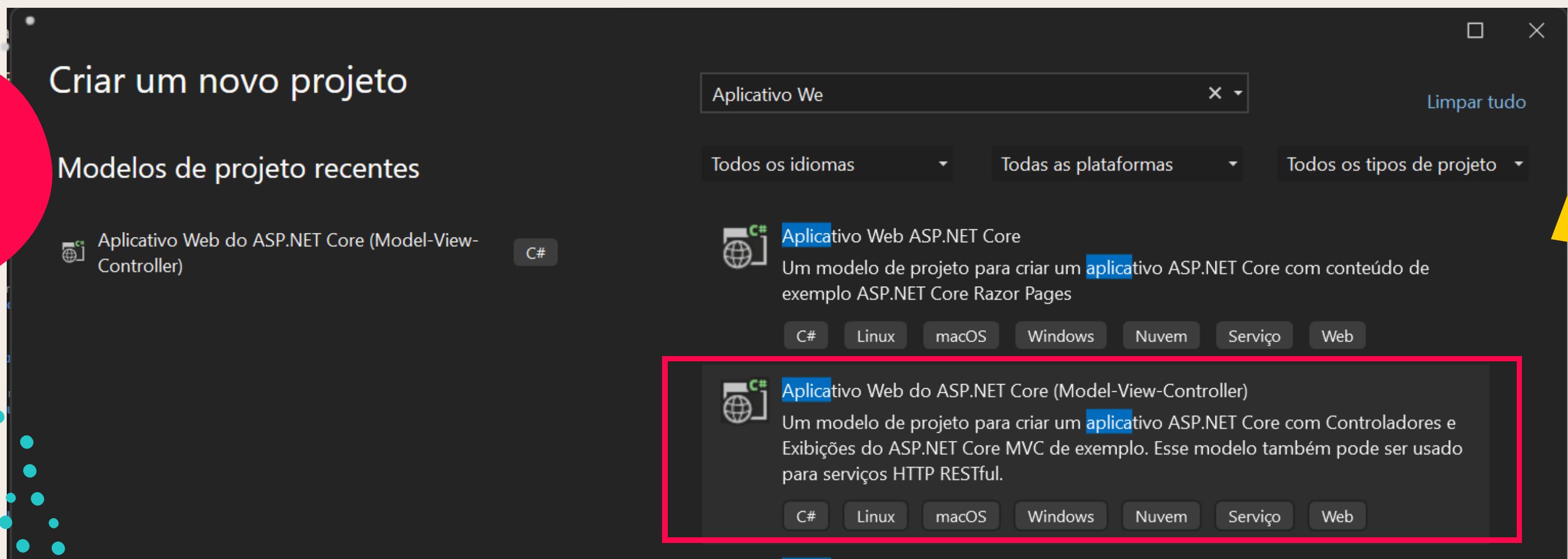


CHECKPOINT 04

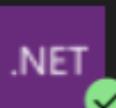
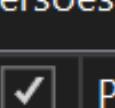
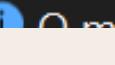
ENTERPRISE APPLICATION DEVELOPMENT

Criação do projeto



Utilizamos o App Web com MVC

Pacotes instalados

 .NET	Microsoft.EntityFrameworkCore por Microsoft	7.0.11	 .NET
	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...		 .NET
 .NET	Microsoft.EntityFrameworkCore.Tools por Microsoft	7.0.0	Versões – 1
	Entity Framework Core Tools for the NuGet Package Manager Console in Visual Studio.	7.0.11	<input checked="" type="checkbox"/> Projeto
 .NET	Microsoft.VisualStudio.Web.CodeGeneration.Design por Microsoft	6.0.16	<input checked="" type="checkbox"/> ProjCp
	Code Generation tool for ASP.NET Core. Contains the dotnet-aspnet-codegenerator command used for generating controllers and views.	7.0.10	
 Oracle	Oracle.EntityFrameworkCore por Oracle	7.21.11	Instalado:
	Oracle Data Provider for .NET Entity Framework Core for Oracle Database		<input checked="" type="checkbox"/>
			Versão:
			 O mapeamento de Oracle...

