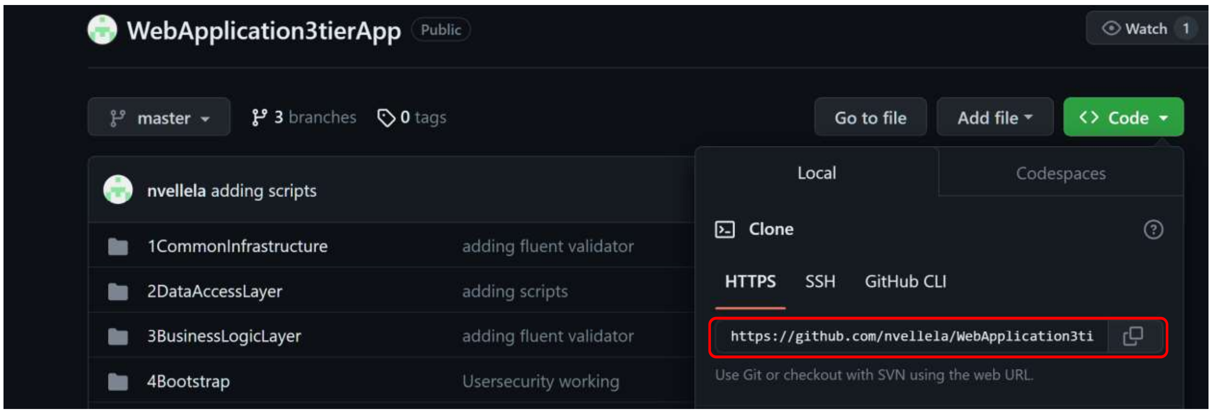
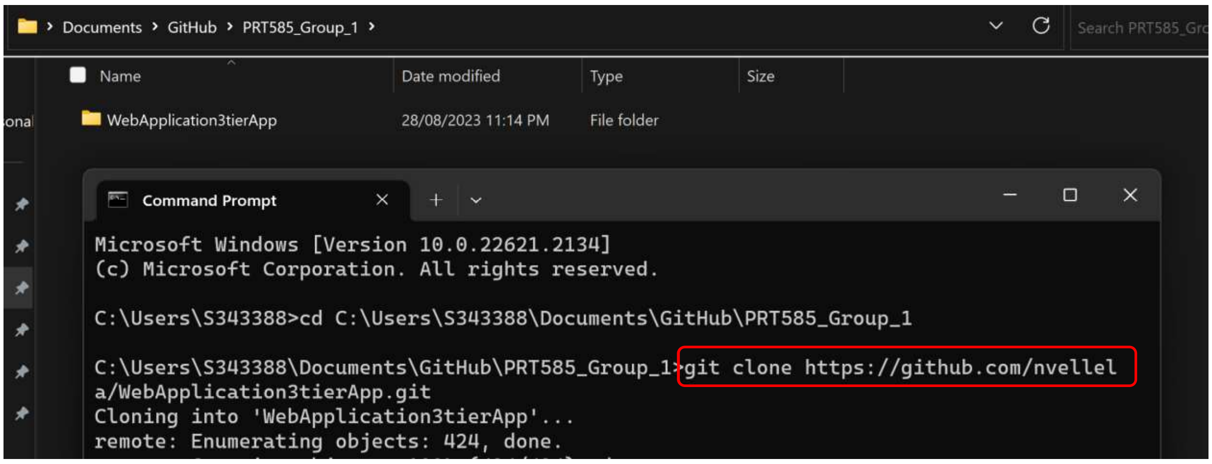
Run 3-Tier Web Application

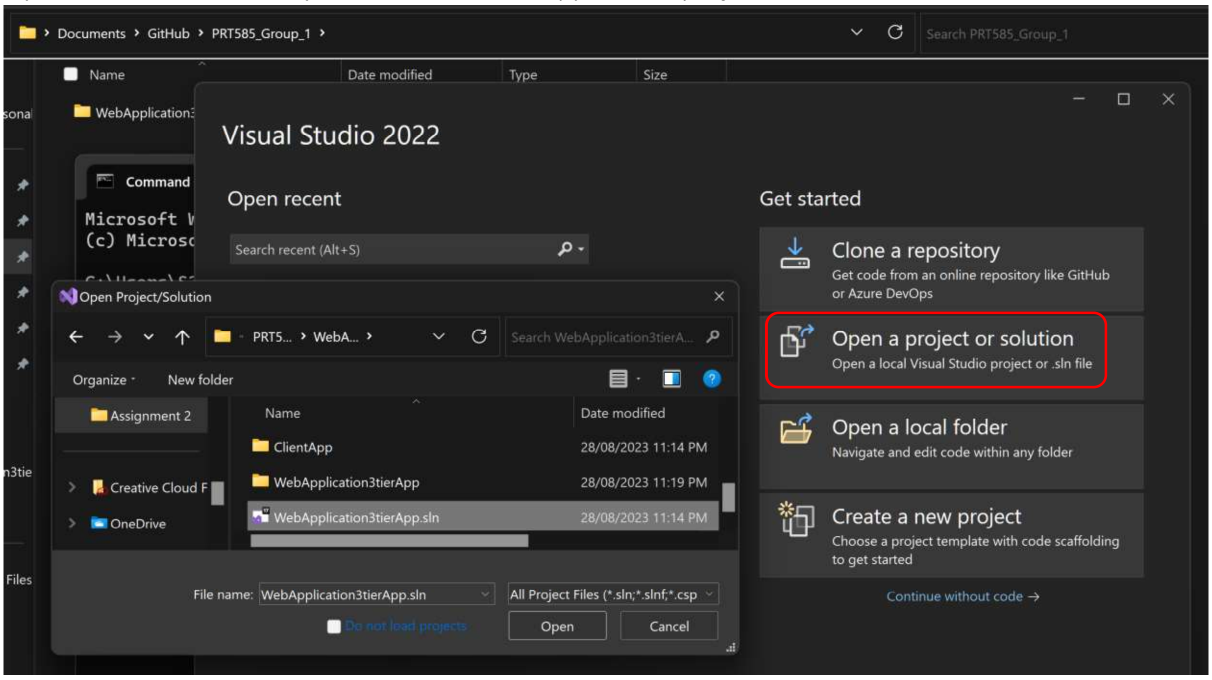
1. Clone the repository.
   https://github.com/nvellela/WebApplication3tierApp



