation by selecting the feature sets—or workloads—that you want. Here's how.

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

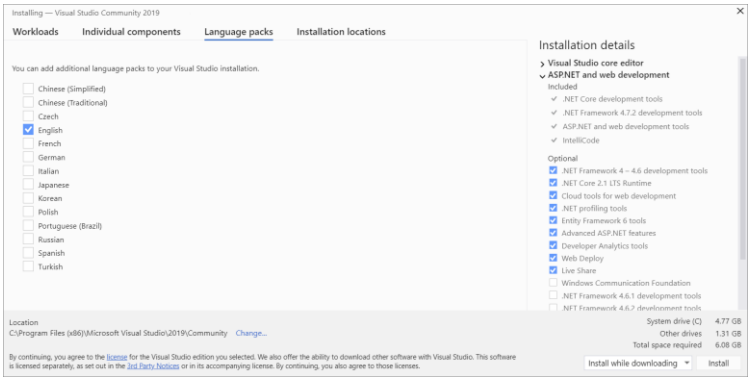
Develop Course Management System Step by Step in .net core



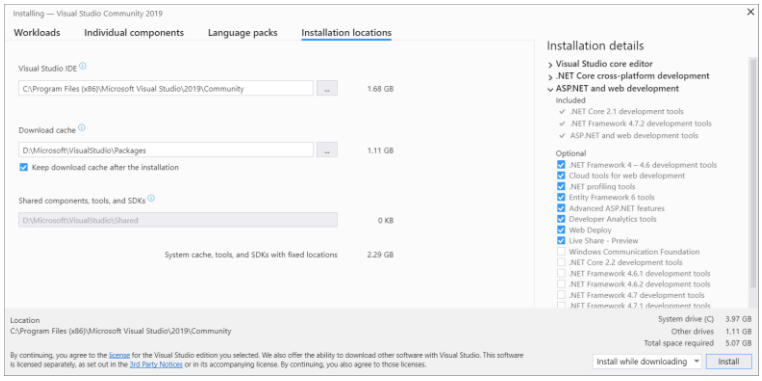
Step 5 - Choose individual components (Optional)



Step 6 - Install language packs (Optional)



Step 7 - Select the installation location (Optional)



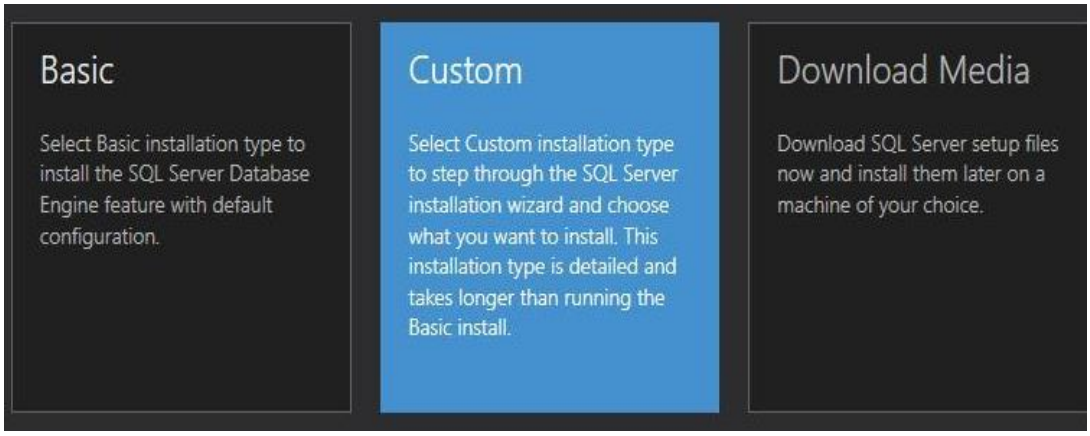
Step 8 - Start developing

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

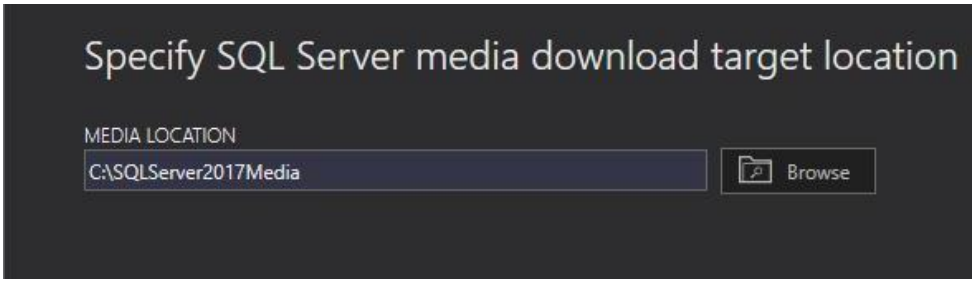
Develop Course Management System Step by Step in .net core

Install Microsoft SQL Server Express

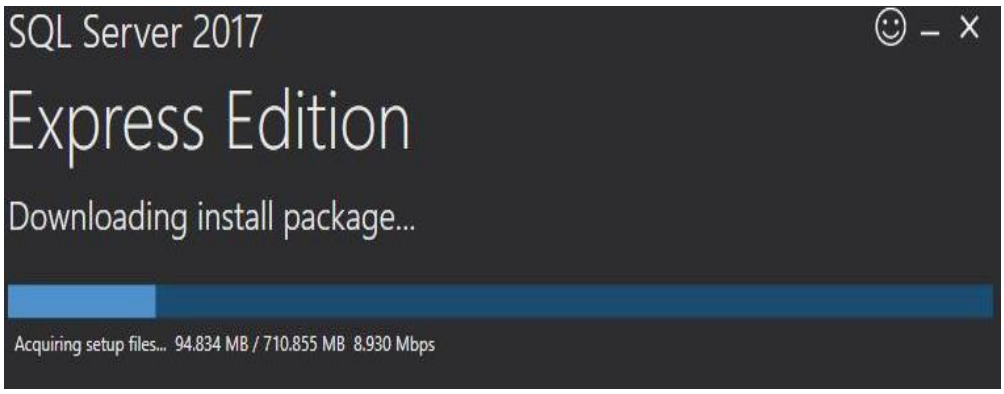
1. **Click installation file and select Custom installation, as this allows you to choose what you want to install from the extended tools.**



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.**



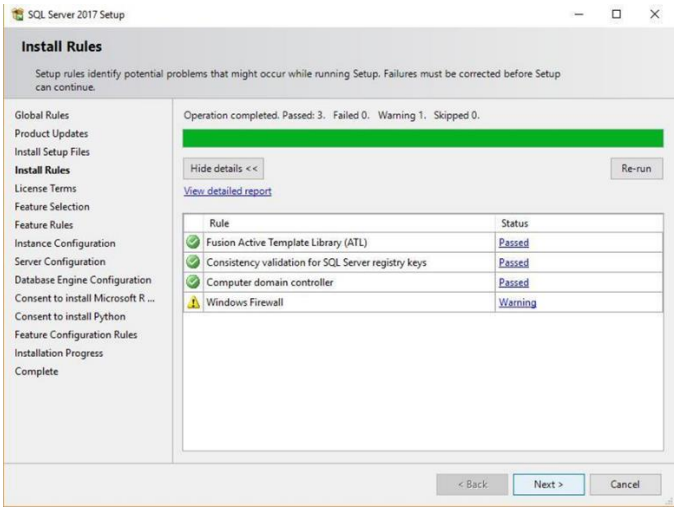
3. **Click the Install button to download the installation packages.**



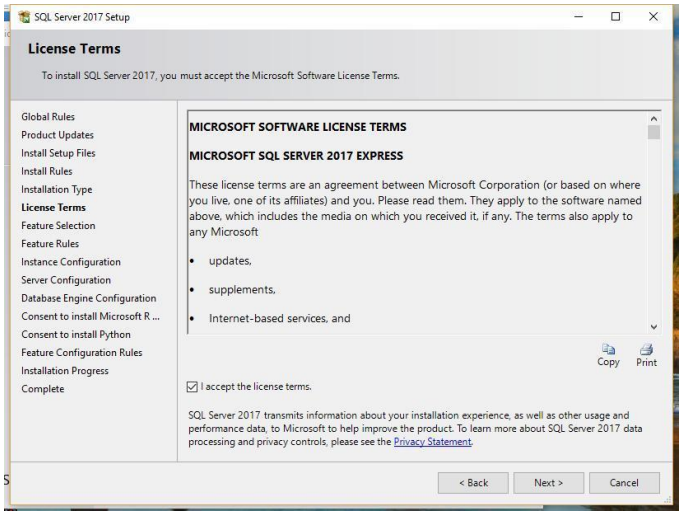
4. **After the installation package is downloaded, select New SQL Server stand-alone installation, as shown below**

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

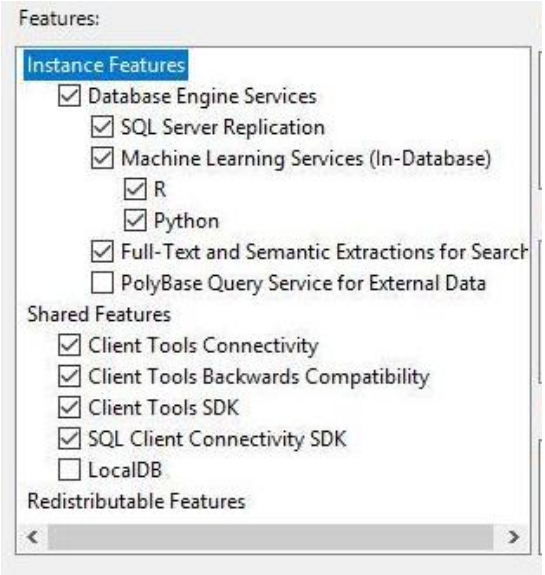
Develop Course Management System Step by Step in .net core



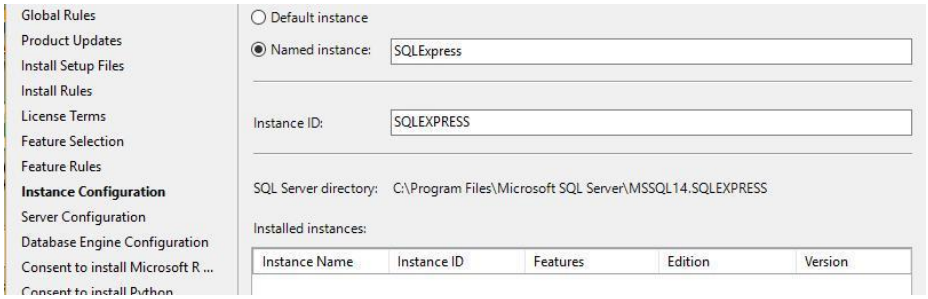
6. **You should now see the license terms. Review these if you'd like, and click Accept**



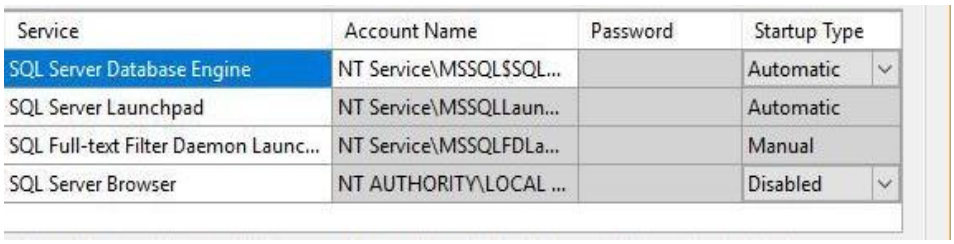
7. **You'll then be taken to the Feature Selection screen, where you can choose custom SQL Server 2017 features you would like to install.**



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

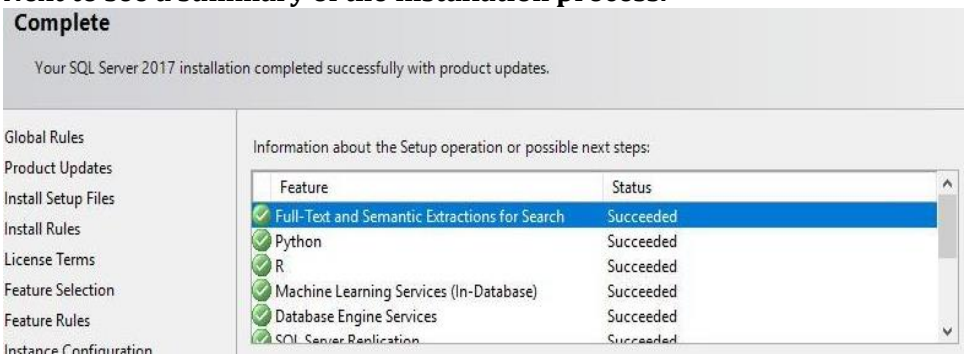


9. **Click Next. You'll be taken to the Server Configuration screen. You can leave these settings untouched.**



10. **Click Next. Select windows authentication mode and click next.**

11. **Click Next to see a summary of the installation process.**

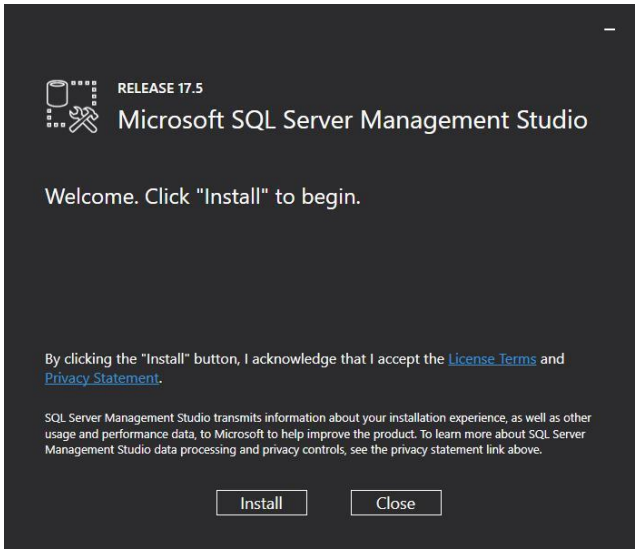


12. **Once the installation is complete, click Close to finish.**

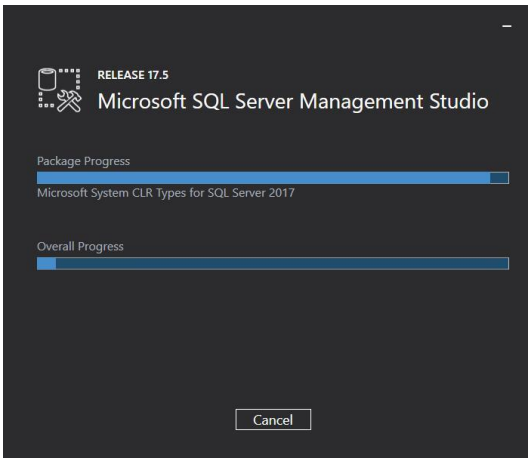
Develop Course Management System Step by Step in .net core

Install Microsoft SQL Server Management Studio

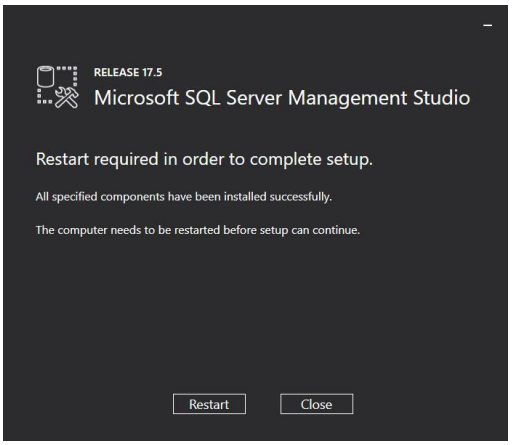
1. **Simply run through the steps and click the** Install **button at the end.**



2.

