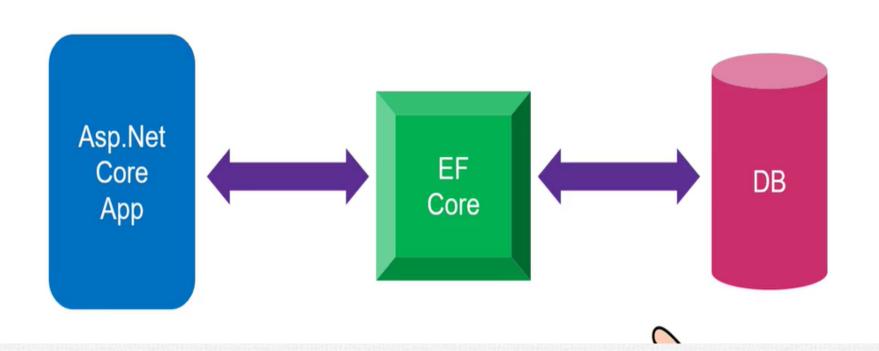# What is Entity Framework Core | Asp.Net Core tutorial

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Entity Framework Core

Entity Framework Core

✓ EF Core is Microsoft's official technology to interact with relational database.

✓ EF Core can work with lots of databases.

    ✓ Sql Server

    ✓ MySQL

    ✓ Cosmos db

    ✓ Etc.

There is no .edmx file use in EF core.

Entity Framework Core features

- ✓ O/RM (object-relational mapper)

- ✓ Open-source

- ✓ Lightweight

- ✓ Extensible

- ✓ Support Async

O/RM

✓ O/RM is a tool and is used to manage database data from an object-oriented perspective.

✓ Database tables => Classes

✓ Column => Properties

✓ To generate database tables or classes we can use either code first or database first approach

How EF Core work

✓ EF Core works with the help of Model.

✓ A model is made up of entity classes and a context object.

EF Core approach

✓ Code first

✓ Db first

How to install entity framework (ef) core

Packages

✓ The global package for ef core is

Microsoft.EntityFrameworkCore

✓ Based on the database we also need to install several

other packages.

EF Core packages for Sql Server

✓ *Microsoft.EntityFrameworkCore*

✓ *Micosoft.EntityFrameworkCore.Relational*

✓ *Microsoft.EntityFrameworkCore.SqlServer*

Microsoft.EntityFrameworkCore.SqlServer

- If we are installing this package all package will be installed.
- Core Tool also install :--all the work using command line so we need this tools.