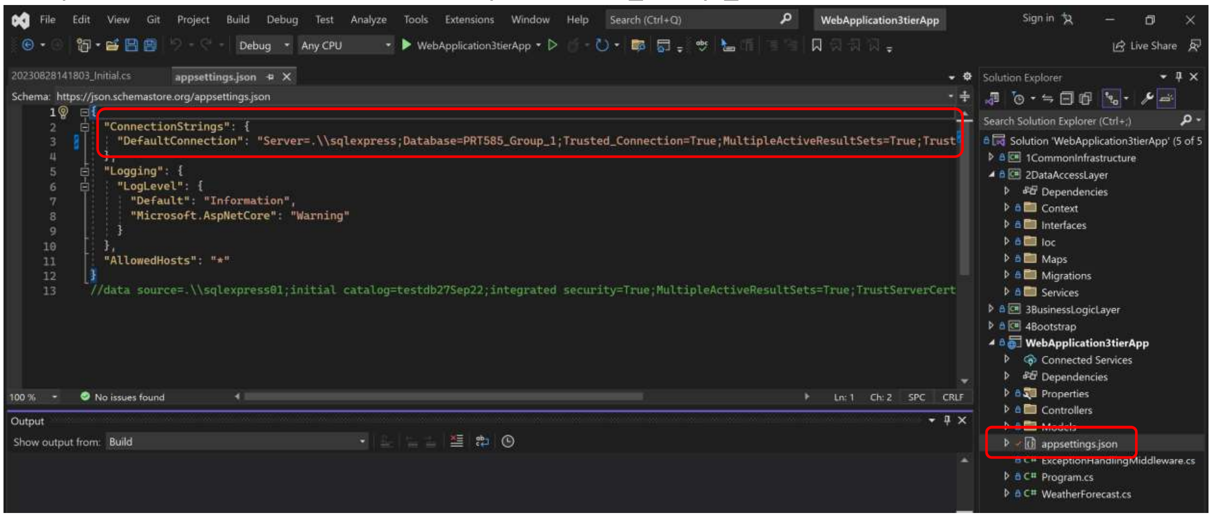


```
Microsoft Windows [Version 10.0.22621.2134]
(c) Microsoft Corporation. All rights reserved.

C:\Users\S343388>cd C:\Users\S343388\Documents\GitHub\PRT585_Group_1

C:\Users\S343388\Documents\GitHub\PRT585_Group_1>git clone https://github.com/nvellel
a/WebApplication3tierApp.git
Cloning into 'WebApplication3tierApp'...
remote: Enumerating objects: 424, done.
```

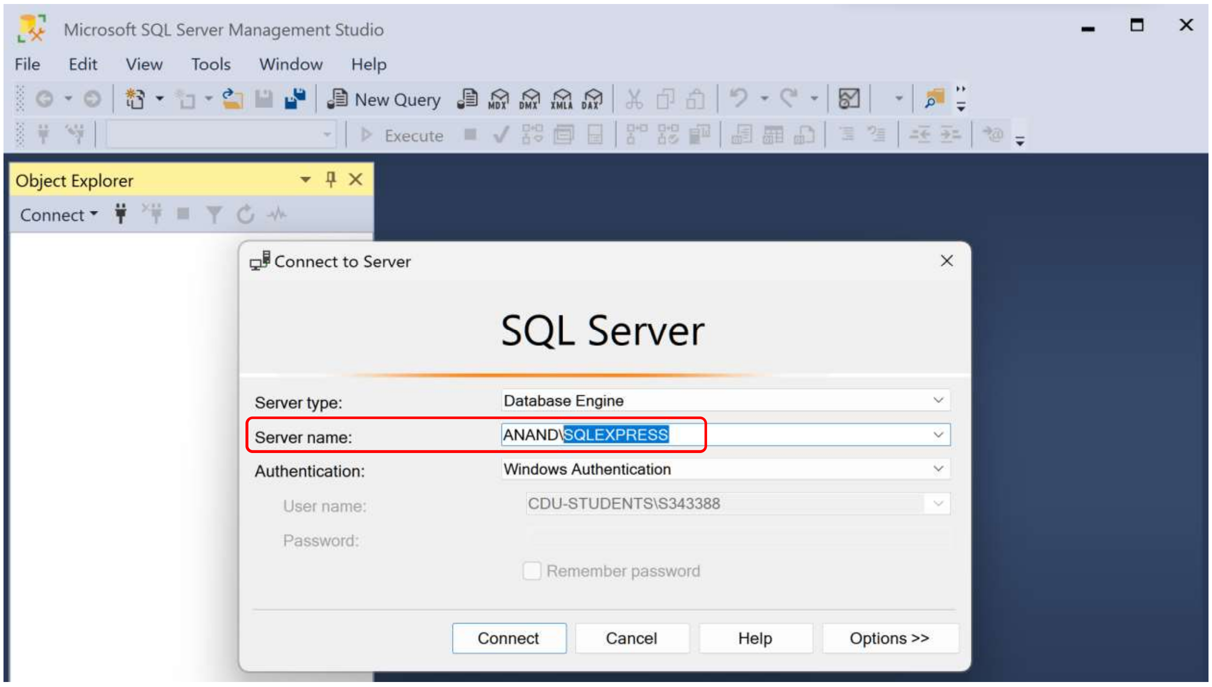
2. Open Visual Studio and open the 3-Tier Web Application project.