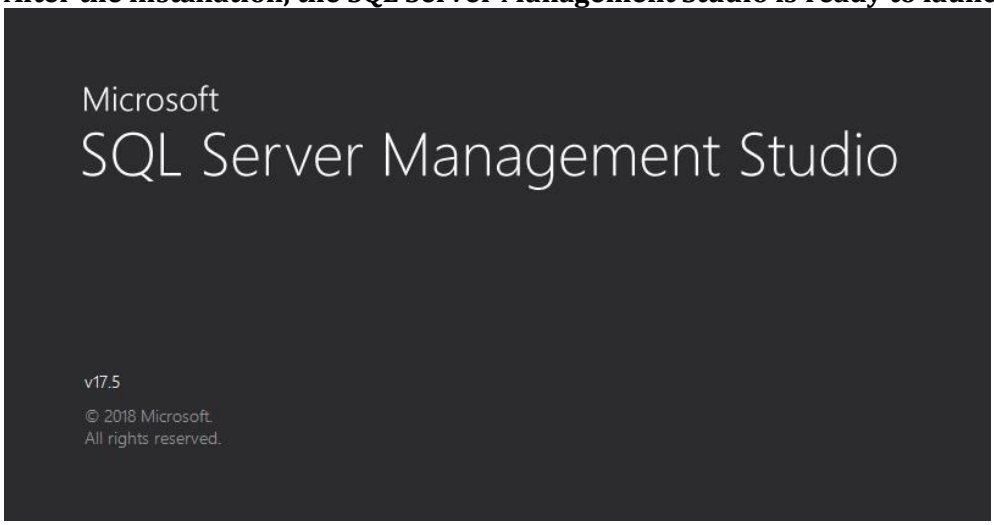


3.

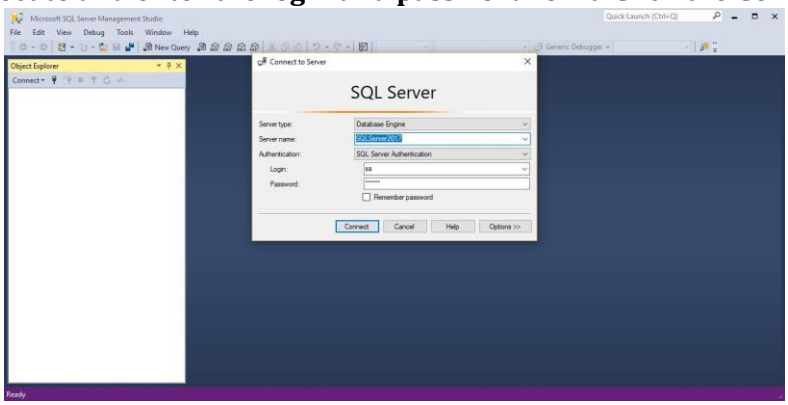


Develop Course Management System Step by Step in .net core

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



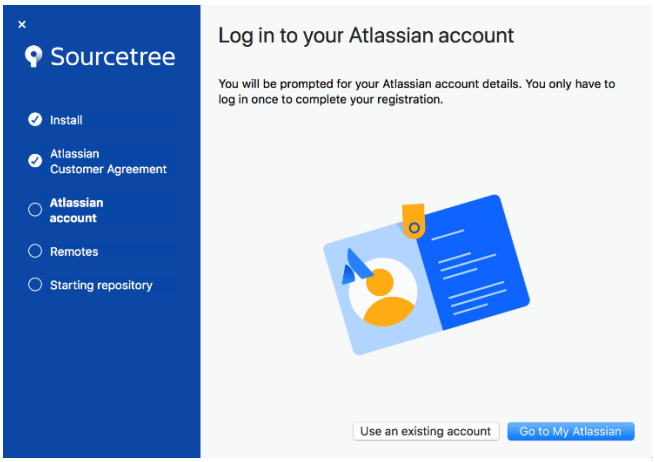
5. **First, you'll see the Connect to Server window. Select the name of the server you'd like to connect to and enter the login and password for it. Click the Connect button.**



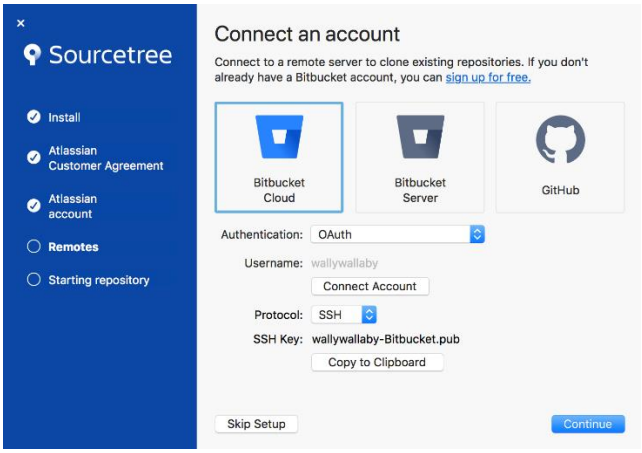
Develop Course Management System Step by Step in .net core

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 create a new account. 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 Set up an SSH key 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**.

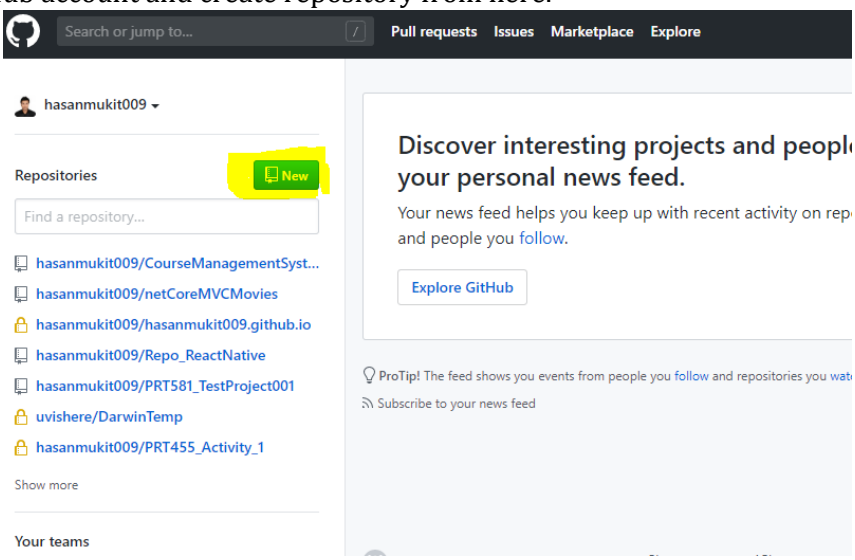
Develop Course Management System Step by Step in .net core

Download the sample project from GitHub

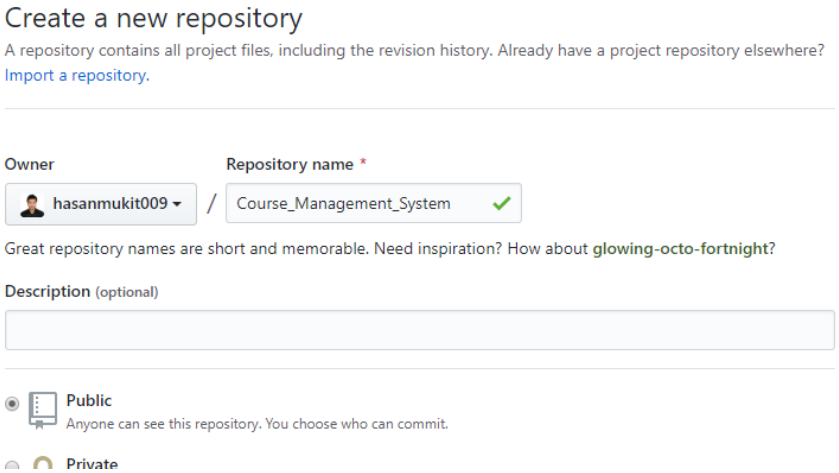
https://github.com/hasanmukit009/CourseManagementSystem

GitHub Setup:

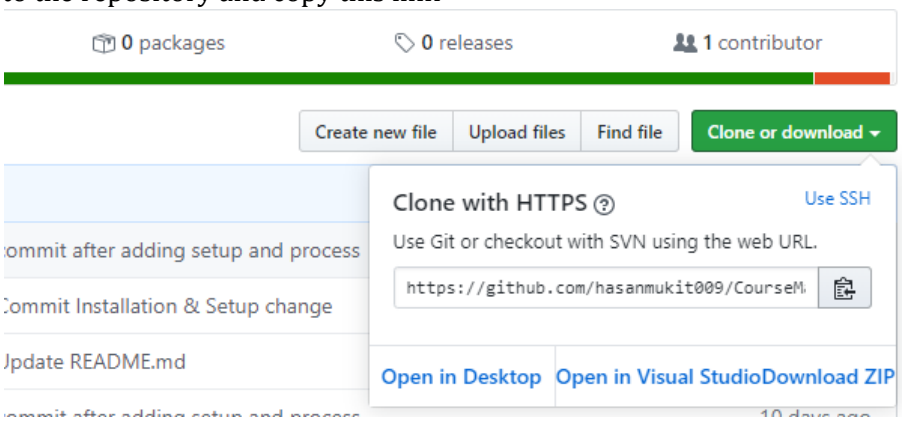
1. Go to https://github.com/ and sign up and open an account
2. Go to GitHub account and create repository from here.



3. Put repository name and create

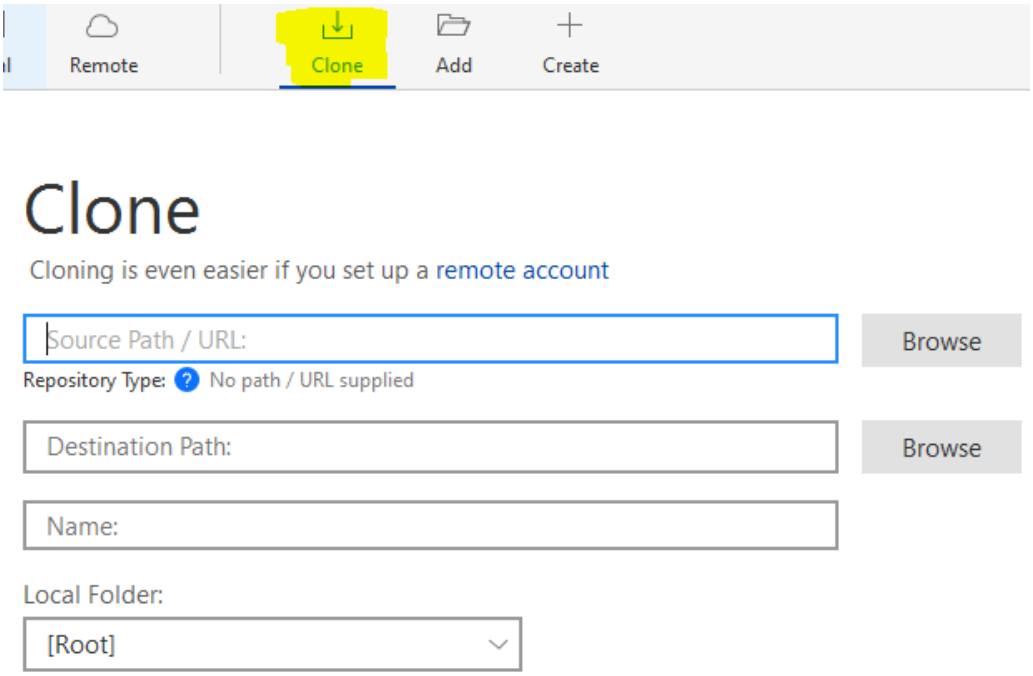


4. Now go to the repository and copy this link

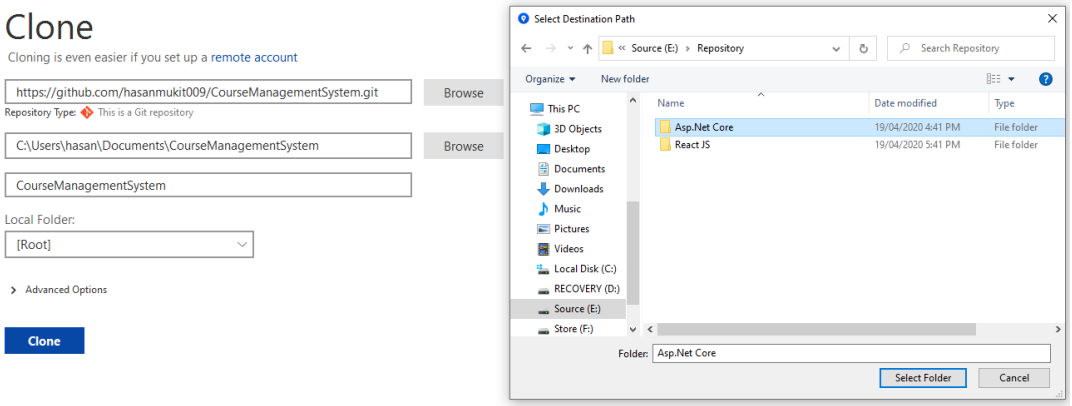


Develop Course Management System Step by Step in .net core

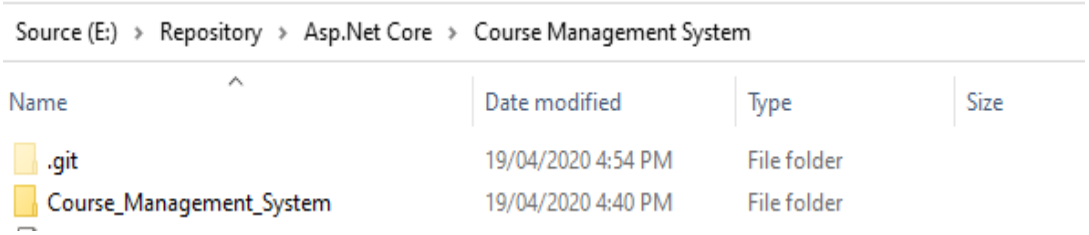
5. Open source tree and click clone



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



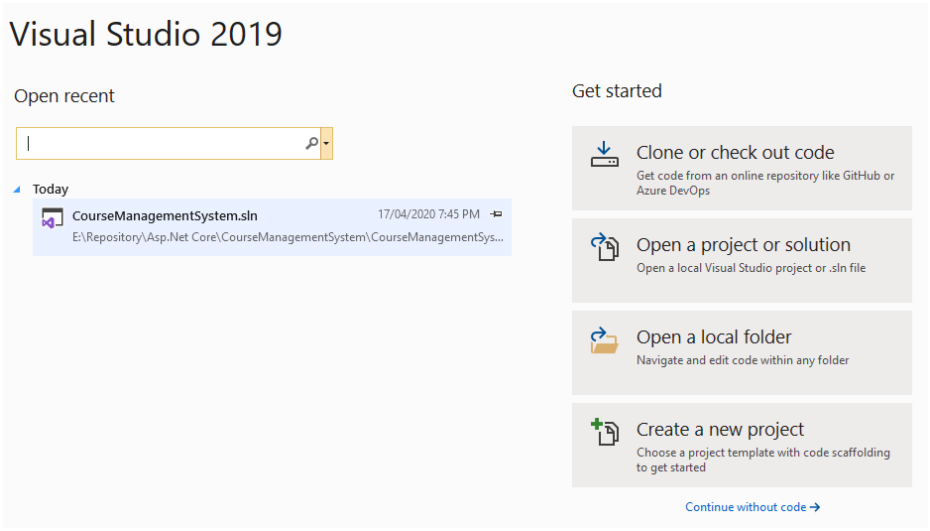
7. Now click clone and your GitHub repository and Local PC folder will be connected.