Criando a tabela



```
Application1          ProjCp1.Models.Roupas
```

```
using System.ComponentModel.DataAnnotations;

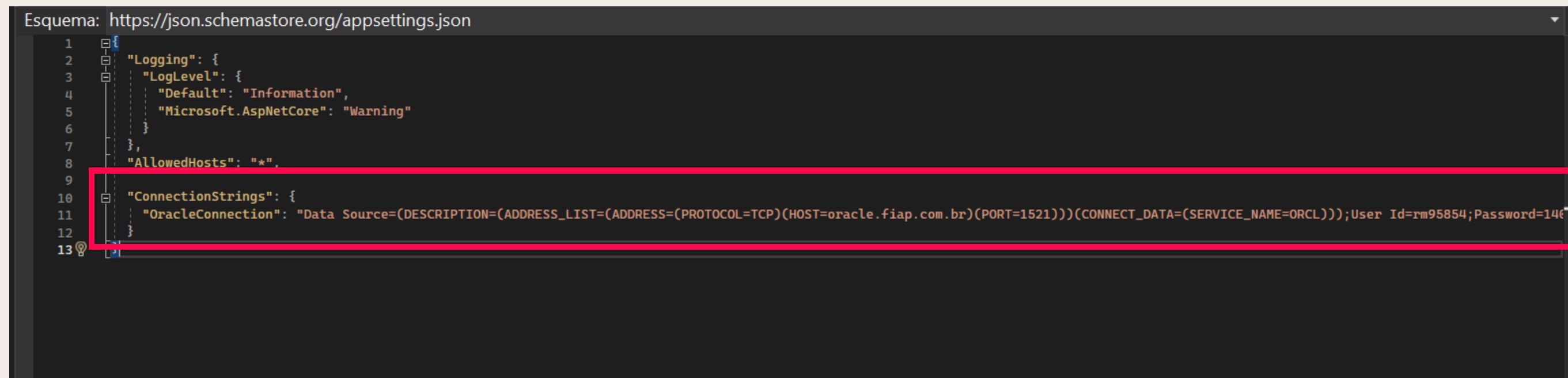
namespace ProjCp1.Models
{
    public class Roupas
    {
        [Key]
        public int Id { get; set; }

        [Required]
        public string Tipo { get; set; }

        [Required]
        public string Tecido { get; set; }
    }
}
```

Dentro da pasta Models, foi criada a classe que será a tabela do banco de dados

Criando a tabela



Esquema: <https://json.schemastore.org/appsettings.json>

```
1  {
2    "Logging": {
3      "LogLevel": {
4        "Default": "Information",
5        "Microsoft.AspNetCore": "Warning"
6      }
7    },
8    "AllowedHosts": "*",
9
10   "ConnectionStrings": {
11     "OracleConnection": "Data Source=(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=oracle.fiap.com.br)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=ORCL)));User Id=rm95854;Password=14072023"
12   }
13 }
```

Dentro da pasta Models, foi criada a classe que será a tabela do banco de dados

Criando a persistência



A screenshot of a Microsoft Visual Studio IDE window. The title bar shows "Contexto.cs*" and "Roupas.cs*". The main code editor displays the "ProjCp1.Persistence.Contexto" file, which contains the following C# code:

```
1  using System.Collections.Generic;
2  using Microsoft.EntityFrameworkCore;
3  using ProjCp1.Models;
4
5  namespace ProjCp1.Persistence
6  {
7      public class Contexto : DbContext
8      {
9          public Contexto(DbContextOptions<Contexto> options) : base(options)
10         {
11         }
12     }
13
14     public DbSet<Roupas> Roupas { get; set; }
15
16 }
17
18 }
```

To the right of the code editor is the "Gerenciador de Soluções" (Solution Explorer) pane, showing the project structure:

- Solução 'WebApplication1' (1 item)
- WebApplication1
 - Connected Services
 - Dependências
 - Properties
 - wwwroot
 - Controllers
 - Models
 - ErrorViewModel.cs
 - Roupas.cs
 - Persistence
 - Contexto.cs

Parte da persistência no aplicativo ASP.NET Core
que é usada para interagir com o banco de dados.