3. Open “**appsettings.json**” and update the connection string.
   - The server’s name in the connection string should match the SQL server name.
   - Update the database name. For example, PRT585_Group _1



```
{
  "ConnectionStrings": {
    "DefaultConnection": "Server=.\\sqlexpress;Database=PRT585_Group_1;Trusted_Connection=True;MultipleActiveResultSets=True;Trust
  },
  "Logging": {
    "LogLevel": {
      "Default": "Information",
      "Microsoft.AspNetCore": "Warning"
    }
  },
  "AllowedHosts": "*"
}
//data source=.\\sqlexpress01;initial catalog=testdb27Sep22;integrated security=True;MultipleActiveResultSets=True;TrustServerCert
```



Microsoft SQL Server Management Studio

Connect to Server

SQL Server

Server type: Database Engine

Server name: ANAND\SQLEXPRESS

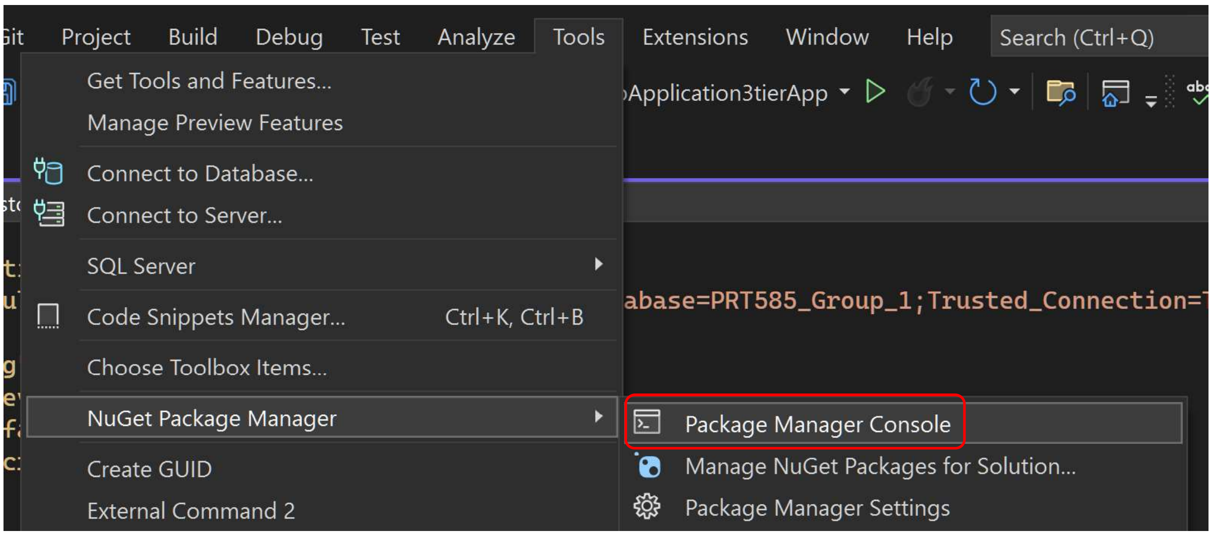
Authentication: Windows Authentication

User name: CDU-STUDENTS\S343388

Password:

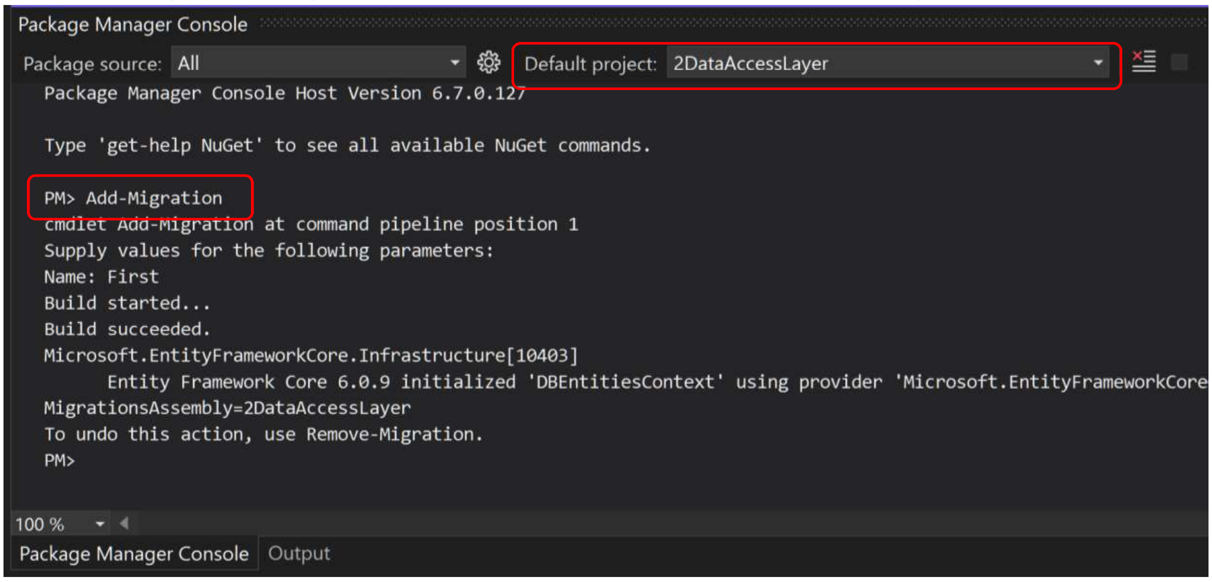
Remember password

4. Go to Tools > NuGet Package Manager > **Package Manager Console**



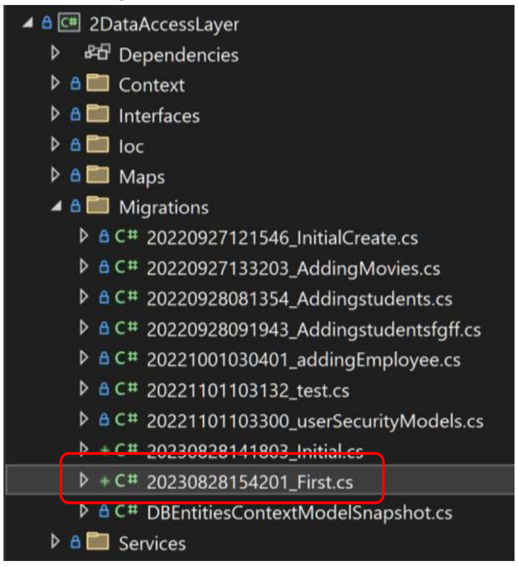
```
abase=PRT585_Group_1;Trusted_Connection=
```

5. Add a new migration using the syntax "**Add-Migration**" in the Data Access Layer (DAL).



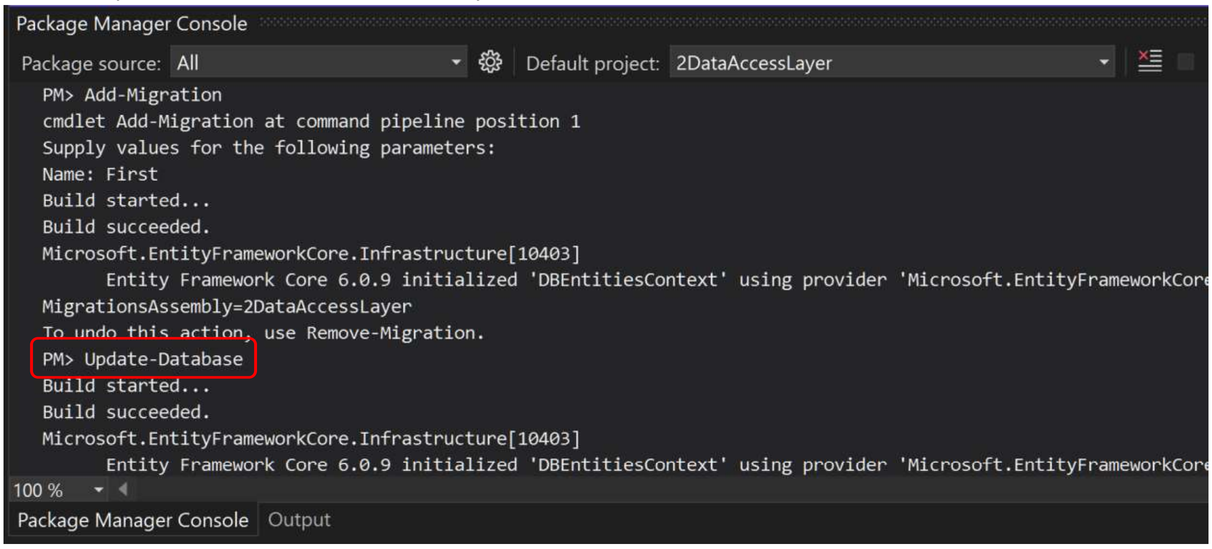
```
Package Manager Console Host Version 6.7.0.127

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

PM> Add-Migration
cmdlet Add-Migration at command pipeline position 1
Supply values for the following parameters:
Name: First
Build started...
Build succeeded.
Microsoft.EntityFrameworkCore.Infrastructure[10403]
      Entity Framework Core 6.0.9 initialized 'DBEntitiesContext' using provider 'Microsoft.EntityFrameworkCore
MigrationsAssembly=2DataAccessLayer
To undo this action, use Remove-Migration.
PM>
```

A new migration is added.