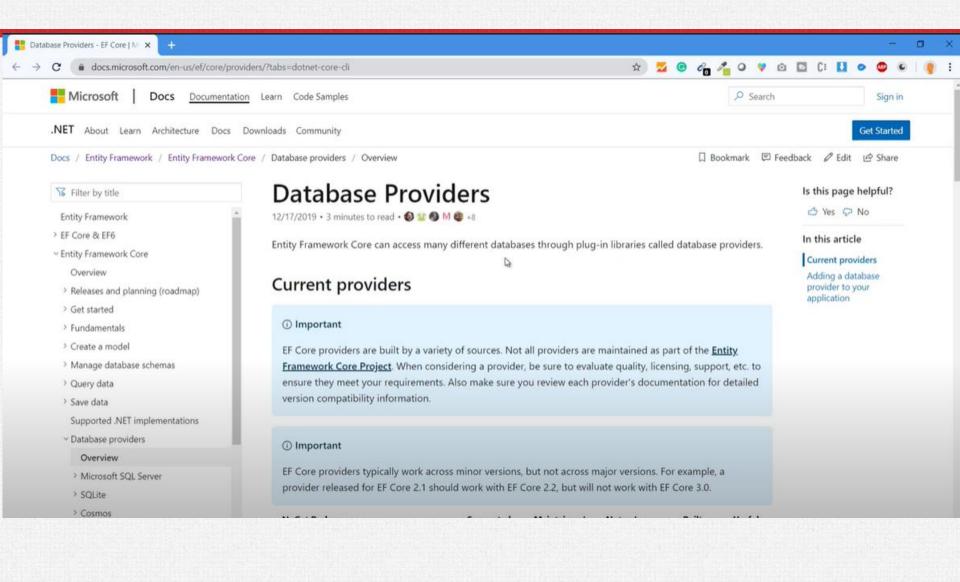## EF Core packages for Sql Server
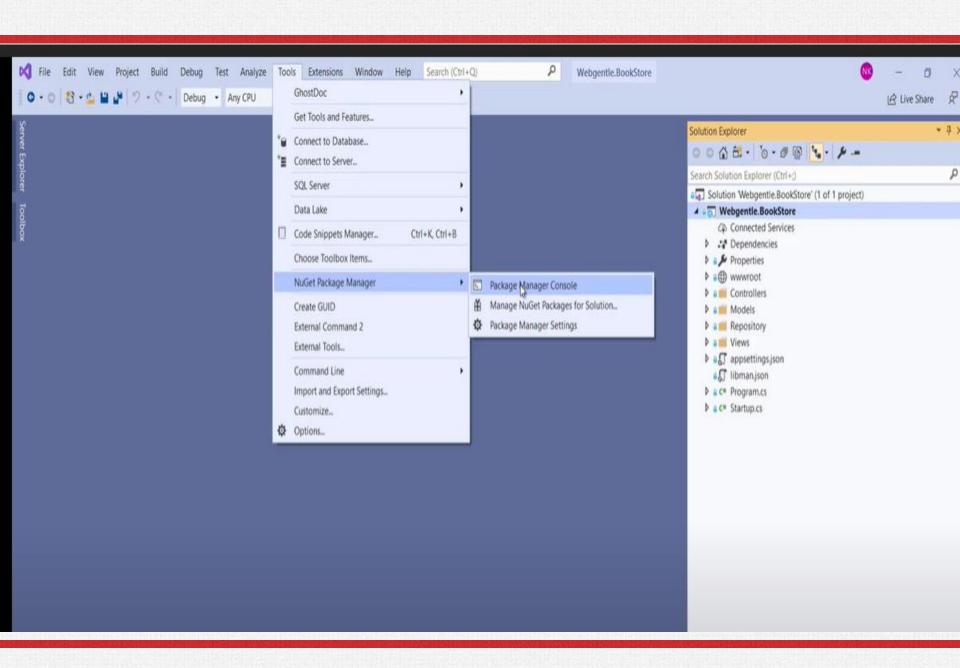
✓ Microsoft.EntityFrameworkCore

✓ Micosoft.EntityFrameworkCore.Relational

✓ Microsoft.EntityFrameworkCore.SqlServer
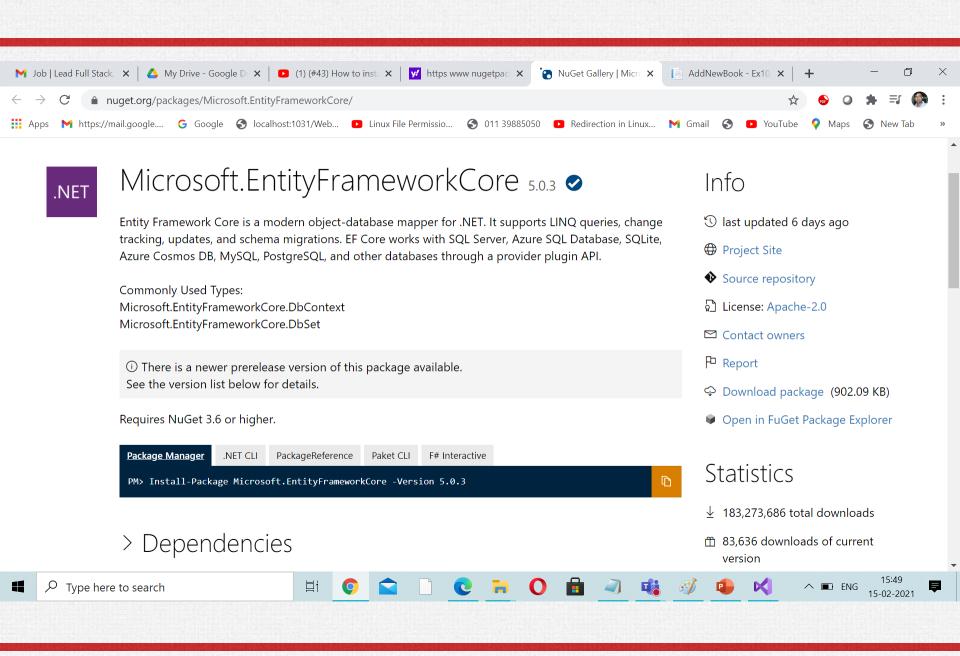
✓ Microsoft.EntityFramerworkCore.Tools

Link provide by MS which package to install for which database.