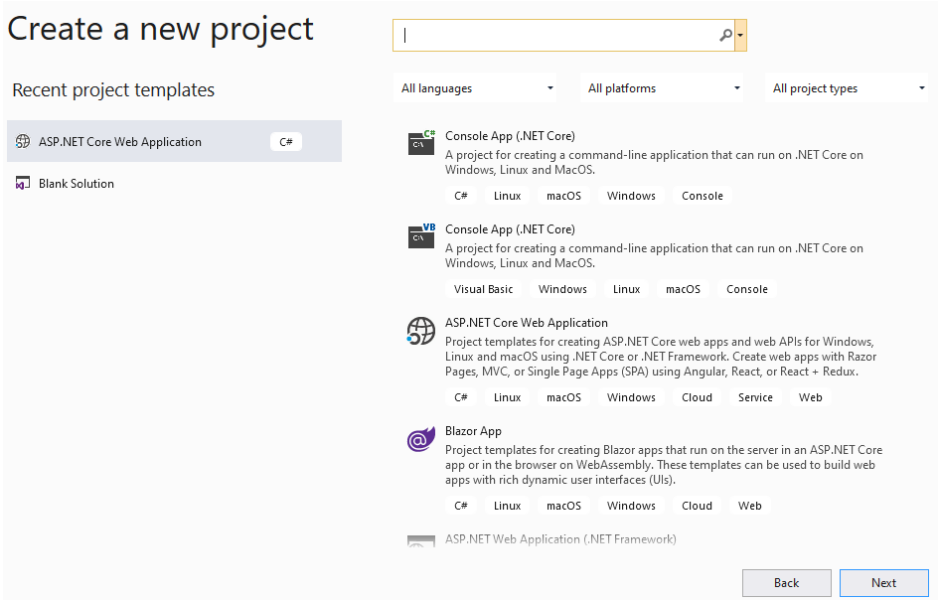
8. Now go to that folder.
9. Create visual studio project here in this folder.

Develop Course Management System Step by Step in .net core

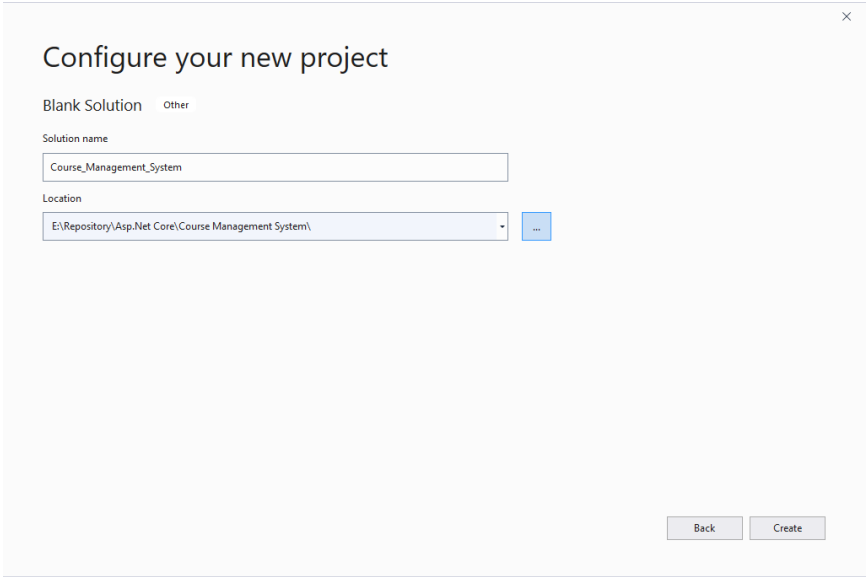
10. Open **Visual Studio 2019** and click **Create a new project**



11. Select **Blank Solution** and click next

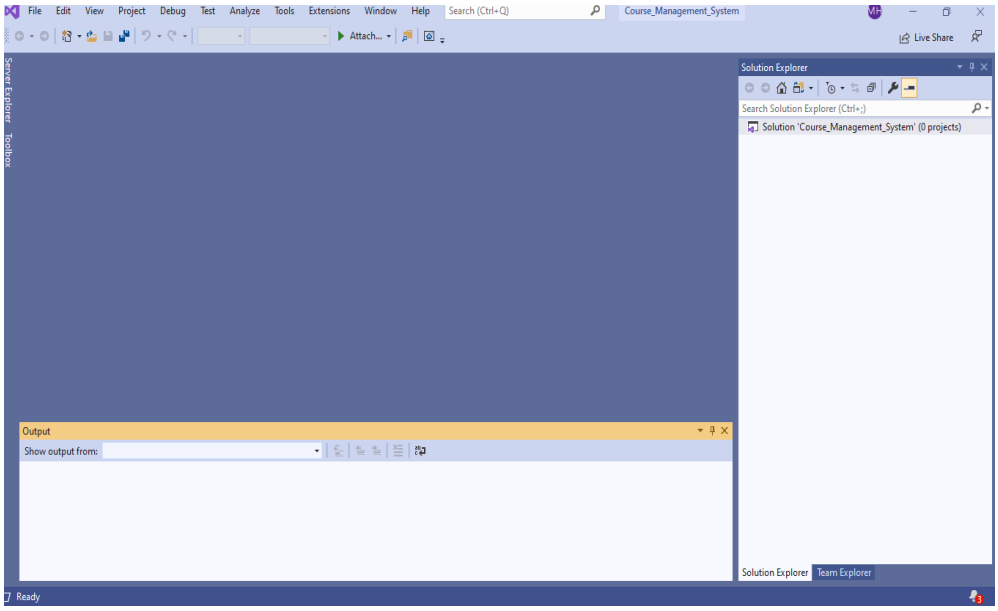


12. Write the solution name "**Course_Management_System**" and click **Create**.

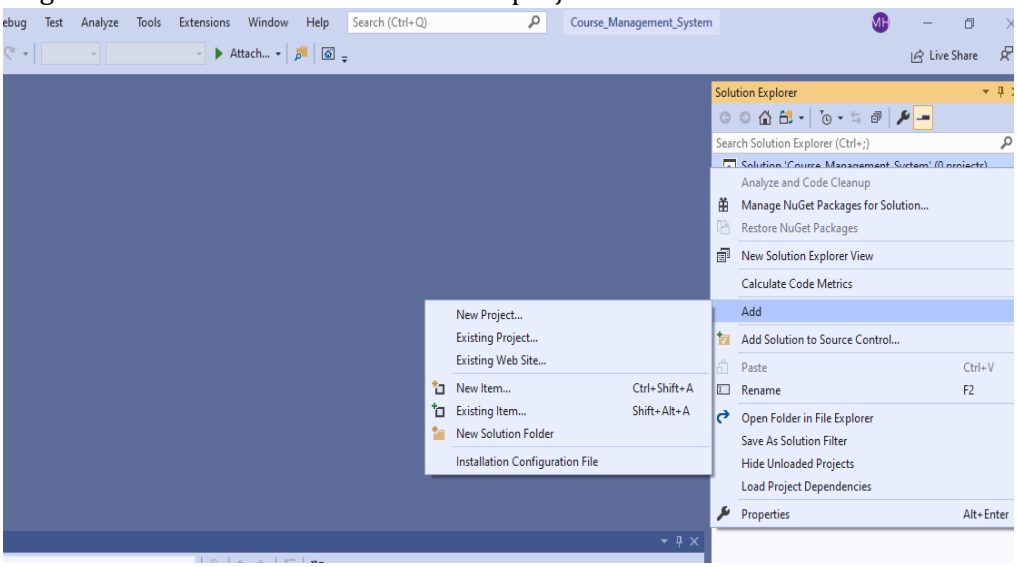


Develop Course Management System Step by Step in .net core

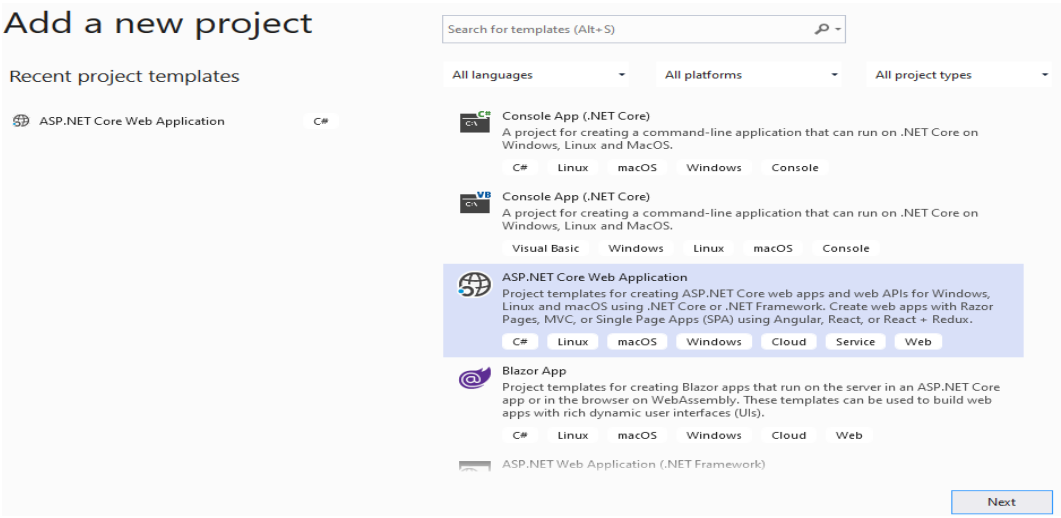
13. Now solution will be like this.



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

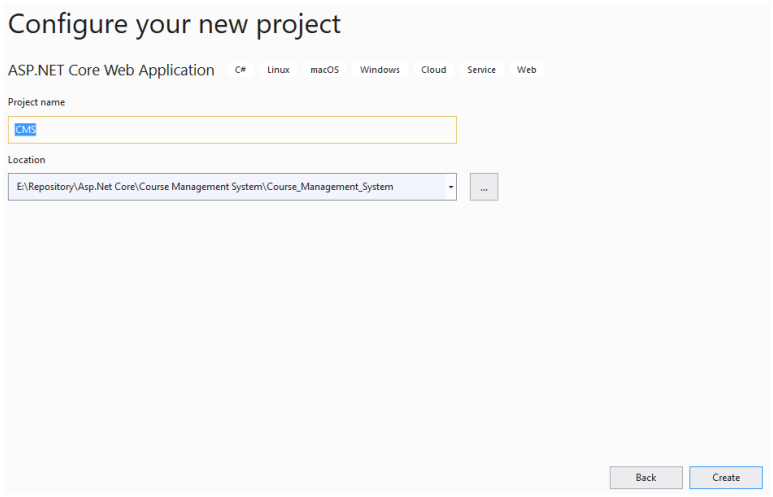


15. Select **ASP.Net core web application** and click next.

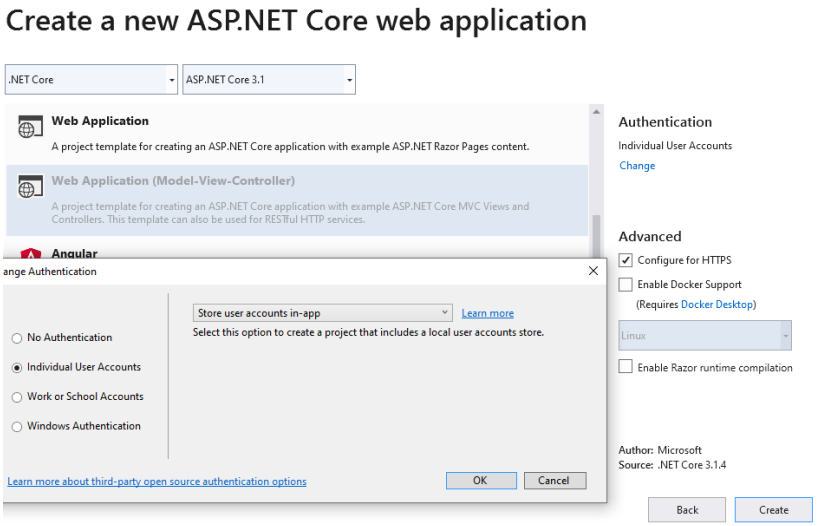


Develop Course Management System Step by Step in .net core

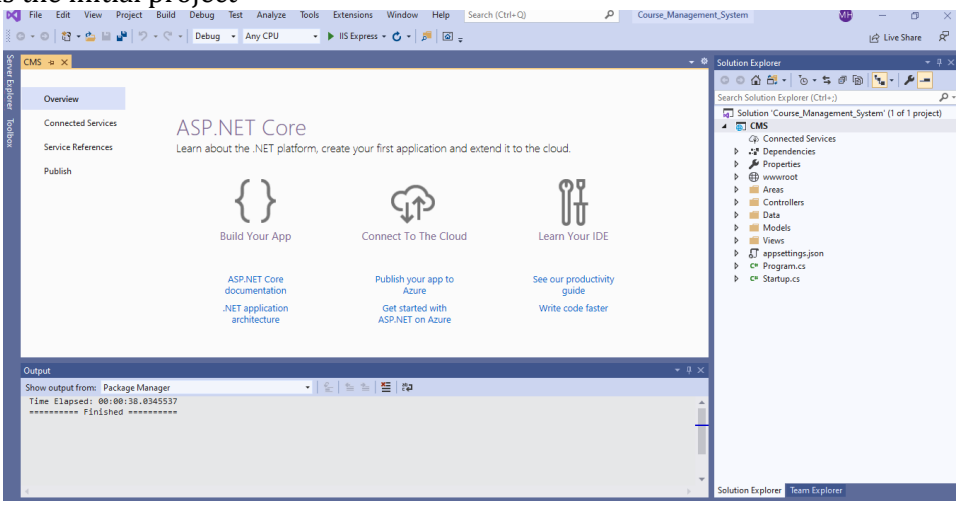
16. Give the **Project Name** and click create.