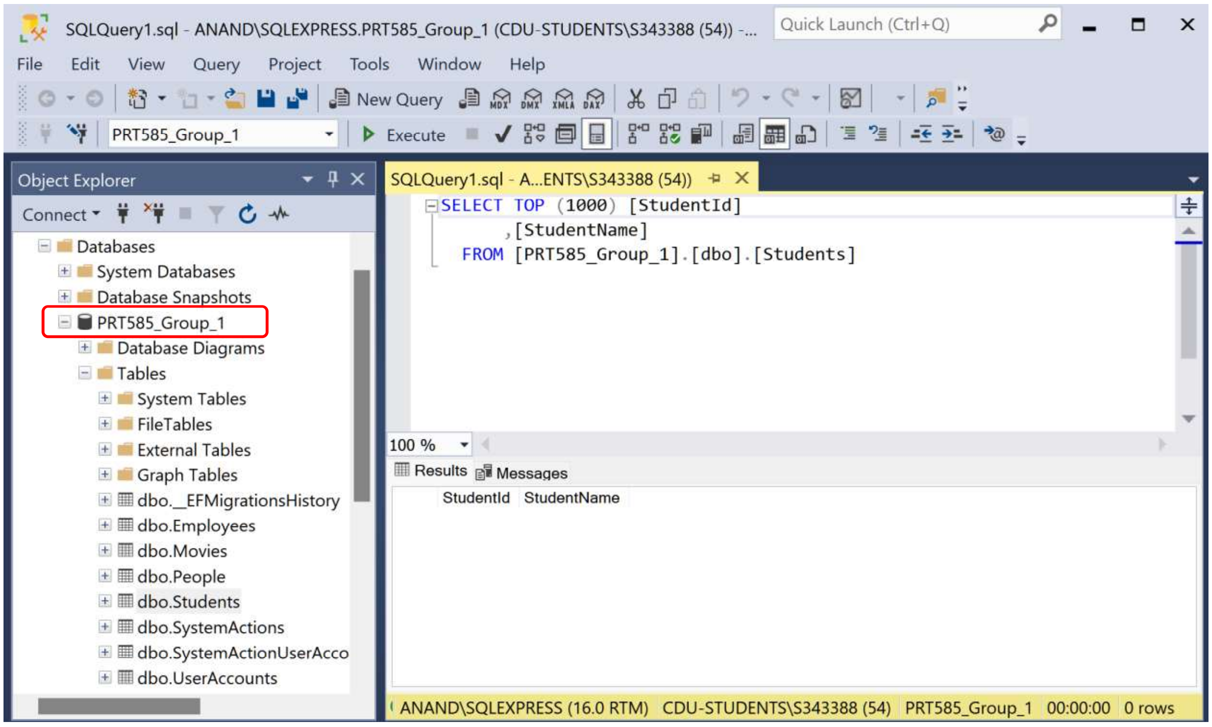
```
2DataAccessLayer
  Dependencies
  Context
  Interfaces
  Ioc
  Maps
  Migrations
    20220927121546_InitialCreate.cs
    20220927133203_AddingMovies.cs
    20220928081354_Addingstudents.cs
    20220928091943_Addingstudentsfgff.cs
    20221001030401_addingEmployee.cs
    20221101103132_test.cs
    20221101103300_userSecurityModels.cs
    20230828141803_Initial.cs
    20230828154201_First.cs
    DBEntitiesContextModelSnapshot.cs
  Services
```

6. Use the syntax "**Update-Database**" to update the database in the SQL server.



```
PM> Add-Migration
cmdlet Add-Migration at command pipeline position 1
Supply values for the following parameters:
Name: First
Build started...
Build succeeded.
Microsoft.EntityFrameworkCore.Infrastructure[10403]
      Entity Framework Core 6.0.9 initialized 'DBEntitiesContext' using provider 'Microsoft.EntityFrameworkCore
MigrationsAssembly=2DataAccessLayer
To undo this action, use Remove-Migration.
PM> Update-Database
Build started...
Build succeeded.
Microsoft.EntityFrameworkCore.Infrastructure[10403]
      Entity Framework Core 6.0.9 initialized 'DBEntitiesContext' using provider 'Microsoft.EntityFrameworkCore
```

This will update the database to the specified migration.

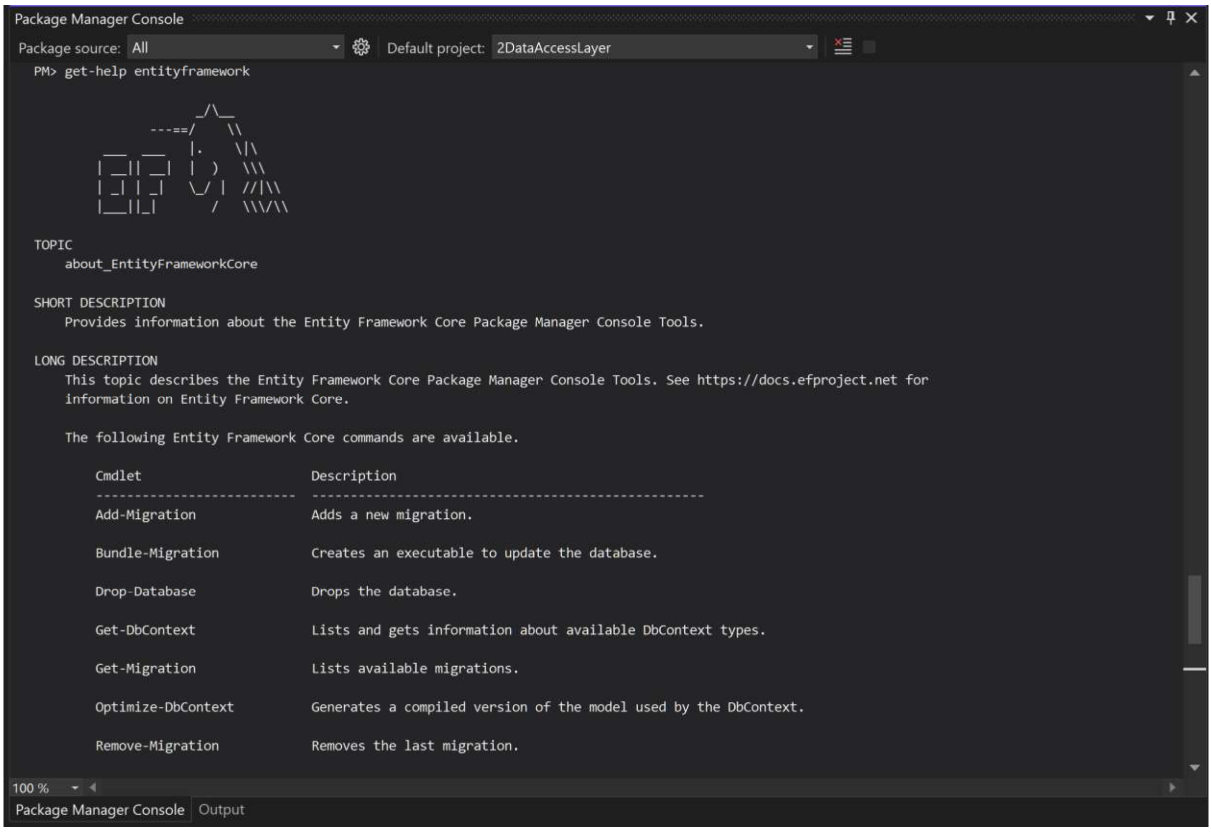


```sql
SELECT TOP (1000) [StudentId]
      ,[StudentName]
  FROM [PRT585_Group_1].[dbo].[Students]
```