EF Core database provider

✓ https://docs.microsoft.com/en-us/ef/core/providers

docs.microsoft.com/en-us/ef/core/providers/?tabs=dotnet-core-cli

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Get Started

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∨ Entity Framework Core

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> Create a model

> Manage database schemas

> Query data

> Save data

   Supported .NET implementations

∨ Database providers

   Overview

> Microsoft SQL Server

> SQLite

> Cosmos

Database Providers

12/17/2019 • 3 minutes to read • 😀 👤 😀 M 😀 +8

Entity Framework Core can access many different databases through plug-in libraries called database providers.

Current providers

> ① **Important**
>
> EF Core providers are built by a variety of sources. Not all providers are maintained as part of the **Entity Framework Core Project**. When considering a provider, be sure to evaluate quality, licensing, support, etc. to ensure they meet your requirements. Also make sure you review each provider's documentation for detailed version compatibility information.

> ① **Important**
>
> EF Core providers typically work across minor versions, but not across major versions. For example, a provider released for EF Core 2.1 should work with EF Core 2.2, but will not work with EF Core 3.0.

Is this page helpful?

👍 Yes   👎 No

In this article

| Current providers

Adding a database provider to your application

Microsoft.EntityFrameworkCore 5.0.3 ✔

Entity Framework Core is a modern object-database mapper for .NET. It supports LINQ queries, change tracking, updates, and schema migrations. EF Core works with SQL Server, Azure SQL Database, SQLite, Azure Cosmos DB, MySQL, PostgreSQL, and other databases through a provider plugin API.

Commonly Used Types:
Microsoft.EntityFrameworkCore.DbContext
Microsoft.EntityFrameworkCore.DbSet

ⓘ There is a newer prerelease version of this package available.
See the version list below for details.

Requires NuGet 3.6 or higher.

Package Manager	.NET CLI	PackageReference	Paket CLI	F# Interactive

```
PM> Install-Package Microsoft.EntityFrameworkCore -Version 5.0.3
```

> Dependencies

Info

🕒 last updated 6 days ago

🌐 Project Site

🔧 Source repository

📄 License: Apache-2.0

✉ Contact owners

🚩 Report

☁ Download package (902.09 KB)

📦 Open in FuGet Package Explorer

Statistics

⬇ 183,273,686 total downloads

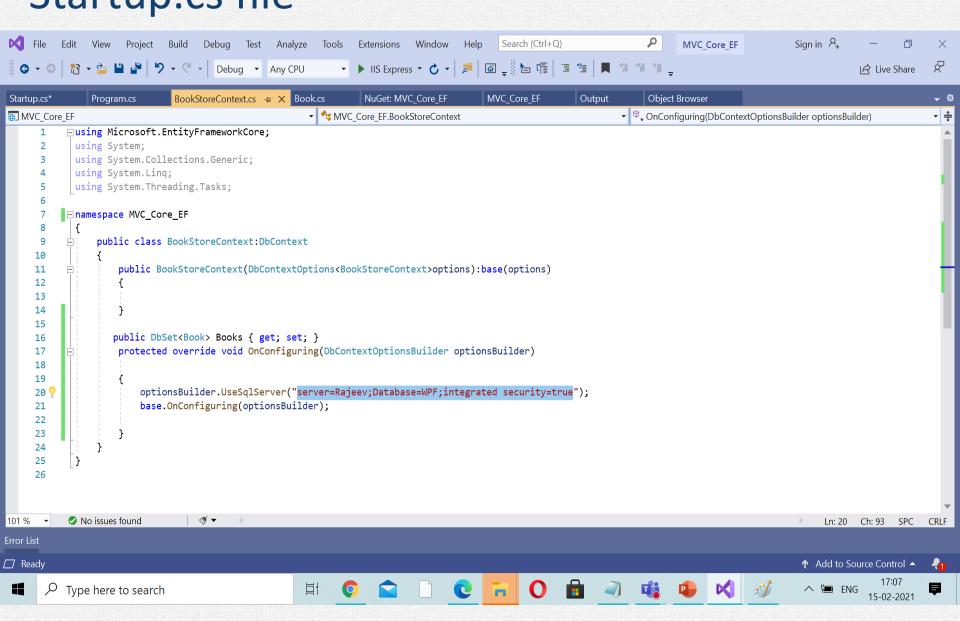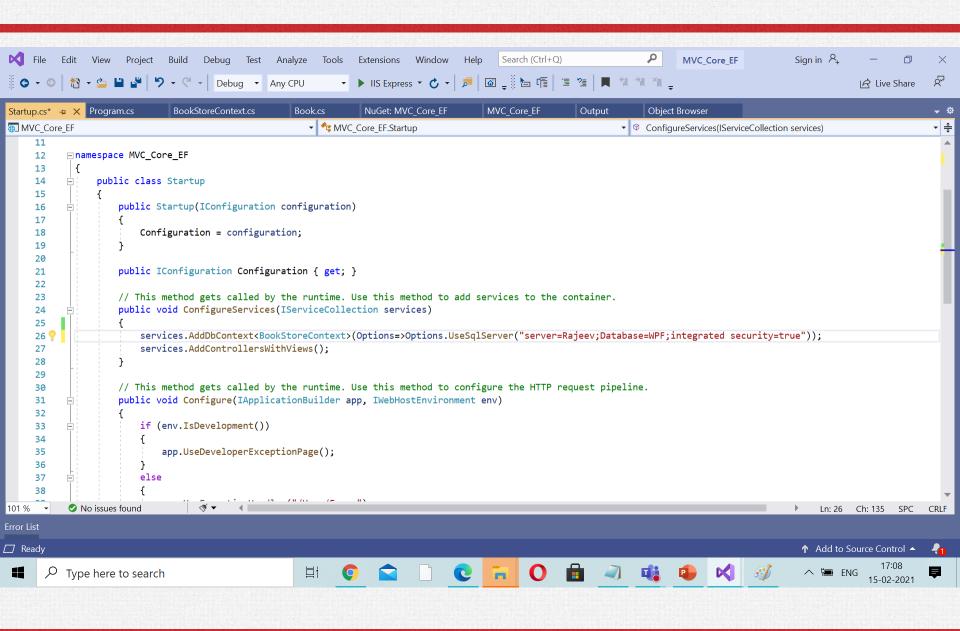🎁 83,636 downloads of current version