Configurando o program.cs

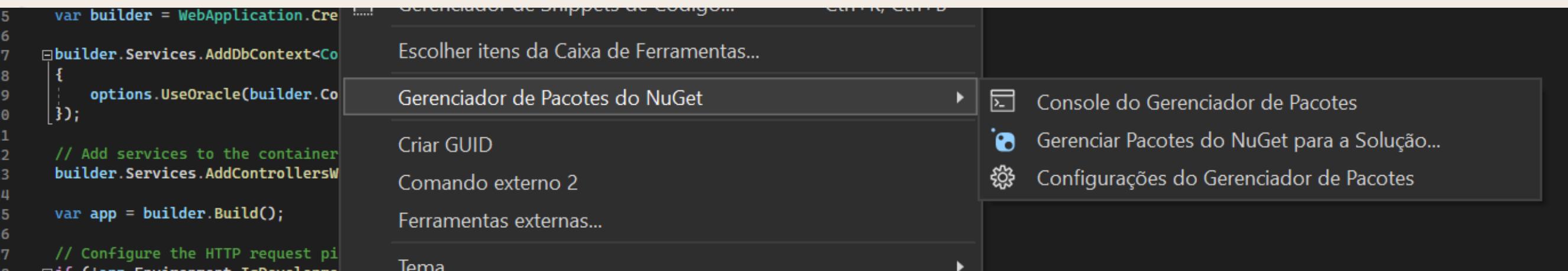


A screenshot of a code editor showing the `Program.cs` file for a .NET Core application. The code is responsible for configuring the application's services and pipeline. A red rectangular box highlights the section where the `AddDbContext` method is called to configure the database context.

```
1  using Microsoft.EntityFrameworkCore;
2  using ProjCp1.Models;
3  using ProjCp1.Persistence;
4
5  var builder = WebApplication.CreateBuilder(args);
6
7  builder.Services.AddDbContext<Contexto>(options =>
8  {
9      options.UseOracle(builder.Configuration.GetConnectionString("OracleConnection"));
10 });
11
12 // Add services to the container.
13 builder.Services.AddControllersWithViews();
14
15 var app = builder.Build();
16
17 // Configure the HTTP request pipeline.
18 if (!app.Environment.IsDevelopment())
19 {
20     app.UseExceptionHandler("/Home/Error");
21     // The default HSTS value is 30 days. You may want to change this for production scenarios, see https://aka.ms/aspnetcore-hsts.
22     app.UseHsts();
23 }
```