17. After creating Project select these things and click create



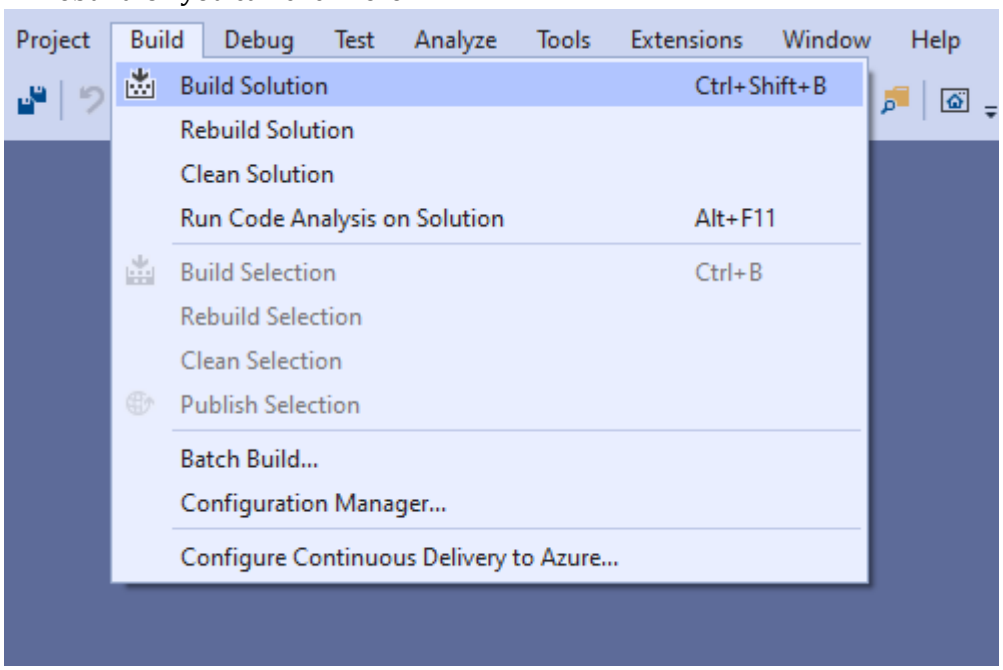
18. So, this the initial project



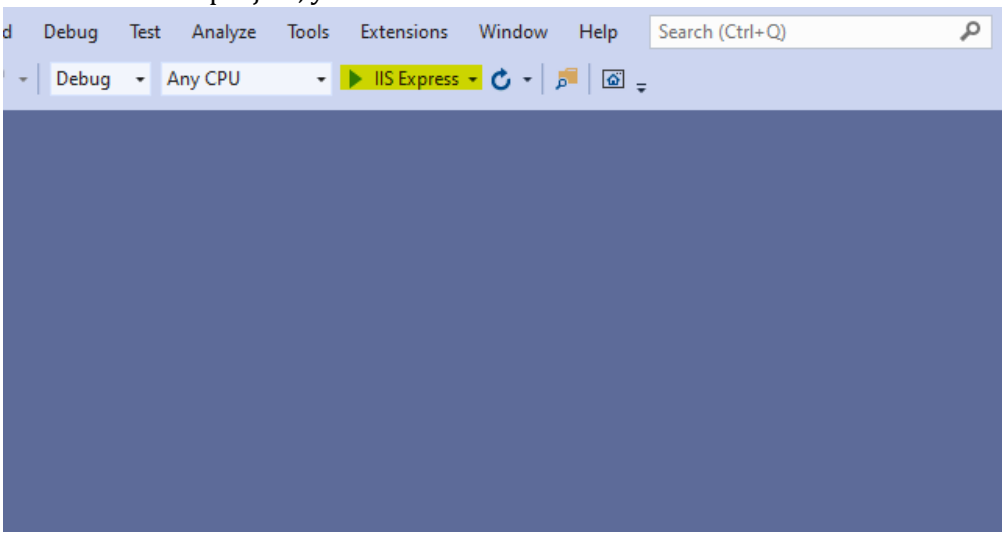
Develop Course Management System Step by Step in .net core

19. Build the project and Click run

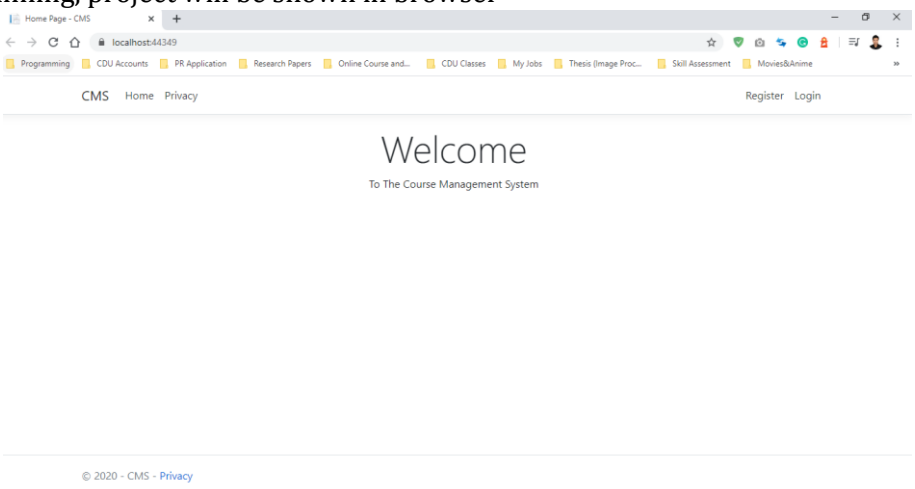
- To build a project you need to right click on the solution and click build or rebuild Or you can click here



- To run the project, you need to click here



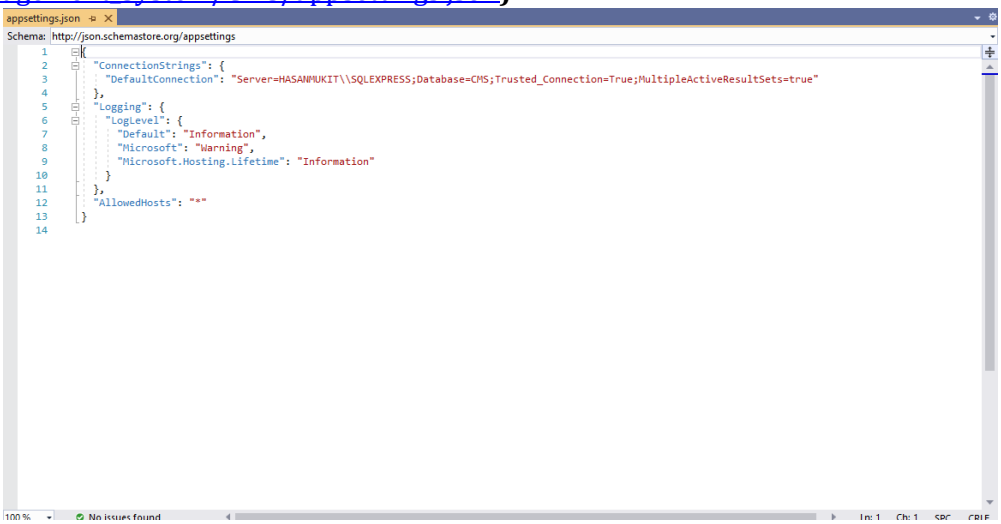
After running, project will be shown in browser



Develop Course Management System Step by Step in .net core

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**)**

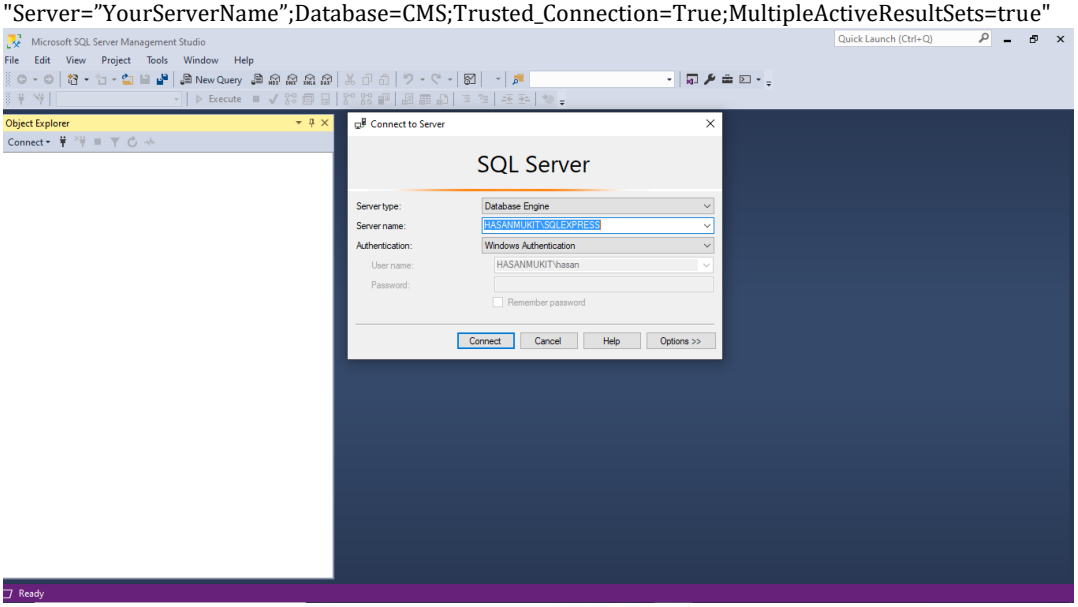


***

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

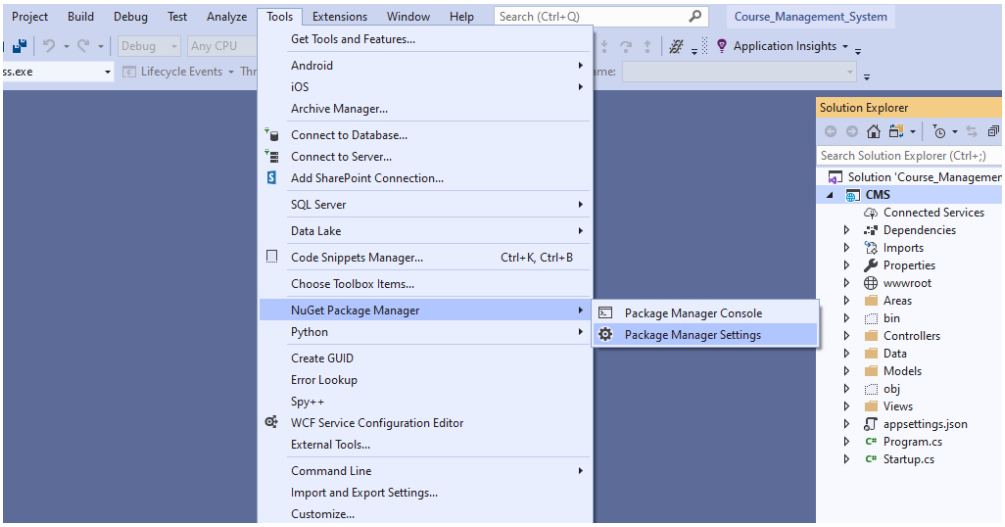
You need change the server name HASANMUKIT to 'YourServerName'
To find your server name you need to open "Microsoft SQL Server Management Studio 2018" and you will get the server name from there.

DefaultConnection":
"Server="YourServerName";Database=CMS;Trusted_Connection=True;MultipleActiveResultSets=true"

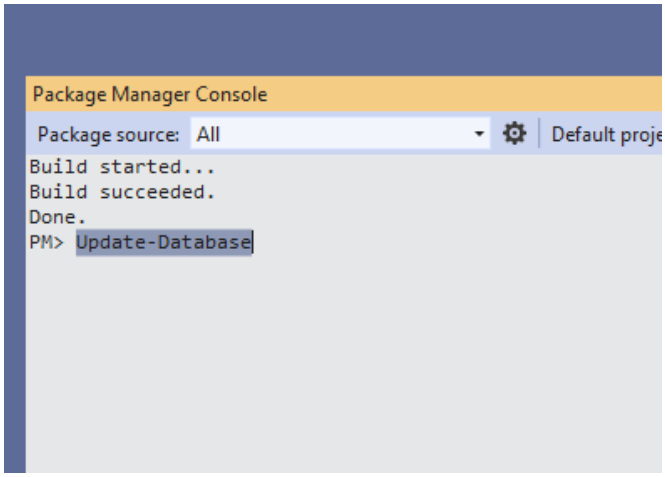


21. Now go to the visual studio and click **Package Manager Console**

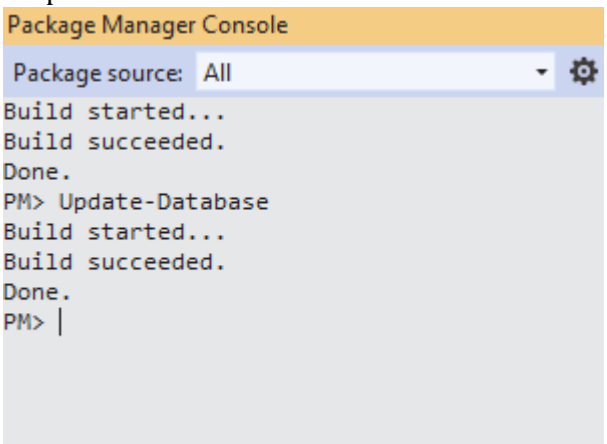
Develop Course Management System Step by Step in .net core



22. Write "update-database"

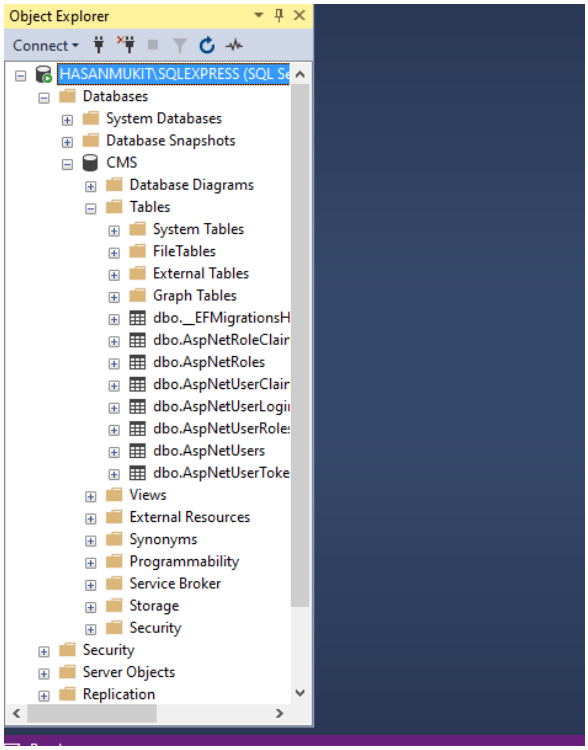


23. Then database will be updated

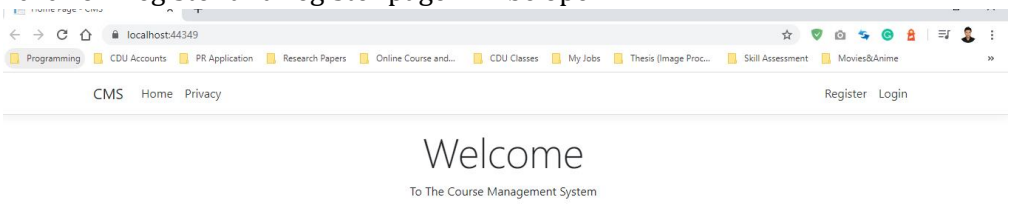


24. When you go to **SQL SERVER MANAGEMENT STUDIO**, you will see the database CMS has been created.

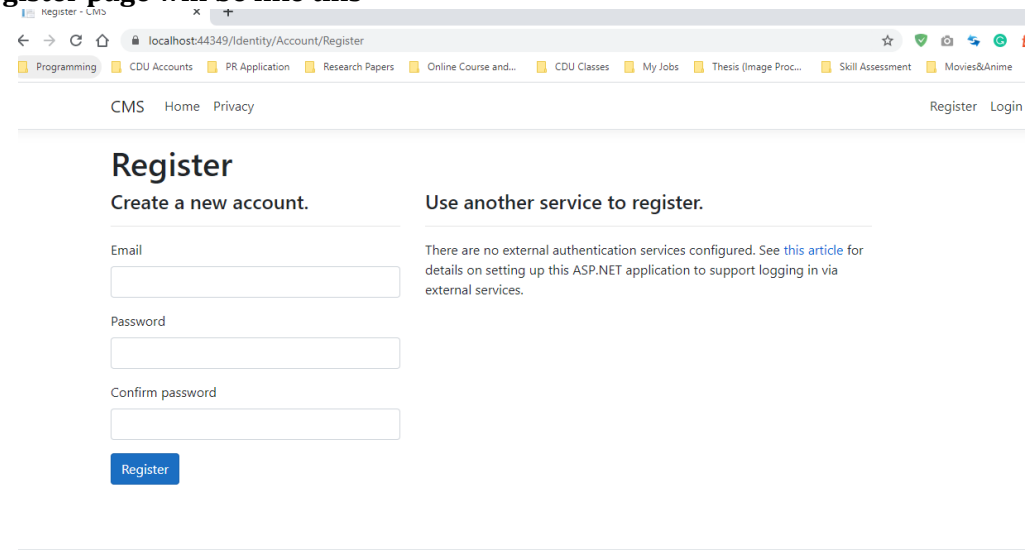
Develop Course Management System Step by Step in .net core



