

Descriere laborator 2020

Baza de date : EfCore2020.dbo

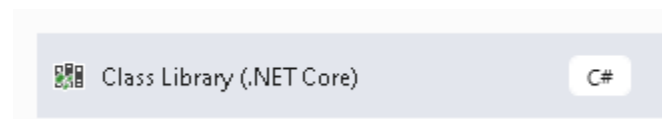
Etape:

1. Verificare servicii SqlServer functionale (services.msc)

2.

SQL Server (SQL2012)	Provides sto...	Running	Automatic (...)	NT Service...
SQL Server (SQL2012NEW)	Provides sto...	Running	Automatic	NT Service...
SQL Server (SQLEXPRESS)	Provides sto...	Running	Automatic	NT Service...
SQL Server Agent (SQL2012)	Executes jo...		Disabled	Local System...
SQL Server Agent (SQL2012NEW)	Executes jo...		Manual	NT Service...
SQL Server Agent (SQLEXPRESS)	Executes jo...		Automatic	Network S...
SQL Server Analysis Services (SQL2012)	Supplies onl...		Disabled	Local System...
SQL Server Analysis Services (SQL2012N...	Supplies onl...	Running	Automatic	NT Service...
SQL Server Browser	Provides SQ...	Running	Automatic (...)	Local Service

2. Creare proiect de tip ClassLibrary in VS 2019 – numit **ClassLibraryNetCore**



3. Creare baza de date **EfCore2020.dbo** cu SqlServer2012 (instanta bd Sql2012new – fara tabele).

4. Adaugare dependente cu Package Manager Console (PMC)

```
install-package Microsoft.EntityFrameworkCore -Version 3.1.1
install-package Microsoft.EntityFrameworkCore.SqlServer -Version 3.1.1
install-package Microsoft.EntityFrameworkCore.tools -Version 3.1.1
```

5. Proiectul MsBuild (.csproj) in final:

```
<Project Sdk="Microsoft.NET.Sdk">
  <PropertyGroup>
    <TargetFramework>netcoreapp3.1</TargetFramework>
  </PropertyGroup>
  <ItemGroup>
    <PackageReference Include="Microsoft.EntityFrameworkCore" Version="3.1.1" />
    <PackageReference Include="Microsoft.EntityFrameworkCore.SqlServer"
      Version="3.1.1" />
    <PackageReference Include="Microsoft.EntityFrameworkCore.tools" Version="3.1.1">
      <PrivateAssets>all</PrivateAssets>
      <IncludeAssets>runtime; build; native; contentfiles; analyzers;
        buildtransitive</IncludeAssets>
    </PackageReference>
    <PackageReference Include="System.Configuration.ConfigurationManager" />
  </ItemGroup>
</Project>
```

```

        Version="4.7.0" />
    </ItemGroup>
</Project>

```

6. Descriere model

```

using System;
using System.Collections.Generic;
using System.ComponentModel.DataAnnotations;
using System.Text;

namespace ClassLibraryNetCore.Model
{
    public partial class Client
    {
        public int ClientId { get; set; }
        [MaxLength(20)]
        public string Name { get; set; }
        [MaxLength(50)]
        public string Email { get; set; }
        // 0 = inregistrare corecta; 1 = inregistrare stearsa
        //public int Deleted { get; set; }
        public ICollection<Order> Orders { get; set; }
        protected Client() { }
    }
}

```

etc.

7. Decriere context

```

using Microsoft.EntityFrameworkCore;
using Microsoft.EntityFrameworkCore.SqlServer;
using System;
using System.Collections.Generic;
using System.Configuration;
using System.Text;

namespace ClassLibraryNetCore.Model
{
    internal class ModelContext: DbContext
    {
        public DbSet<Client> Clients { get; set; }
        public DbSet<Order> Orders { get; set; }
        public DbSet<OrderDetails> OrderDetails { get; set; }
        public DbSet<Product> Products { get; set; }

        protected override void OnConfiguring(DbContextOptionsBuilder optionsBuilder)
        {
            optionsBuilder.UseSqlServer("Server=iasimin-vostro\\sql2012new;
                Database=EFCore2020; Trusted_Connection=True");
            //ChangeTracker.LazyLoadingEnabled = false;
        }

        protected override void OnModelCreating(ModelBuilder modelBuilder)
        {
            modelBuilder.Entity<Client>()

```

```

        .HasMany<Order>(o => o.Orders)
        .WithOne(c => c.Client);

modelBuilder.Entity<OrderDetails>()
    .HasOne<Order>(od => od.Order)
    .WithMany(o => o.OrderDetails);

modelBuilder.Entity<Product>()
    .HasMany<OrderDetails>(p => p.OrderDetails)
    .WithOne(od => od.Product);
    }
}
}

```

8. In PMC se folosesc: **add-migration** si **update-database**

9. Baza de date rezultata:

Update Script File: dbo.Clients.sql					Keys (1) PK_Clients (Primary Key, Clustered: ClientId) Check Constraints (0) Indexes (0) Foreign Keys (0) Triggers (0)
Name	Data Type	Allow Nulls	Default		
ClientId	int	<input type="checkbox"/>			
Name	nvarchar(20)	<input checked="" type="checkbox"/>			
Email	nvarchar(50)	<input checked="" type="checkbox"/>			

Design | T-SQL

```

1 CREATE TABLE [dbo].[Clients] (
2     [ClientId] INT IDENTITY (1, 1) NOT NULL,
3     [Name] NVARCHAR (20) NULL,
4     [Email] NVARCHAR (50) NULL,
5     CONSTRAINT [PK_Clients] PRIMARY KEY CLUSTERED ([ClientId] ASC)
6 );