Agenda

- ✓ How to create and configure DbContext Class
- ✓ How to set db connection string
- ✓ And lots of other thing...

Either put the connection string here or Startup.cs file

```csharp
namespace MVC_Core_EF
{
    public class Startup
    {
        public Startup(IConfiguration configuration)
        {
            Configuration = configuration;
        }

        public IConfiguration Configuration { get; }

        // This method gets called by the runtime. Use this method to add services to the container.
        public void ConfigureServices(IServiceCollection services)
        {
            services.AddDbContext<BookStoreContext>(Options=>Options.UseSqlServer("server=Rajeev;Database=WPF;integrated security=true"));
            services.AddControllersWithViews();
        }

        // This method gets called by the runtime. Use this method to configure the HTTP request pipeline.
        public void Configure(IApplicationBuilder app, IWebHostEnvironment env)
        {
            if (env.IsDevelopment())
            {
                app.UseDeveloperExceptionPage();
            }
            else
            {
```
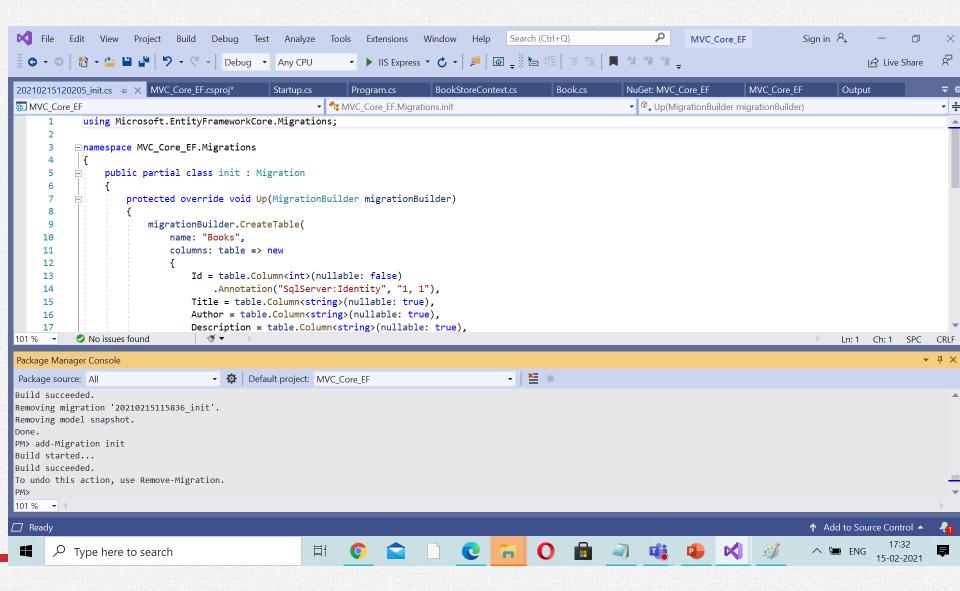
Agenda