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

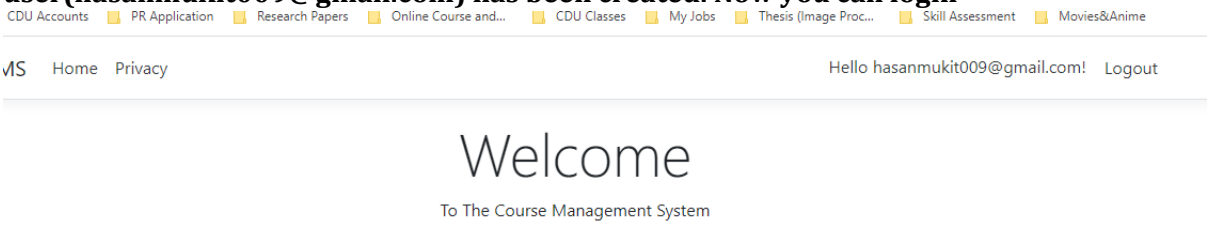


26. Register page will be like this

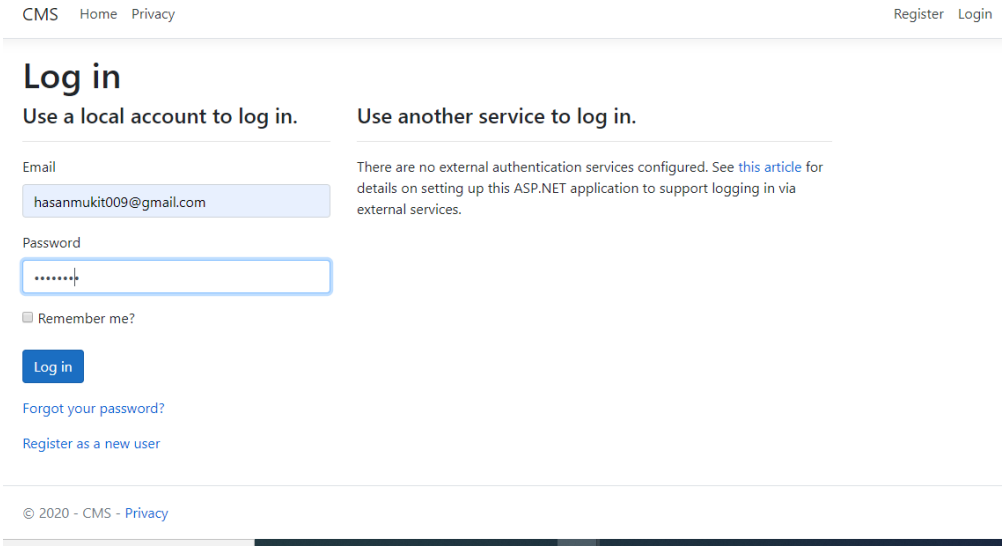


Develop Course Management System Step by Step in .net core

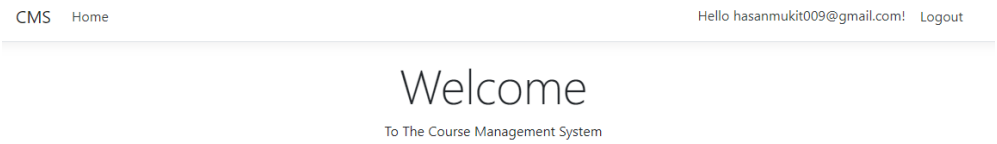
27. Give all the information and click register and a new user(hasanmukit009@gmail.com) has been created. Now you can login



28. Click log out and then click login

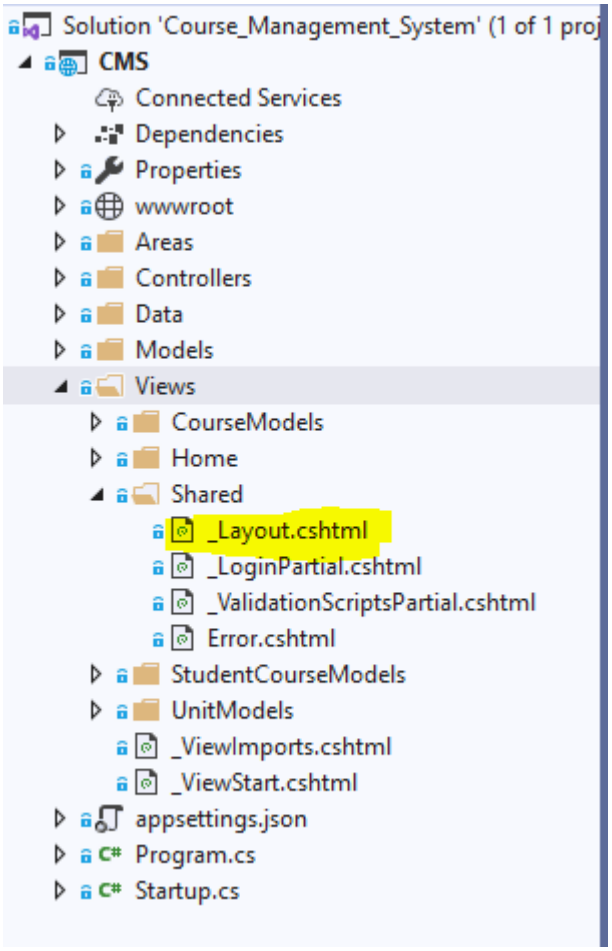


29. This page will open



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

Develop Course Management System Step by Step in .net core

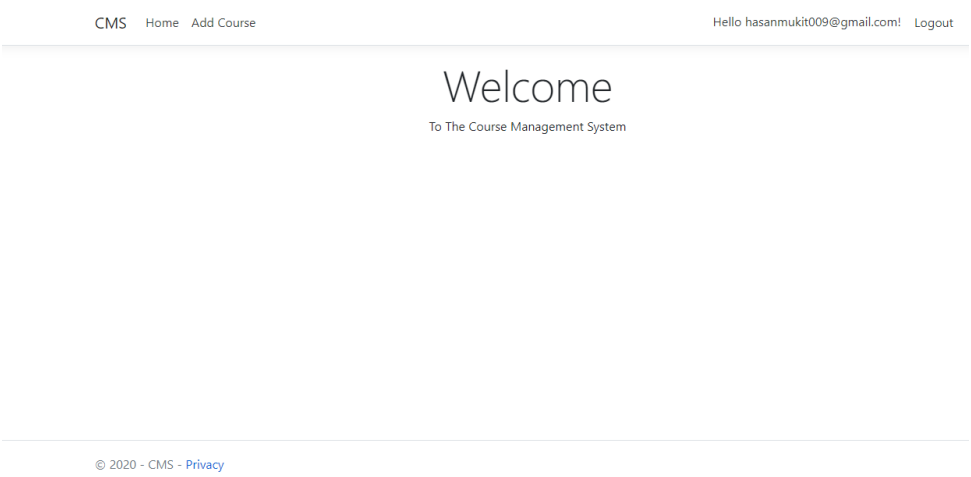


Copy the code from this link
(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course_Management_System/CMS/Views/Shared/_Layout.cshtml**)**
Add this code and run

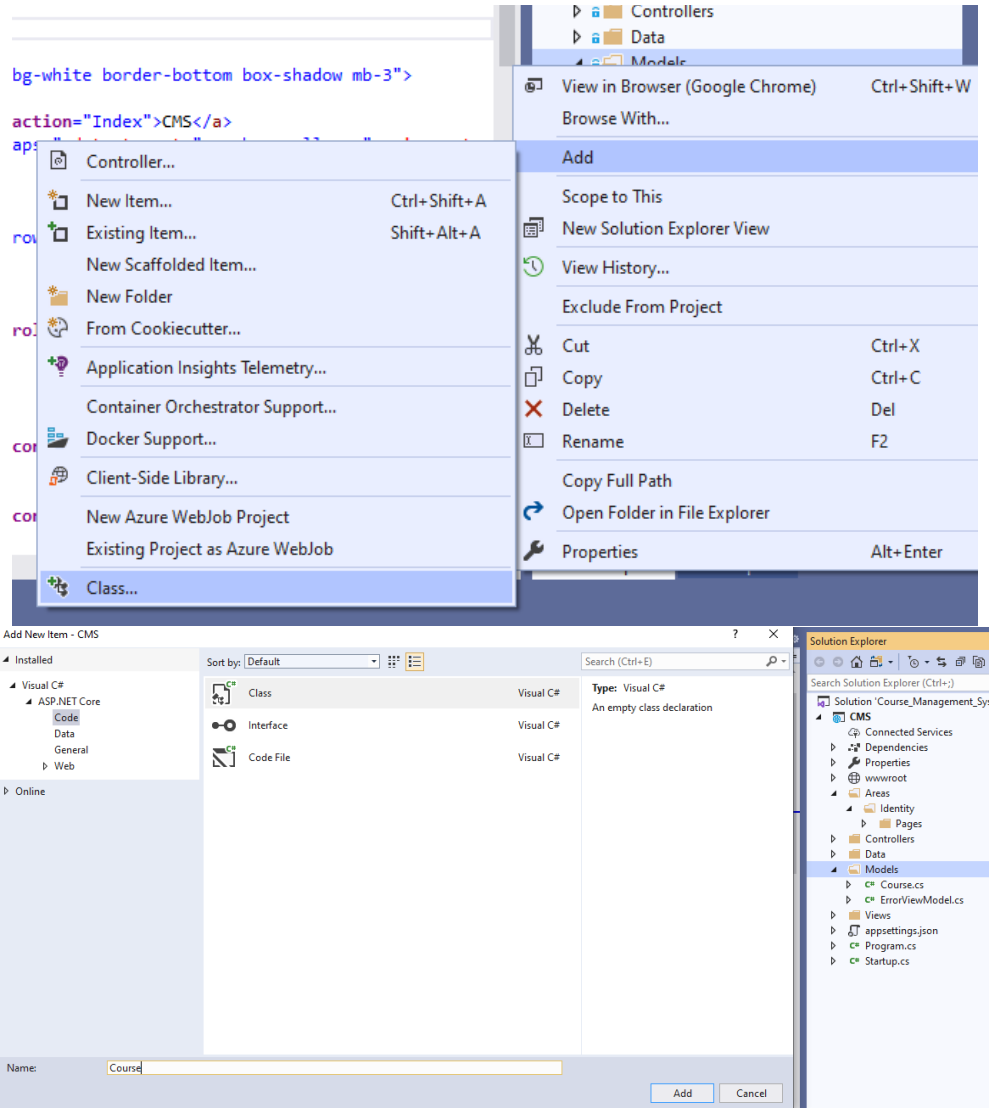
```
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>@ViewData["Title"] - CMS</title>
    <link rel="stylesheet" href="~/lib/bootstrap/dist/css/bootstrap.min.css" />
    <link rel="stylesheet" href="~/css/site.css" />
</head>
<body>
    <header>
        <nav class="navbar navbar-expand-sm navbar-toggleable-sm navbar-light bg-white border-bottom box-shadow mb-3">
            <div class="container">
                <a class="navbar-brand" asp-area="" asp-controller="Home" asp-action="Index">CMS</a>
                <button class="navbar-toggler" type="button" data-toggle="collapse" data-target=".navbar-collapse" aria-con
                        aria-expanded="false" aria-label="Toggle navigation">
                    <span class="navbar-toggler-icon"></span>
                </button>
                <div class="navbar-collapse collapse d-sm-inline-flex flex-sm-row-reverse">
                    <partial name="_LoginPartial" />
                    <ul class="navbar-nav flex-grow-1">
                        <li class="nav-item">
                            <a class="nav-link text-dark" asp-area="" asp-controller="Home" asp-action="Index">Home</a>
                        </li>
                        <li class="nav-item">
                            <a class="nav-link text-dark" asp-area="" asp-controller="Course" asp-action="Index">Add Course
                        </li>
                    </ul>
                </div>
            </div>
        </nav>
    </header>
    <div class="container">
        <main role="main" class="pb-3">
            @RenderBody()
        </main>
    </div>
```

31. Now click run and this will open

Develop Course Management System Step by Step in .net core



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



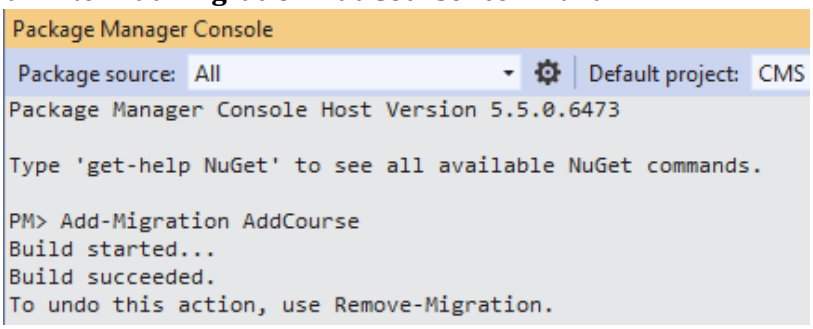
33. Add these codes in **CourseModel.cs** Class

Copy code from this link (https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course_Management_System/CMS/Models/CourseModel.cs)