```

Update Script File: dbo.Orders.sql					Keys (1) PK_Orders (Primary Key, Clustered: OrderId) Check Constraints (0) Indexes (1) IX_Orders_ClientId (ClientId) Foreign Keys (1) FK_Orders_Clients_ClientId (ClientId) Triggers (0)
Name	Data Type	Allow Nulls	Default		
OrderId	int	<input type="checkbox"/>			
Date	datetime2(7)	<input type="checkbox"/>			
Value	real	<input type="checkbox"/>			
Payed	int	<input type="checkbox"/>			
ClientId	int	<input type="checkbox"/>			
Deleted	int	<input type="checkbox"/>			

Design | T-SQL

```

1 CREATE TABLE [dbo].[Orders] (
2     [OrderId] INT IDENTITY (1, 1) NOT NULL,
3     [Date] DATETIME2 (7) NOT NULL,
4     [Value] REAL NOT NULL,
5     [Payed] INT NOT NULL,
6     [ClientId] INT NOT NULL,
7     [Deleted] INT NOT NULL,
8     CONSTRAINT [PK_Orders] PRIMARY KEY CLUSTERED ([OrderId] ASC),
9     CONSTRAINT [FK_Orders_Clients_ClientId] FOREIGN KEY ([ClientId]) REFERENCES [dbo].[Clients] ([ClientId]) ON DELETE CASCADE
10 );
11
12
13 GO
14 CREATE NONCLUSTERED INDEX [IX_Orders_ClientId]
15 ON [dbo].[Orders]([ClientId] ASC);

```

dbo.OrderDetails [Design]* x dbo.Orders [Design] dbo.Clients [Design] 20200211173317_migration1.cs App.config ClassLibrary1\NetCore.csproj

Update Script File: dbo.OrderDetails.sql*

Name	Data Type	Allow Nulls	Default
OrderDetailsId	int	<input type="checkbox"/>	
ProductId	int	<input type="checkbox"/>	
Qty	real	<input type="checkbox"/>	
Price	real	<input type="checkbox"/>	
Deleted	int	<input type="checkbox"/>	
OrderId	int	<input type="checkbox"/>	

- Keys (1)**
 - PK_OrderDetails (Primary Key, Clustered: OrderDetailsId)
- Check Constraints (0)**
- Indexes (2)**
 - IX_OrderDetails_OrderId (OrderId)
 - IX_OrderDetails_ProductId (ProductId)
- Foreign Keys (2)**
 - FK_OrderDetails_Orders_OrderId (OrderId)
 - FK_OrderDetails_Products_ProductId (ProductId)

Design T-SQL

```

1 CREATE TABLE [dbo].[OrderDetails] (
2     [OrderDetailsId] INT IDENTITY (1, 1) NOT NULL,
3     [ProductId] INT NOT NULL,
4     [Qty] REAL NOT NULL,
5     [Price] REAL NOT NULL,
6     [Deleted] INT NOT NULL,
7     [OrderId] INT NOT NULL,
8     CONSTRAINT [PK_OrderDetails] PRIMARY KEY CLUSTERED ([OrderDetailsId] ASC),
9     CONSTRAINT [FK_OrderDetails_Orders_OrderId] FOREIGN KEY ([OrderId]) REFERENCES [dbo].[Orders] ([OrderId]) ON DELETE CASCADE,
10    CONSTRAINT [FK_OrderDetails_Products_ProductId] FOREIGN KEY ([ProductId]) REFERENCES [dbo].[Products] ([ProductId]) ON DELETE CASCADE,
11 );
12 GO
13 CREATE NONCLUSTERED INDEX [IX_OrderDetails_OrderId]
14     ON [dbo].[OrderDetails]([OrderId] ASC);
15 GO
16 CREATE NONCLUSTERED INDEX [IX_OrderDetails_ProductId]
17     ON [dbo].[OrderDetails]([ProductId] ASC);

```

dbo.Products [Design]* x dbo.OrderDetails [Design]* dbo.Orders [Design] dbo.Clients [Design] 20200211173317_migration1.cs App.config

Update Script File: dbo.Products.sql*

Name	Data Type	Allow Nulls	Default
ProductId	int	<input type="checkbox"/>	
ProductName	nvarchar(50)	<input checked="" type="checkbox"/>	
Stock	real	<input type="checkbox"/>	
Price	real	<input type="checkbox"/>	
Deleted	int	<input type="checkbox"/>	
OrderDetailsId	int	<input checked="" type="checkbox"/>	

- Keys (1)**
 - PK_Products (Primary Key, Clustered: ProductId)
- Check Constraints (0)**
- Indexes (1)**
 - IX_Products_OrderDetailsId (OrderDetailsId)
- Foreign Keys (1)**
 - FK_Products_OrderDetails_OrderDetailsId (OrderDetailsId)
- Triggers (0)**

Design T-SQL

```

1 CREATE TABLE [dbo].[Products] (
2     [ProductId] INT IDENTITY (1, 1) NOT NULL,
3     [ProductName] NVARCHAR (50) NULL,
4     [Stock] REAL NOT NULL,
5     [Price] REAL NOT NULL,
6     [Deleted] INT NOT NULL,
7     [OrderDetailsId] INT NULL,
8     CONSTRAINT [PK_Products] PRIMARY KEY CLUSTERED ([ProductId] ASC),
9     CONSTRAINT [FK_Products_OrderDetails_OrderDetailsId] FOREIGN KEY ([OrderDetailsId]) REFERENCES [dbo].[OrderDetails] ([OrderDetailsId]),
10 );
11 GO
12 CREATE NONCLUSTERED INDEX [IX_Products_OrderDetailsId]
13     ON [dbo].[Products]([OrderDetailsId] ASC);
14

```