- ✓ How to generate database using EF Core CLI
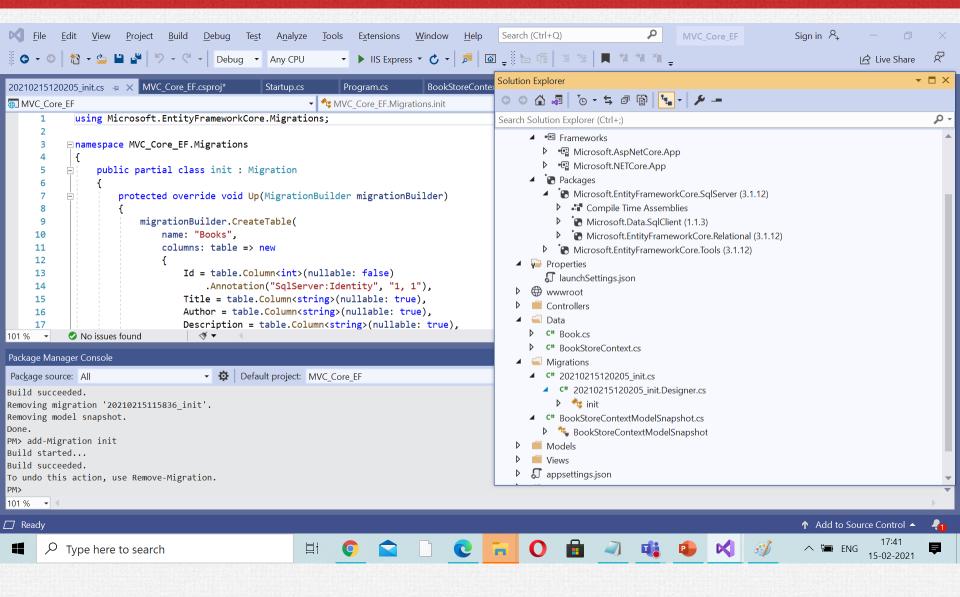- ✓ What is Migration
- ✓ And lots of other thing…

- Once I installed the NuGet package Microsoft.EntityFrameworkCore.Tools, the error went away and i saw my list...
- PM> get-help entityframework

Cmdlet	Description
Add-Migration	Adds a new migration.
Drop-Database	Drops the database.
Get-DbContext	Gets information about a DbContext type.
Remove-Migration	Removes the last migration.
Scaffold-DbContext	Scaffolds a DbContext and entity types for a database.
Script-DbContext	Generates a SQL script from the current DbContext.
Script-Migration	Generates a SQL script from migrations.
Update-Database	Updates the database to a specified migration.

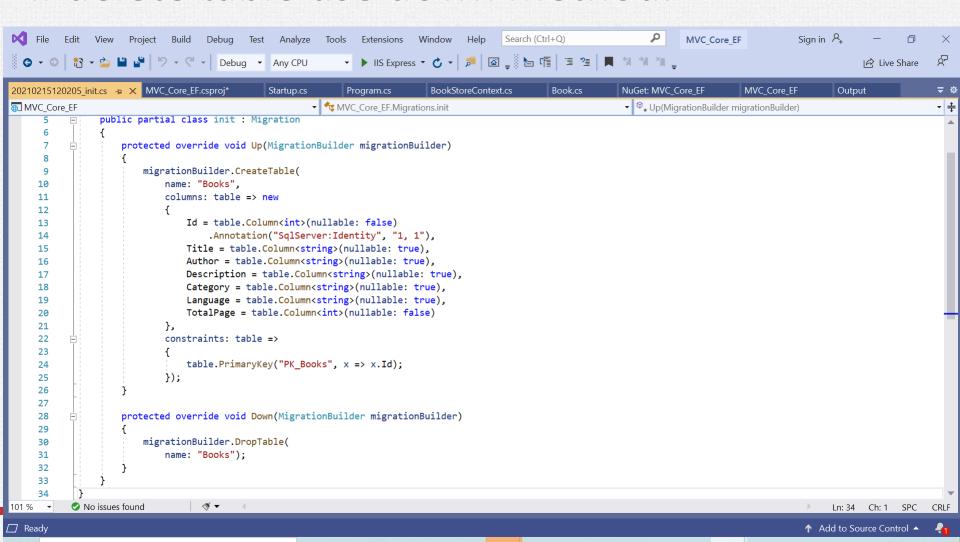# Add-Migration init :-- command change in dbcontext all the change in database.