Constrói a aplicação, preparando-a para ser executada

Configurando o program.cs

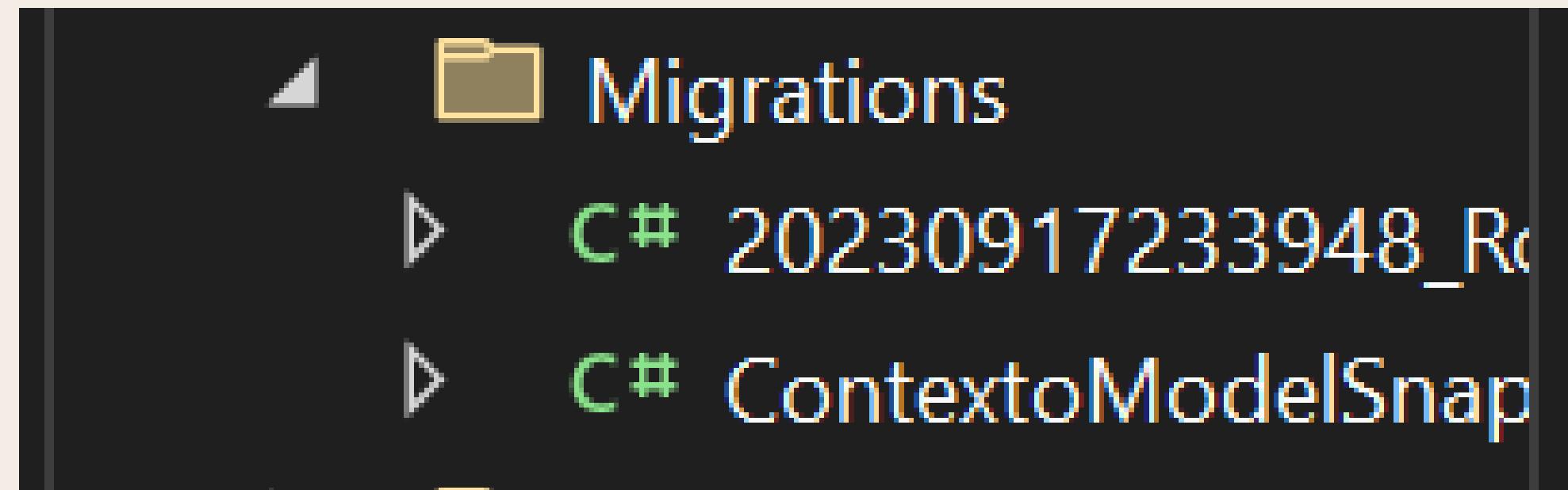


A screenshot of the 'Console do Gerenciador de Pacotes' window in Visual Studio. The window shows the output of a 'dotnet ef migrations add' command. The output includes the successful creation of a migration named 'Roupas' and the execution of the migration. A warning message at the bottom states: 'The Entity Framework tools version '7.0.0' is older than that of the runtime '7.0.11'. Update the tools for the latest features and bug fixes. See https://aka.ms/AAClfbw for more information.' The window has tabs for 'Todos' and 'Projeto padrão: ProjCp1'.

```
'System.Text.Encodings.Web 6.0.0' desinstalado com sucesso de ProjCp1
'System.Text.Json 6.0.0' desinstalado com sucesso de ProjCp1
'Microsoft.EntityFrameworkCore.Design 7.0.0' instalado com sucesso em ProjCp1
'Microsoft.EntityFrameworkCore.Tools 7.0.0' instalado com sucesso em ProjCp1
'Microsoft.Extensions.DependencyInjection 7.0.0' instalado com sucesso em ProjCp1
'Mono.TextTemplating 2.2.1' instalado com sucesso em ProjCp1
'System.Buffers 4.3.0' instalado com sucesso em ProjCp1
'System.CodeDom 4.4.0' instalado com sucesso em ProjCp1
'System.Text.Encodings.Web 7.0.0' instalado com sucesso em ProjCp1
'System.Text.Json 7.0.0' instalado com sucesso em ProjCp1
Executando o arquivo de script 'C:\Users\eduar\.nuget\packages\microsoft.entityframeworkcore.tools\7.0.0\tools\init.ps1'
Executar ações do nuget levou 759 ms
Tempo Decorrido: 00:00:03.9854673
PM> Add-Migration Roupas
Build started...
Build succeeded.
The Entity Framework tools version '7.0.0' is older than that of the runtime '7.0.11'. Update the tools for the latest features and bug fixes. See https://aka.ms/AAClfbw for more information.
To undo this action, use Remove-Migration.
PM>
```

O comando `Add-Migration` é uma parte fundamental do Entity Framework, que é um framework de mapeamento objeto-relacional (ORM) desenvolvido pela Microsoft para .NET. Esse comando é usado para criar migrações em um contexto de banco de dados.

Pasta Migration criada



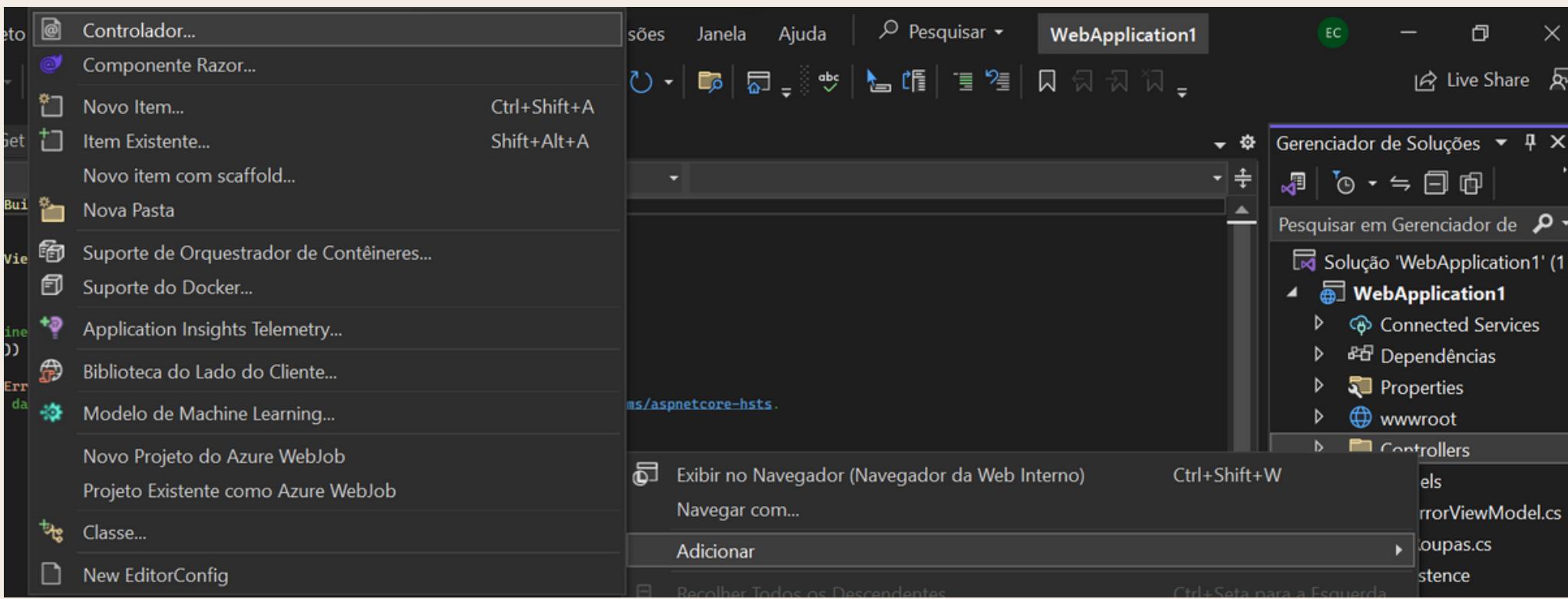
Essa pasta foi criada automaticamente a partir do comando a cima