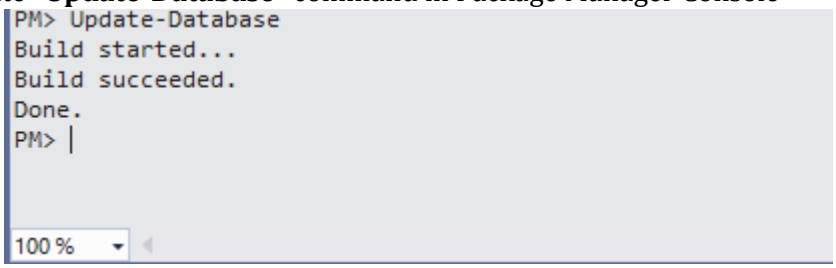
Develop Course Management System Step by Step in .net core

```
namespace 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

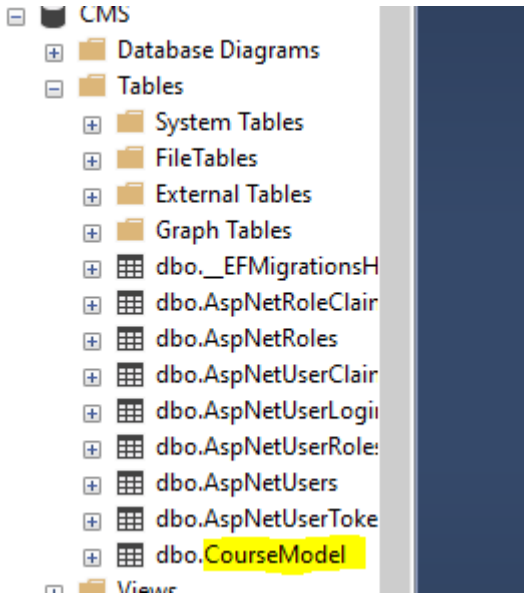


35. Now execute **"Update-Database"** command in Package Manager Console

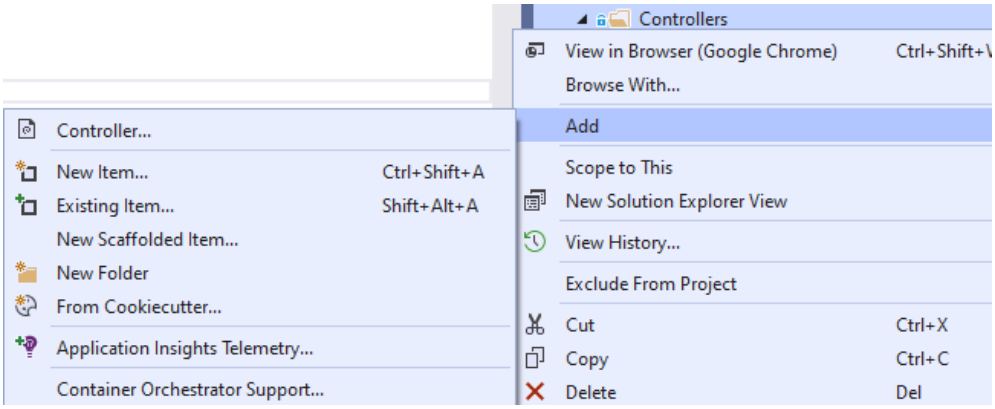


36. Now open **SQL SERVER MANAGEMENT STUDIO** and you will see the new table **"CourseModel"** has been added.

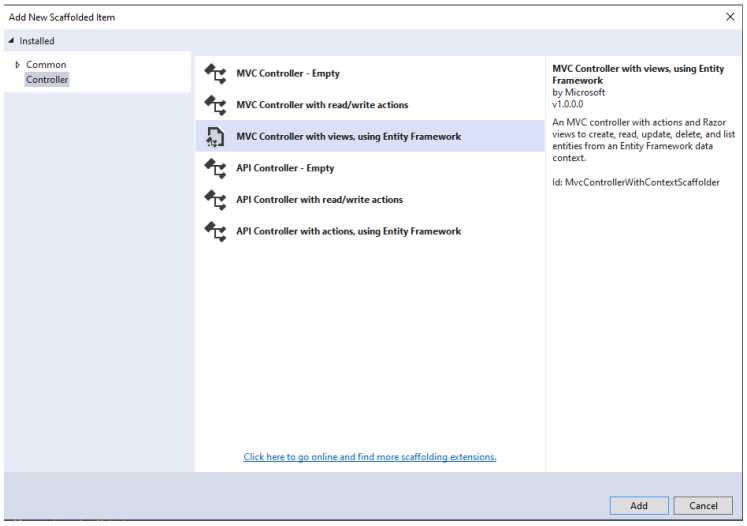
Develop Course Management System Step by Step in .net core



37. Now Add controller in Controller folder

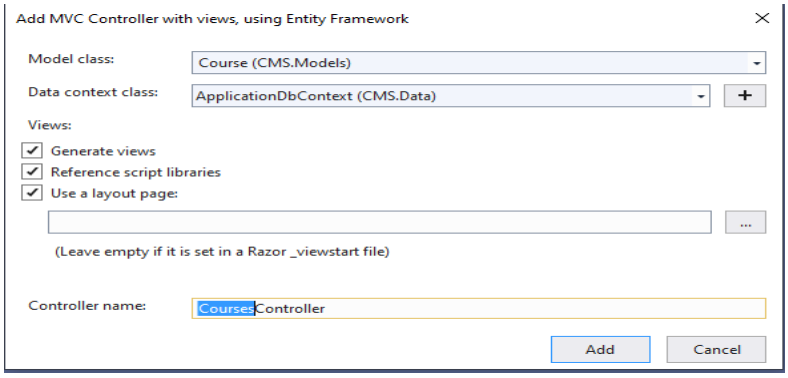


Select this and click add

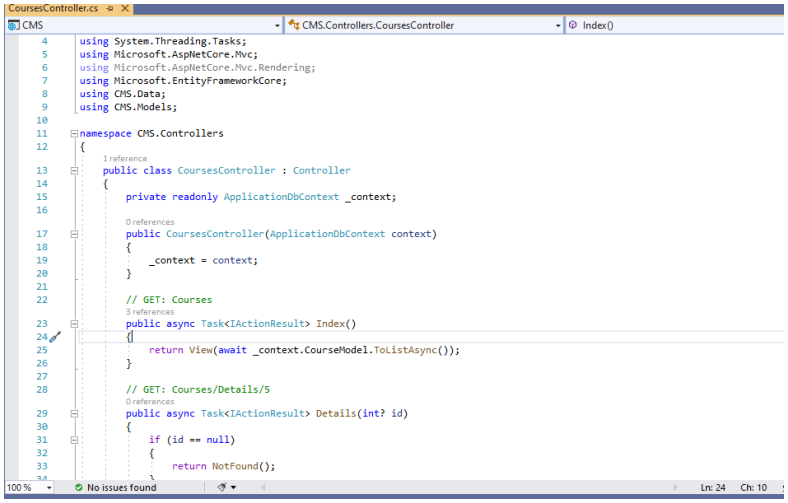


38. Give all this information and click Add

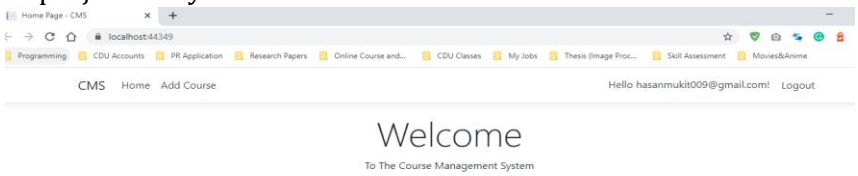
Develop Course Management System Step by Step in .net core



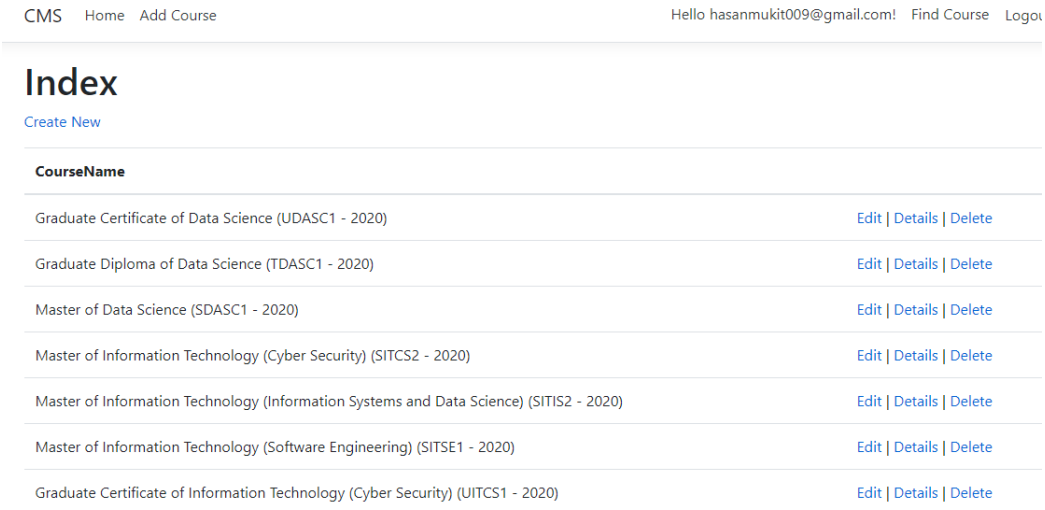
39. CourseModelsController.cs controller has been added, and it will be like this



40. Now run the project and you will see this

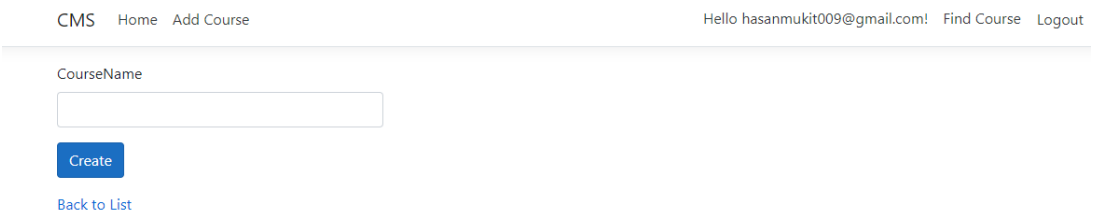


41. When you click Add course it will be shown like this and then click **Create New**



Develop Course Management System Step by Step in .net core

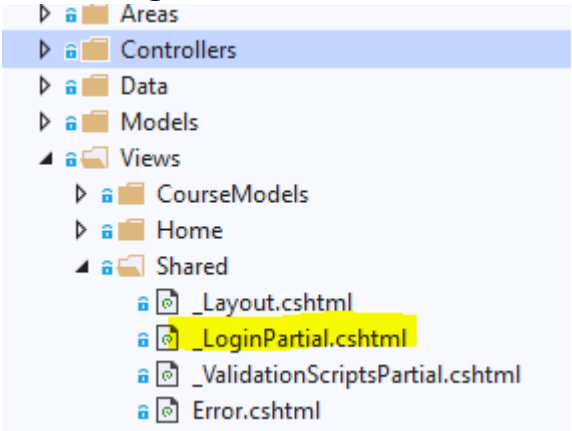
42. This page will open and write Course Name in the text box and click **Create**



43. New course will be added to the list

44. You can **Edit** and **Delete** and show **Details** from here

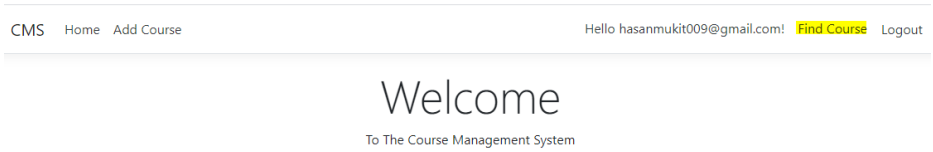
45. Now add this piece of code in **_LoginPartial.cshtml**



Copy the code from this link (https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course_Management_System/CMS/Views/Shared/_LoginPartial.cshtml**)**

Develop Course Management System Step by Step in .net core

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
                0 references
154             public async Task<IActionResult> FindCourse()
155             {
156                 return View();
157             }
158         }
159     }
160
```

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

49. Add this code to **_Layout.cshtml**

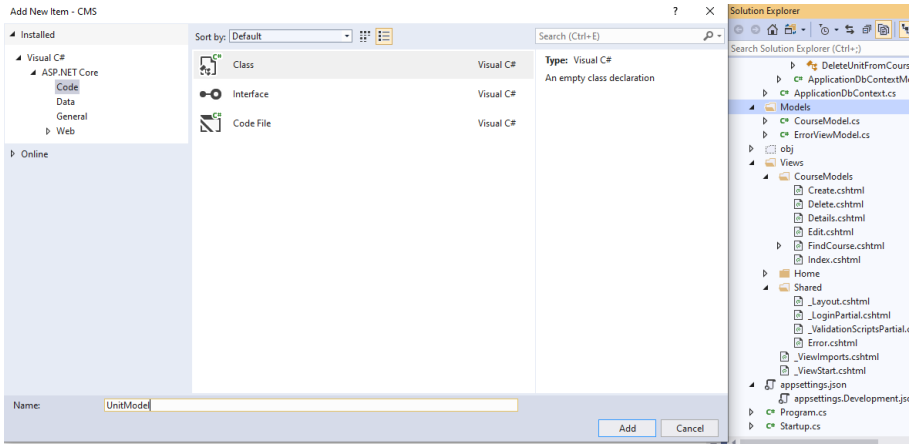
Copy code from this link

(https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course_Management_System/CMS/Views/Shared/_Layout.cshtml**)**

```
_Layout.cshtml
 7   ink rel="stylesheet" href="~/lib/bootstrap/dist/css/bootstrap.min.css" />
 8   ink rel="stylesheet" href="~/css/site.css" />
 9   >
10
11  eader>
12      <nav class="navbar navbar-expand-sm navbar-toggleable-sm navbar-light bg-white border-bottom box-shadow mb-3">
13          <div class="container">
14              <a class="navbar-brand" asp-area="" asp-controller="Home" asp-action="Index">CMS</a>
15              <button class="navbar-toggler" type="button" data-toggle="collapse" data-target=".navbar-collapse" aria-controls="navbar
16                      aria-expanded="false" aria-label="Toggle navigation">
17                  <span class="navbar-toggler-icon"></span>
18              </button>
19              <div class="navbar-collapse collapse d-sm-inline-flex flex-sm-row-reverse">
20                  <partial name="_LoginPartial" />
21                  <ul class="navbar-nav flex-grow-1">
22                      <li class="nav-item">
23                          <a class="nav-link text-dark" asp-area="" asp-controller="Home" asp-action="Index">Home</a>
24                      </li>
25                      <li class="nav-item">
26                          <a class="nav-link text-dark" asp-area="" asp-controller="CourseModels" asp-action="Index">Add Course</a>
27                      </li>
28                      <li class="nav-item">
29                          <a class="nav-link text-dark" asp-area="" asp-controller="Unit" asp-action="Index">Add Unit</a>
30                      </li>
31                  </ul>
32              </div>
33          </div>
34      </nav>
35  header>
36  iv class="container">
37      <main role="main" class="pb-3">
38          @RenderBody()
39      </main>
40  div>
```

Develop Course Management System Step by Step in .net core

50. Add **UnitModel.cs** to Model folder



51. Add these codes to **UnitModel.cs**

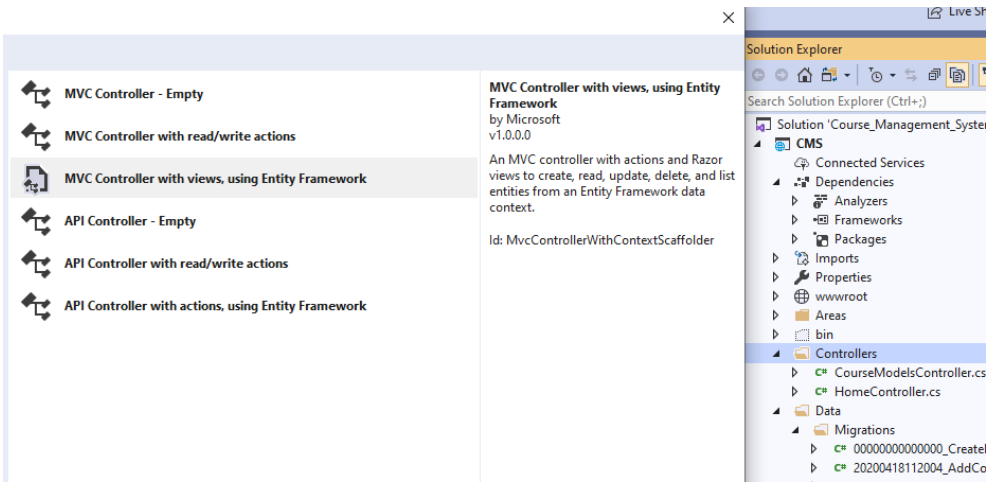
Copy code from this link (https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course_Management_System/CMS/Models/UnitModel.cs)