Migration Folder is created.

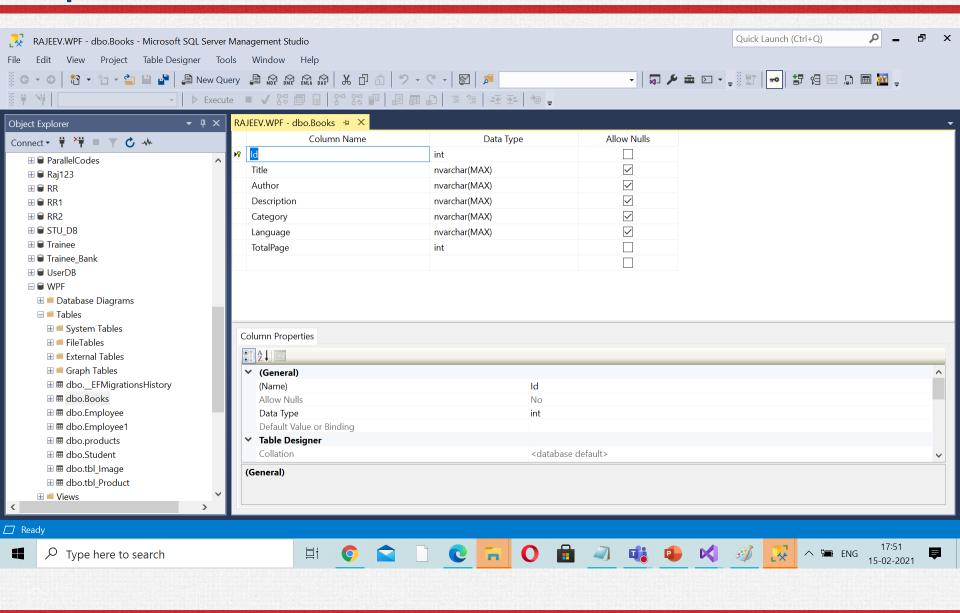# Init file Up and Down method is created.