StudentId	StudentName

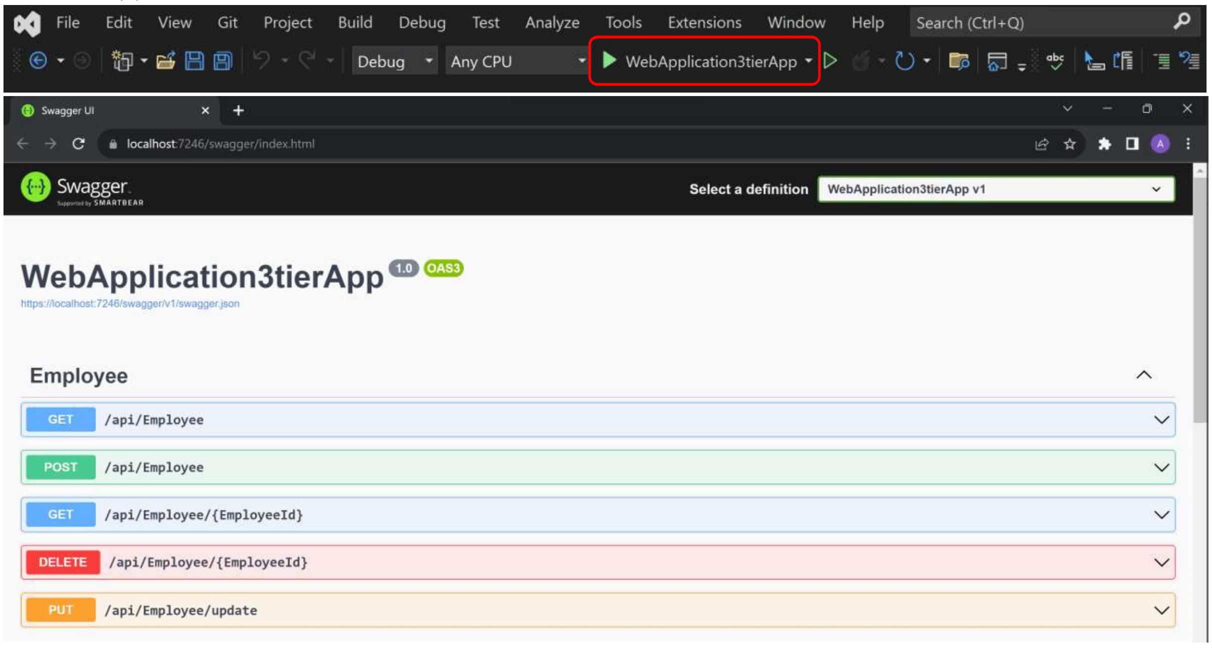
ANAND\SQLEXPRESS (16.0 RTM) | CDU-STUDENTS\S343388 (54) | PRT585_Group_1 | 00:00:00 | 0 rows

7. Use the syntax "**get-help entityframework**" to see other commands to see Package Manager Console (PMC) commands for migration.
   - Use the syntax "**Remove-Migration**" to delete the last migration.
   - Use the syntax "**Drop-Database**" to delete the database.



```
PM> get-help entityframework

                     _/\__
               ---==/    \\
         ___  ___   |.    \|\
        | __|| __|  |  )   \\\
        | _| | _|   \_/ |  //|\\
        |___||_|       /   \\\/\\

TOPIC
    about_EntityFrameworkCore

SHORT DESCRIPTION
    Provides information about the Entity Framework Core Package Manager Console Tools.

LONG DESCRIPTION
    This topic describes the Entity Framework Core Package Manager Console Tools. See https://docs.efproject.net for
    information on Entity Framework Core.

    The following Entity Framework Core commands are available.

        Cmdlet                      Description
        --------------------------  ---------------------------------------------------

        Add-Migration               Adds a new migration.

        Bundle-Migration            Creates an executable to update the database.

        Drop-Database               Drops the database.

        Get-DbContext               Lists and gets information about available DbContext types.

        Get-Migration               Lists available migrations.

        Optimize-DbContext          Generates a compiled version of the model used by the DbContext.

        Remove-Migration            Removes the last migration.
```