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

52. Now Run these commands in **Package Manager Console**

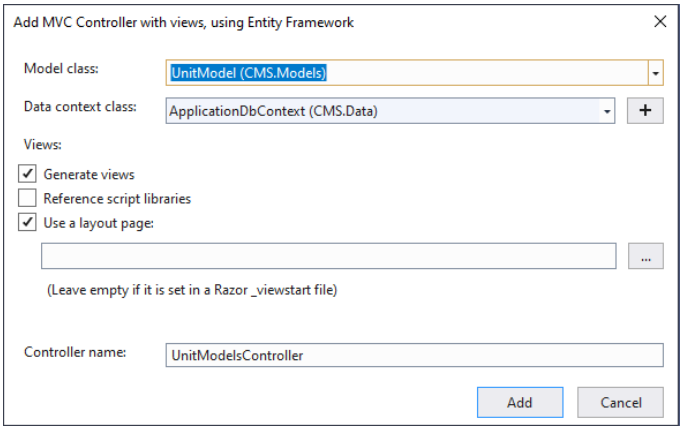
```
PM> Add-Migration AddUnitToDB
Build started...
Build succeeded.
To undo this action, use Remove-Migration.
PM> Update-Database AddUnitToDB
Build started...
Build succeeded.
Done.
PM>
```

53. Now add **UnitModelsController.cs** to the controller folder

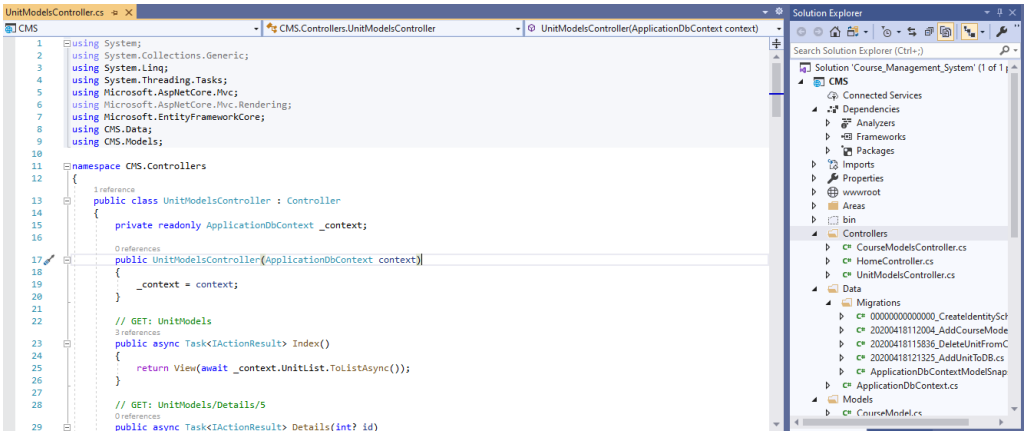


54. After selecting this information click **Add**

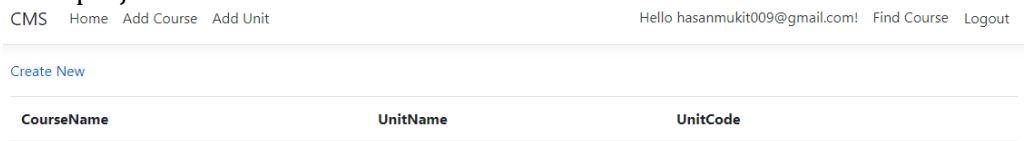
Develop Course Management System Step by Step in .net core



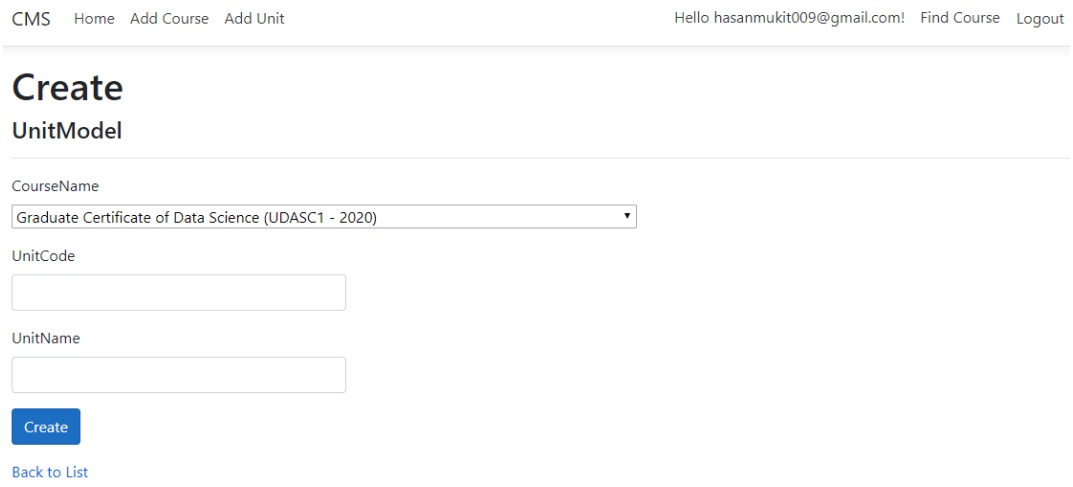
55. UnitModelsController has been added to the controller



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



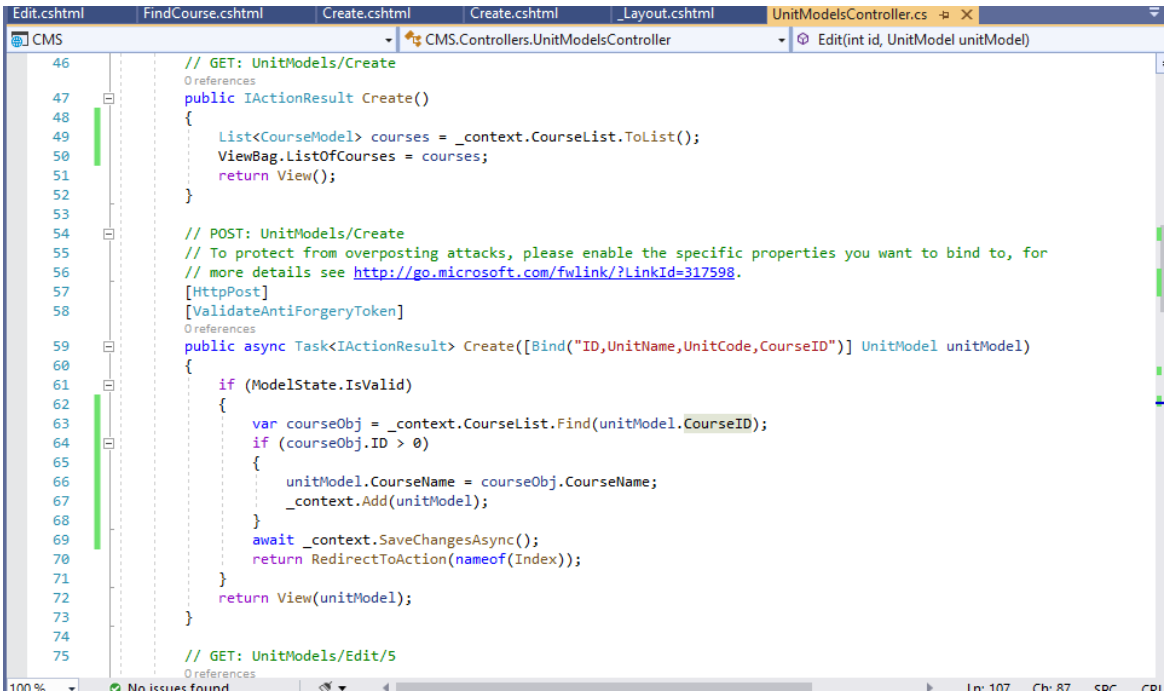
57. Click **Create New** and this page will be opened



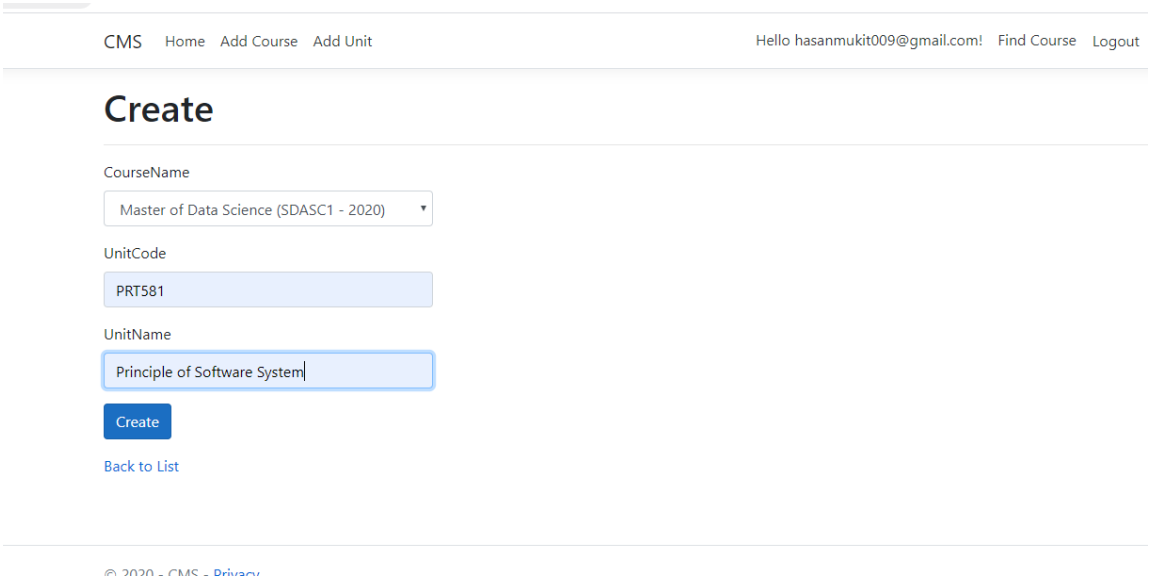
58. Now go to the **UnitModelsController.cs** and add these codes which will create Unit

Develop Course Management System Step by Step in .net core

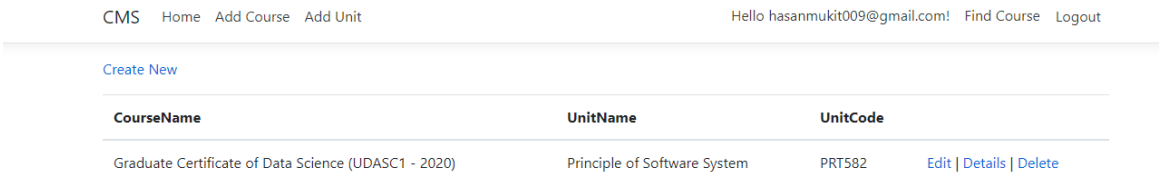
Copy code from this link and paste in **UnitModelsController.cs** (https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course_Management_System/CMS/Controllers/UnitModelsController.cs)



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.

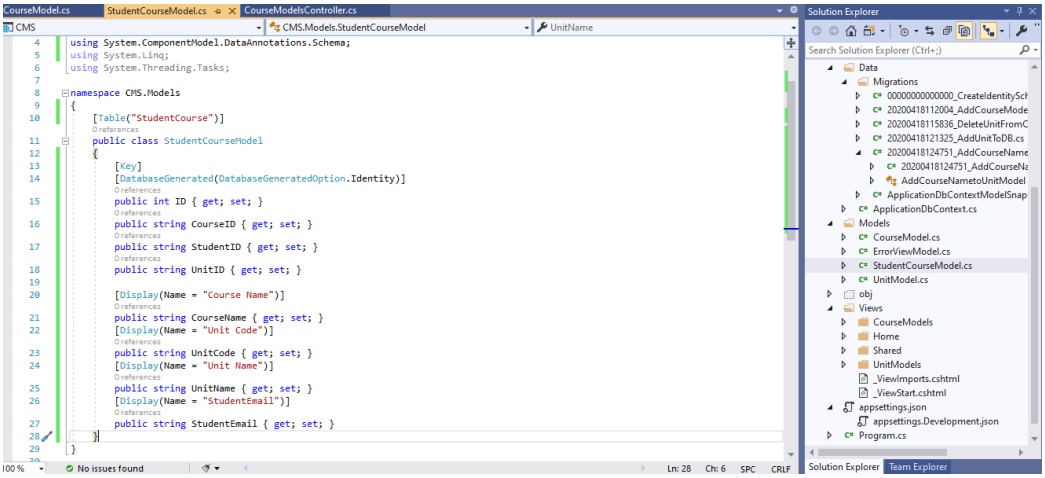


Develop Course Management System Step by Step in .net core

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

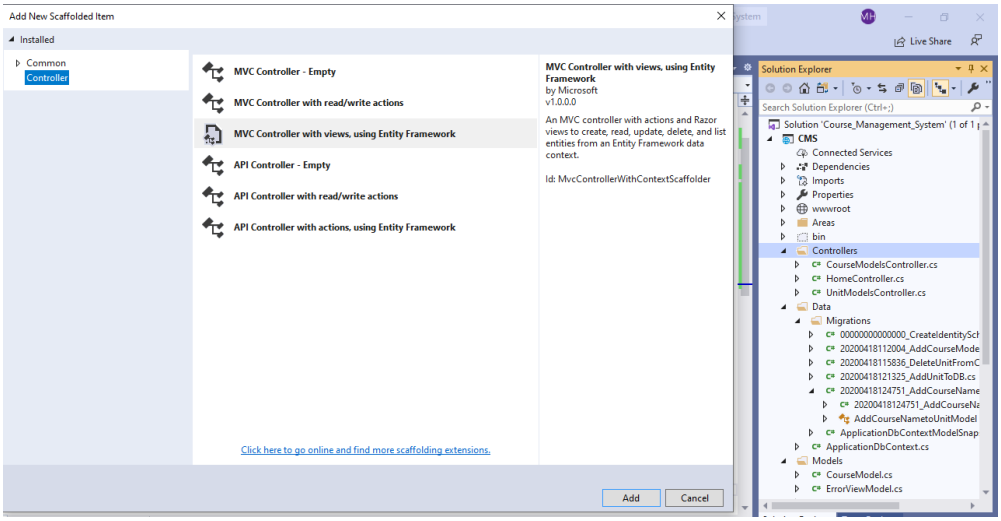
62. So first create a model: **StudentCourseModel.cs**
Copy code from this link **(**https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course_Management_System/CMS/Models/StudentCourseModel.cs**)** and **paste** the code in **StudentCourseModel.cs**