Update-Database

```
PM> Update-Database
Build started...
Build succeeded.
The Entity Framework tools version '7.0.0' is older than that of the runtime '7.0.11'. Update the tools for the latest features and bug fixes. See https://aka.ms/AAc1fbw for more information.
infoverbose: Executed DbCommand (63ms) [Parameters=[], CommandType='Text', CommandTimeout='0']
: Microsoft.EntityFrameworkCore.Database.Command[20101]
    Executed DbCommand (63ms) [Parameters=[], CommandType='Text', CommandTimeout='0']
        SELECT t.table_name FROM user_tables t WHERE t.table_name = N'__EFMigrationsHistory'
Microsoft.EntityFrameworkCore.Database.Command[20101]
    Executed DbCommand (60ms) [Parameters=[], CommandType='Text', CommandTimeout='0']
    Begin
    BEGIN
    EXECUTE IMMEDIATE 'CREATE TABLE
    "__EFMigrationsHistory" (
        "MigrationId" NVARCHAR2(150) NOT NULL,
    
```

O comando `Update-Database` é usado em conjunto com o Entity Framework no contexto de desenvolvimento de aplicativos .NET para aplicar as migrações pendentes a um banco de dados

Criando a Class Controllers



```
namespace ProjCp1.Controllers
{
    public class RoupasController : Controller
    {
        private readonly Contexto _context;
        public RoupasController(Contexto context)
        {
            _context = context;
        }
        // GET: Roupas
        public async Task<IActionResult> Index()
        {
            return _context.Roupas != null ?
                View(await _context.Roupas.ToListAsync()) :
                Problem("Entity set 'Contexto.Roupas' is null.");
        }
        // GET: Roupas/Details/5
        public async Task<IActionResult> Details(int? id)
        {
            if (id == null || _context.Roupas == null)
            {
                return NotFound();
            }
            var roupas = await _context.Roupas
                .FirstOrDefaultAsync(m => m.Id == id);
            if (roupas == null)
            {
                return NotFound();
            }
        }
    }
}
```

Tabelas instanciadas no Oracle SQL

_EFMigrationsHistory

The screenshot shows the Oracle SQL Developer interface with the table structure for _EFMigrationsHistory. The table has two columns: MigrationId (NVARCHAR2(150)) and ProductVersion (NVARCHAR2(32)). Both columns are non-null and have a default value of null.