8. Run the app.



WebApplication3tierApp 1.0 OAS3

https://localhost:7246/swagger/v1/swagger.json

Employee

GET /api/Employee

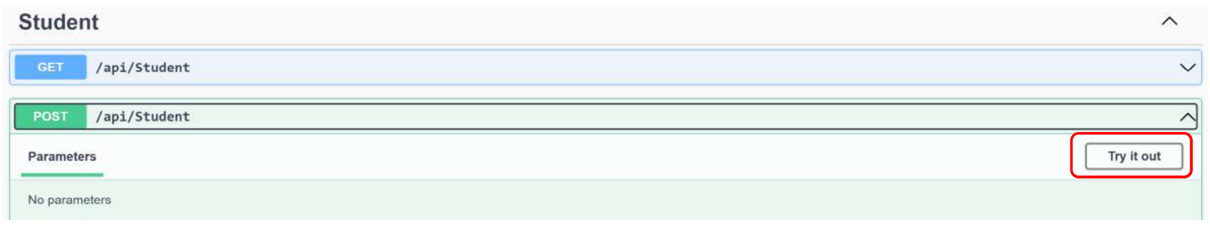
POST /api/Employee

GET /api/Employee/{EmployeeId}

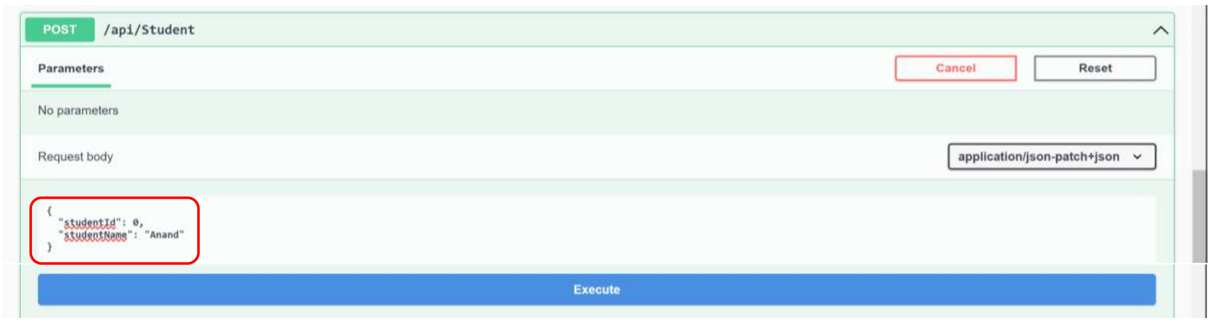
DELETE /api/Employee/{EmployeeId}

PUT /api/Employee/update

9. Make a request.
   - Expand the **POST Student** endpoint.
   - Click **Try it out**.

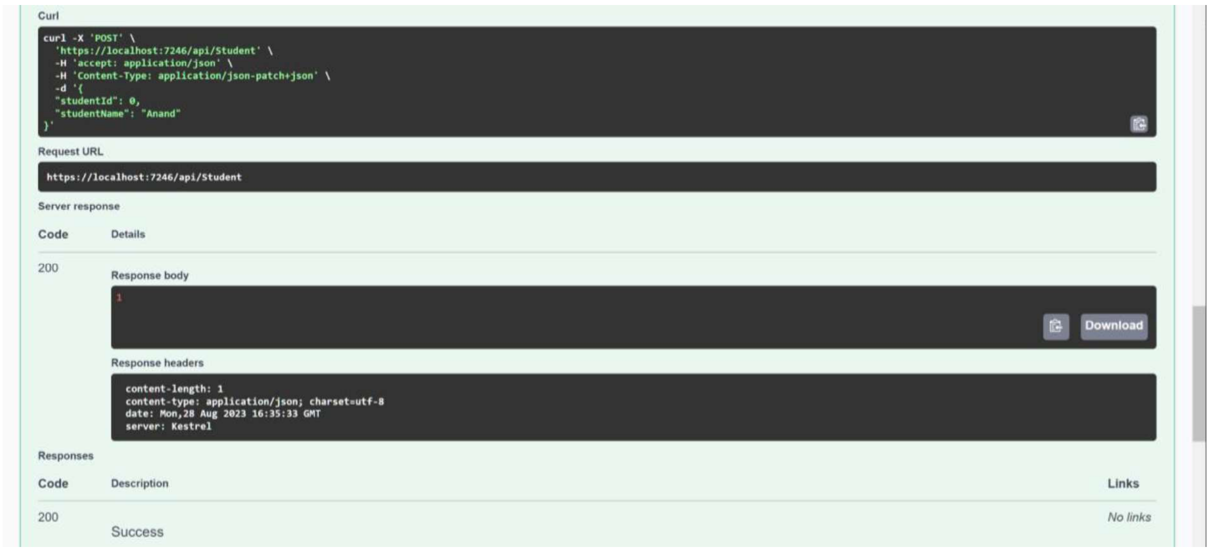


   - Change the example value (**studentName**) in the Request Body field.
   - Click **Execute**.



```
{
  "studentId": 0,
  "studentName": "Anand"
}
```

Swagger UI submits the request and shows the response.



```
curl -X 'POST' \
  'https://localhost:7246/api/Student' \
  -H 'accept: application/json' \
  -H 'Content-Type: application/json-patch+json' \
  -d '{
  "studentId": 0,
  "studentName": "Anand"
}'
```