Add a table in database use Up method if delete table use down method.
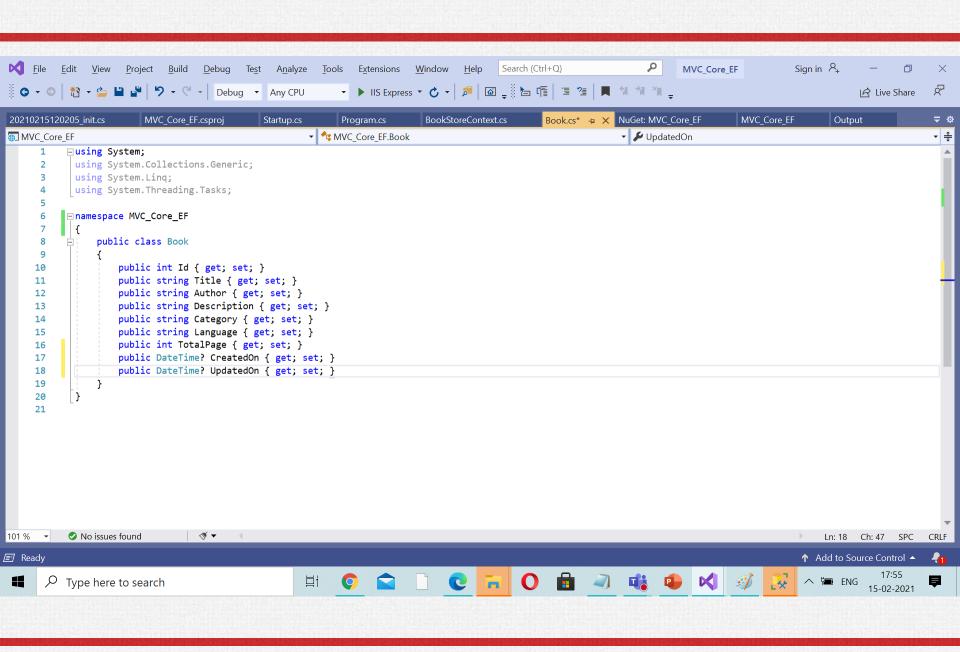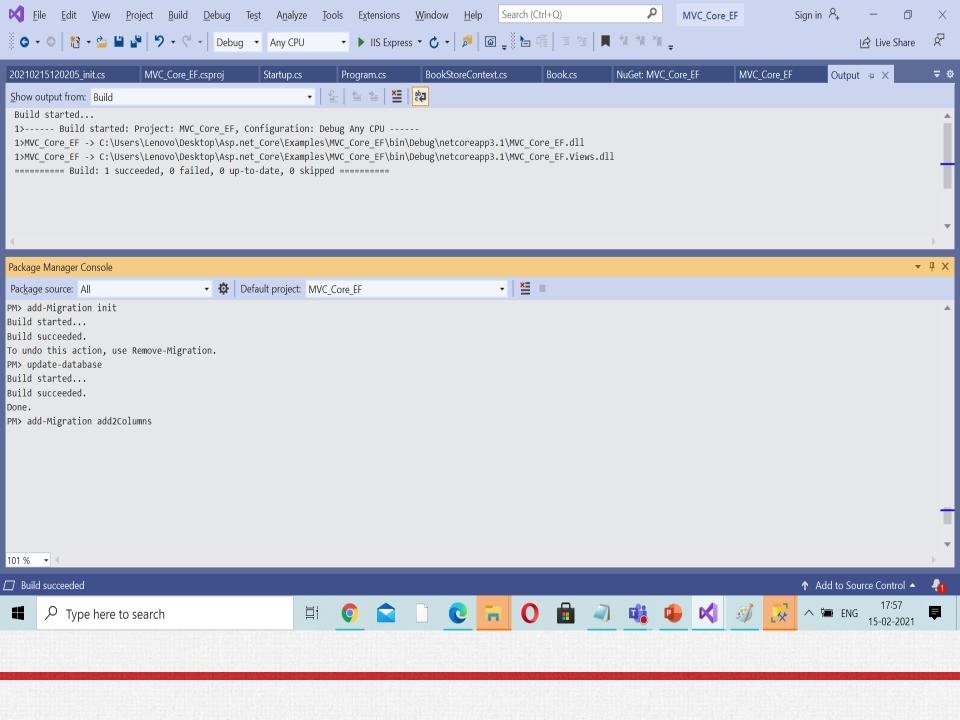
Update database:- command
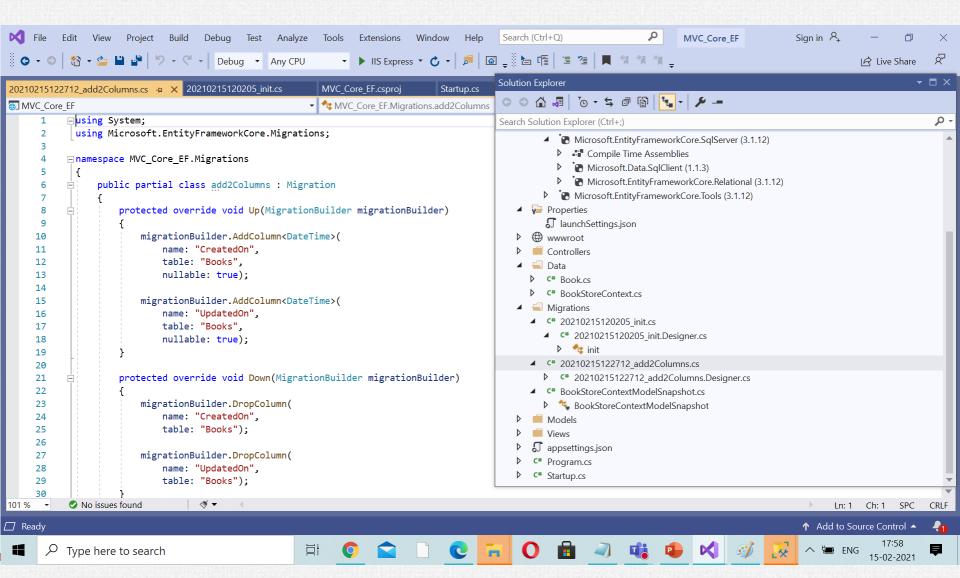
- Two table is created
- 1)dbo.EFMigrationHistory:-in this table two column migrationid,ProductVersion
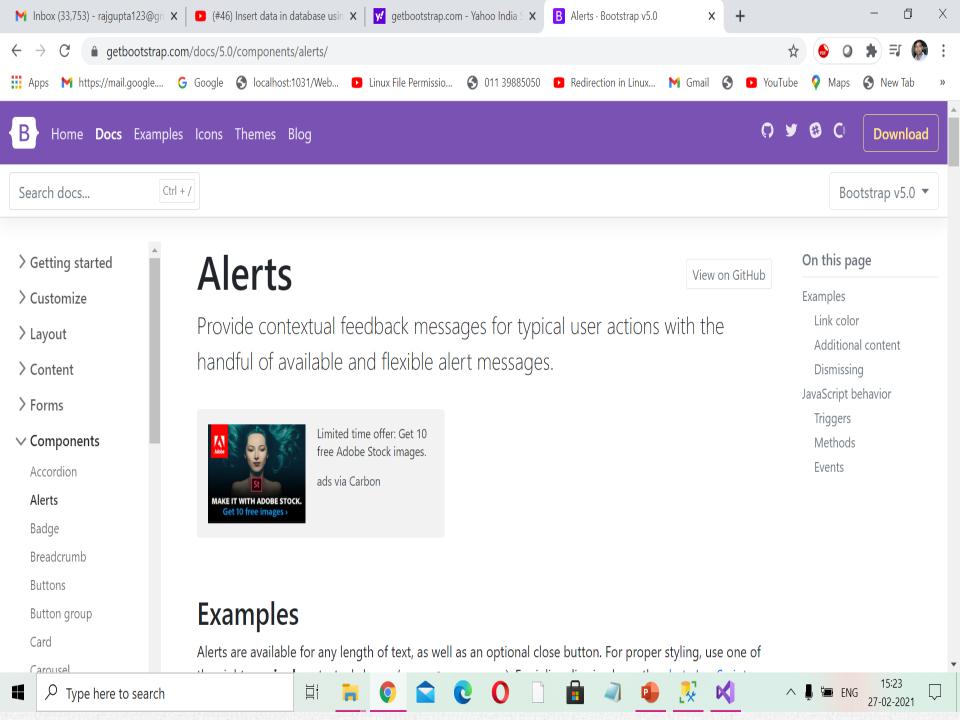
- Add two Column in Model
- i)CreatedOn
- 2)UpdatedOn