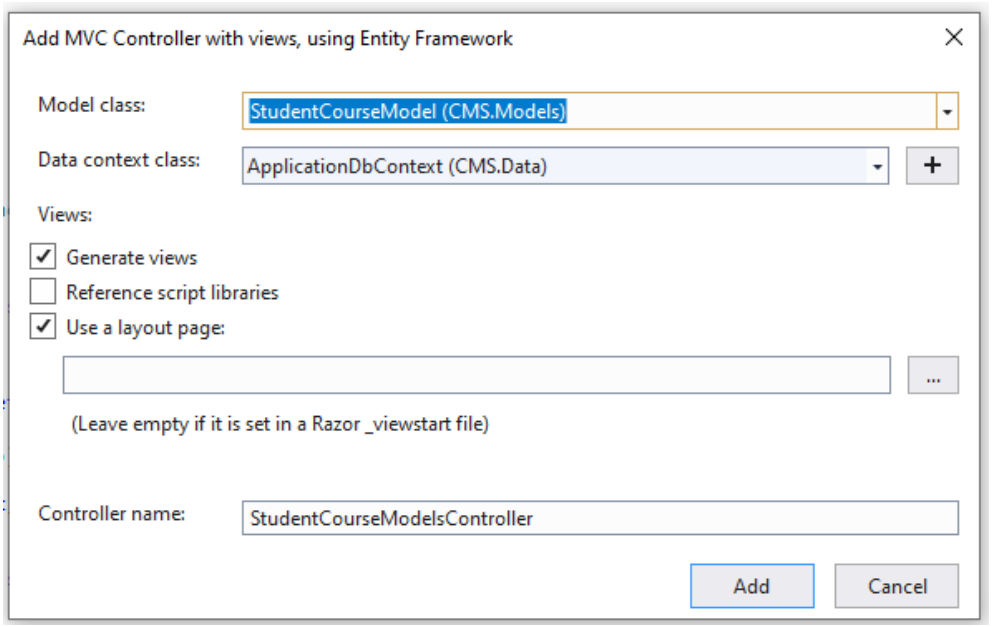
63. Now Run these commands in **Package Manager Console**

- **Add-Migration AddStudentCourseModelToDB**
- **Update-Database AddStudentCourseModelToDB**

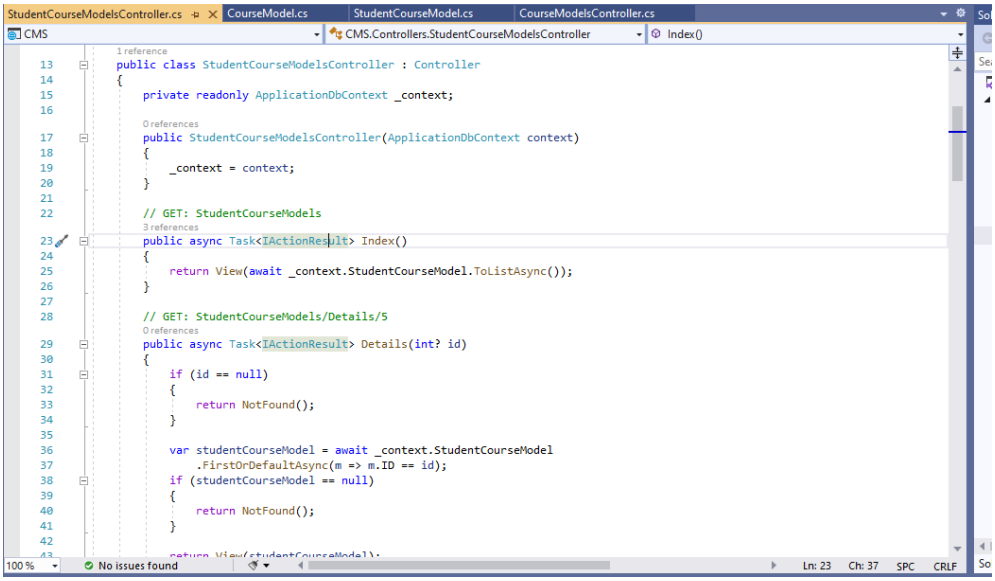
64. Now add **StudentCourseModelsController.cs** controller in Controller folder



Develop Course Management System Step by Step in .net core

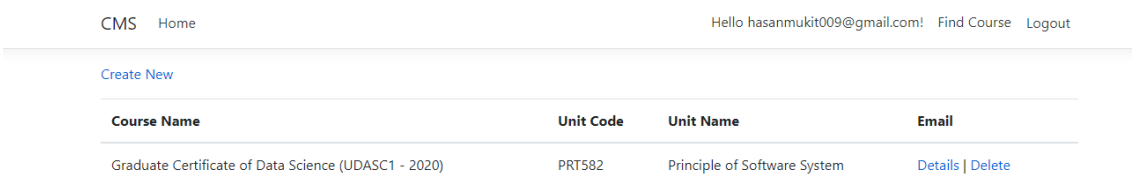


Copy code from this link (https://github.com/hasanmukit009/CourseManagementSystem/blob/master/Course_Management_System/CMS/Controllers/StudentCourseModelsController.cs) and paste it to **StudentCourseModelsController.cs**

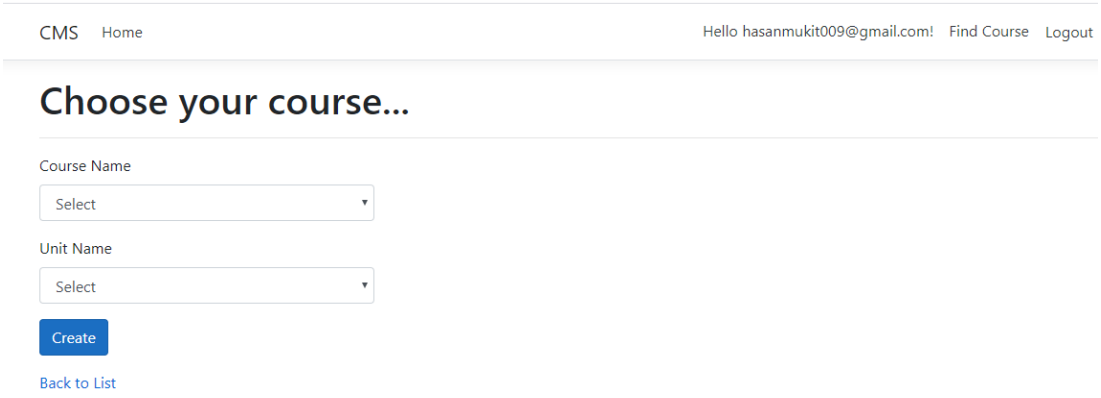


65. Now Add code to give functionality for Add, Edit and Delete and Details. This is the page when you click Find Course

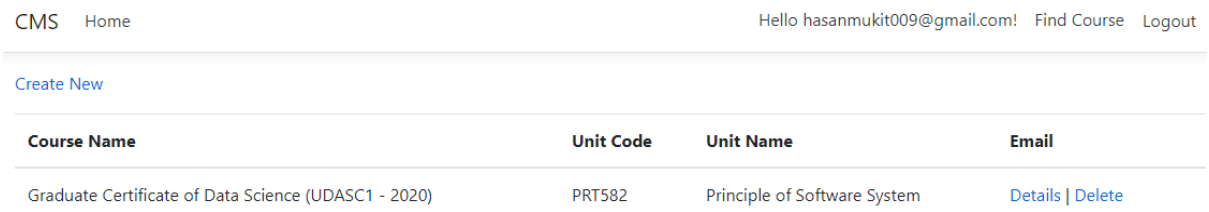
Develop Course Management System Step by Step in .net core



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

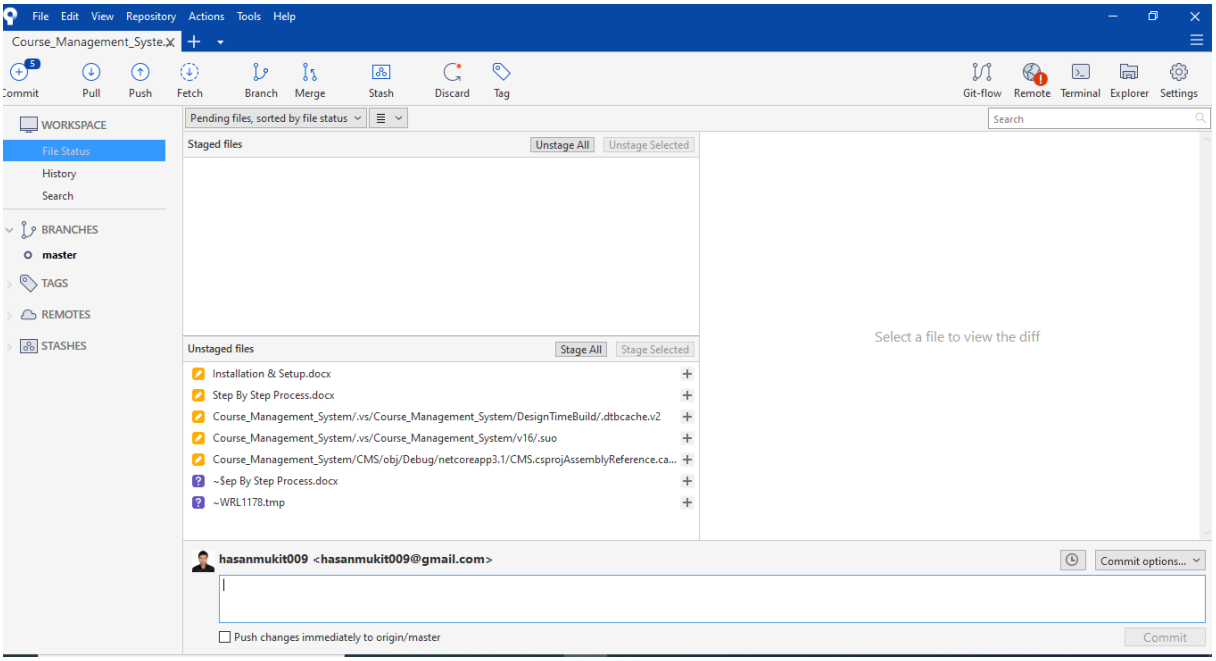


67. New course has been to the user's account.

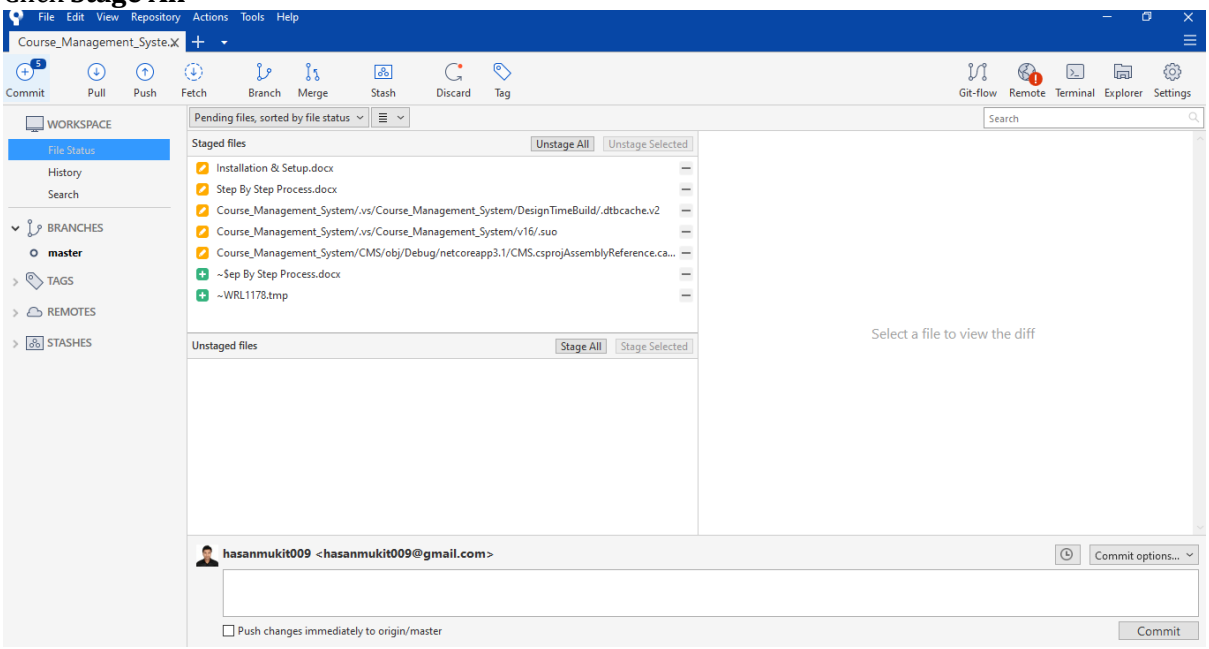


68. Now open Source Tree and you will see like this

Develop Course Management System Step by Step in .net core

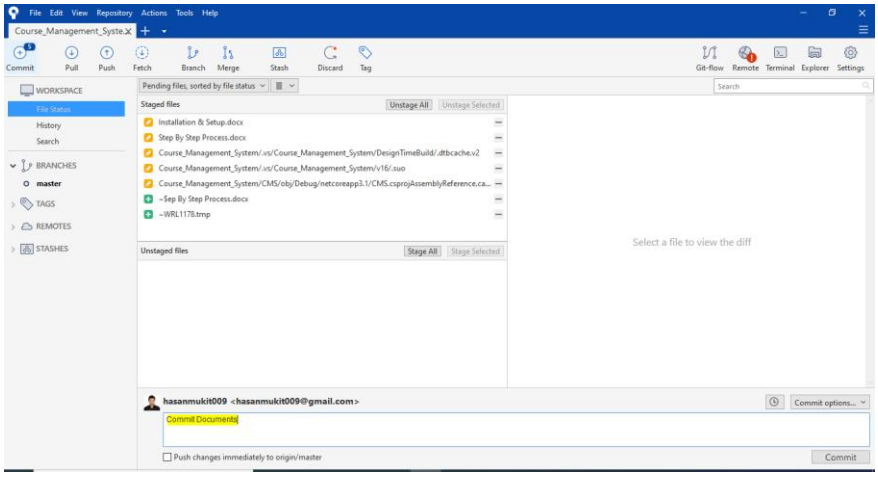


69. Click **Stage All**

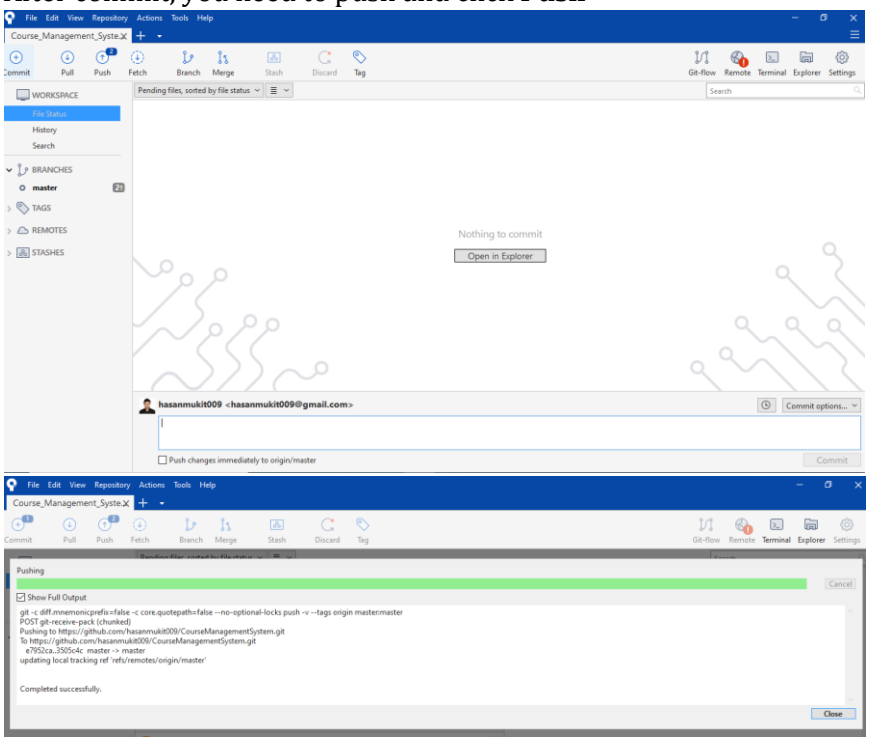


70. Write comment in the comment section and click commit

Develop Course Management System Step by Step in .net core



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



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