Request URL

```
https://localhost:7246/api/Student
```

Server response

Code 200

Response body

```
1
```

Response headers

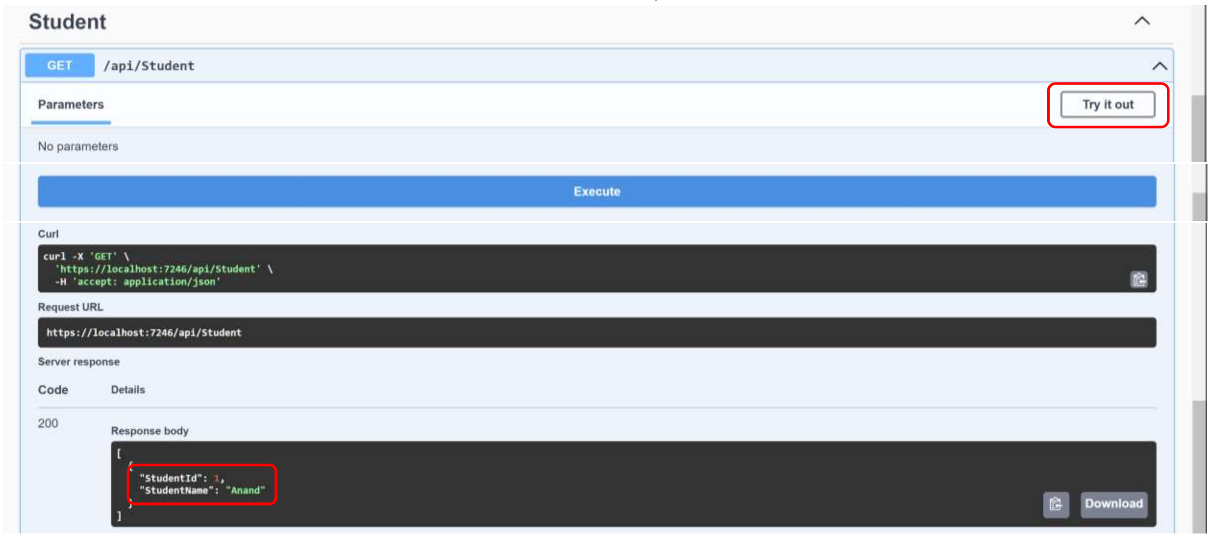
```
content-length: 1
content-type: application/json; charset=utf-8
date: Mon,28 Aug 2023 16:35:33 GMT
server: Kestrel
```

Responses

Code	Description	Links
200	Success	No links

10. Verify that the student was created.

- Expand the **GET Student** endpoint.
- Click **Try it out**.
- Click **Execute**.
- The new student's name will be returned in the Response section.



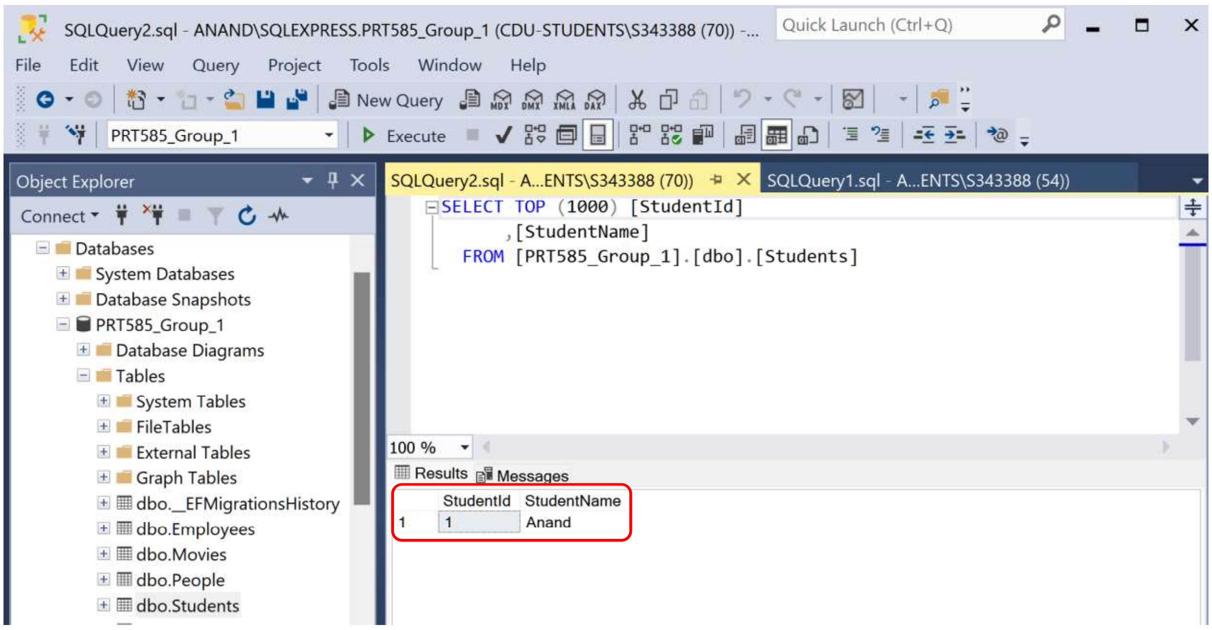
```
curl -X 'GET' \
  'https://localhost:7246/api/Student' \
  -H 'accept: application/json'
```

```
https://localhost:7246/api/Student
```

200

```
[
  {
    "studentId": 1,
    "studentName": "Anand"
  }
]
```

Check the database to see the new student.



```
SELECT TOP (1000) [StudentId]
      ,[StudentName]
  FROM [PRT585_Group_1].[dbo].[Students]
```

	StudentId	StudentName
1	1	Anand