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Threading.Tasks;

namespace MVC_Core_EF
{
    public class Book
    {
        public int Id { get; set; }
        public string Title { get; set; }
        public string Author { get; set; }
        public string Description { get; set; }
        public string Category { get; set; }
        public string Language { get; set; }
        public int TotalPage { get; set; }
        public DateTime? CreatedOn { get; set; }
        public DateTime? UpdatedOn { get; set; }
    }
}
```

Show output from: Build

```
Build started...
1>------ Build started: Project: MVC_Core_EF, Configuration: Debug Any CPU ------
1>MVC_Core_EF -> C:\Users\Lenovo\Desktop\Asp.net_Core\Examples\MVC_Core_EF\bin\Debug\netcoreapp3.1\MVC_Core_EF.dll
1>MVC_Core_EF -> C:\Users\Lenovo\Desktop\Asp.net_Core\Examples\MVC_Core_EF\bin\Debug\netcoreapp3.1\MVC_Core_EF.Views.dll
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
```

Package Manager Console

Package source: All   Default project: MVC_Core_EF

```
PM> add-Migration init
Build started...
Build succeeded.
To undo this action, use Remove-Migration.
PM> update-database
Build started...
Build succeeded.
Done.
PM> add-Migration add2Columns
```

Add one more Migration.cs file inside the Migration folder.

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Bootstrap v5.0

Getting started

Customize

Layout

Content

Forms

Components

Accordion

Alerts

Badge

Breadcrumb

Buttons

Button group

Card

Carousel

Alerts

View on GitHub

Provide contextual feedback messages for typical user actions with the handful of available and flexible alert messages.

On this page

Examples

Link color

Additional content

Dismissing

JavaScript behavior

Triggers

Methods

Events

Examples

Alerts are available for any length of text, as well as an optional close button. For proper styling, use one of

Type here to search

15:23
27-02-2021

Thanks