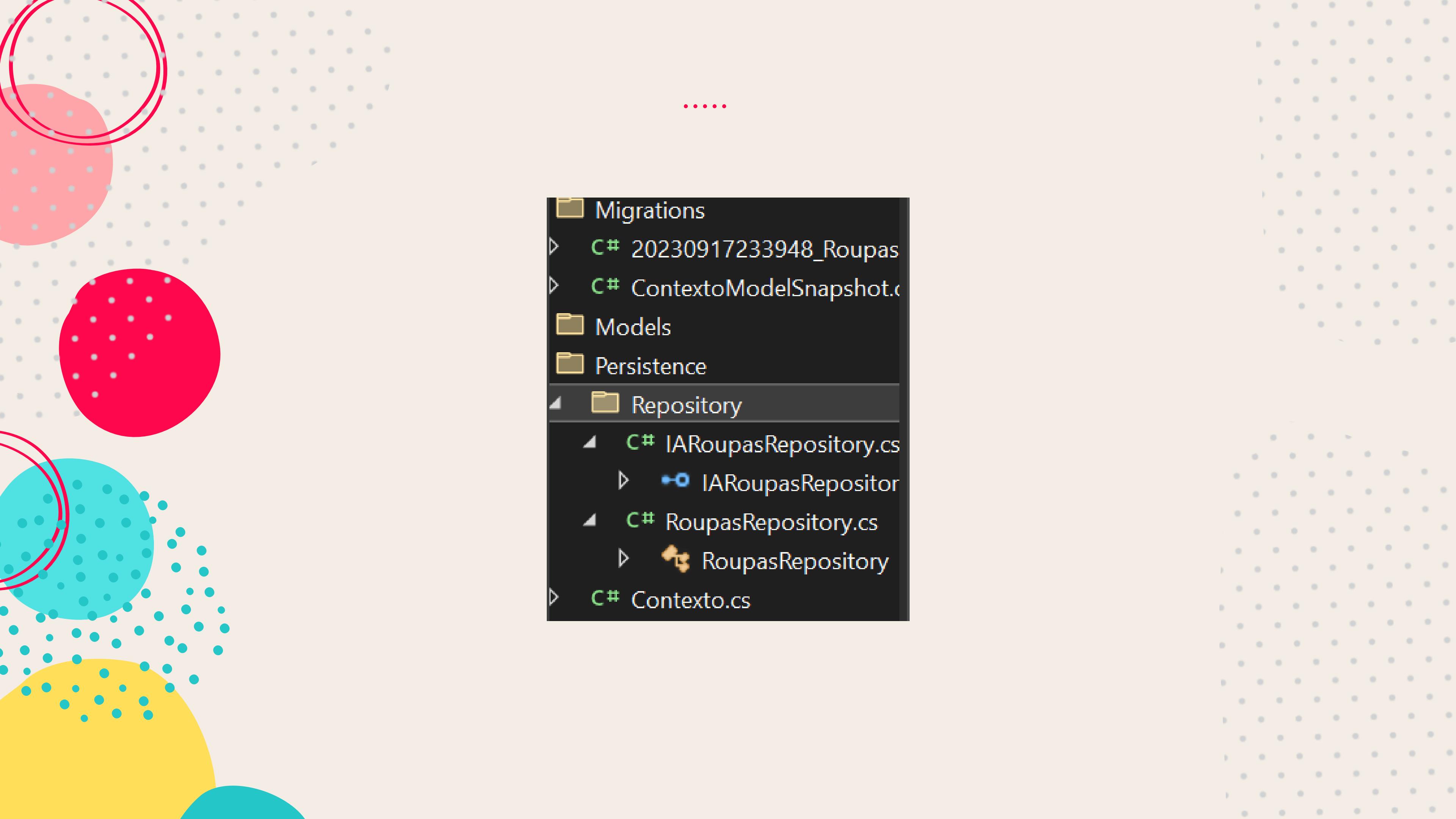
COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
MigrationId	NVARCHAR2(150 C...)	No	(null)	1	(null)
ProductVersion	NVARCHAR2(32 CHAR)	No	(null)	2	(null)

Roupas

The screenshot shows the Oracle SQL Developer interface with the table structure for Roupas. The table has three columns: Id (NUMBER), Tipo (NVARCHAR2(2000)), and Tecido (NVARCHAR2(2000)). The Id column is non-null and has a default value of RM95854. The Tipo and Tecido columns are non-null and have a default value of null.

COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
Id	NUMBER(10, 0)	No	"RM95854...	1	(null)
Tipo	NVARCHAR2(2000 ...	No	(null)	2	(null)
Tecido	NVARCHAR2(2000 ...	No	(null)	3	(null)

.....



```
📁 Migrations
▷ C# 20230917233948_Roupas
▷ C# ContextoModelSnapshot.cs

📁 Models

📁 Persistence

📁 Repository
    ▲ C# IARoupasRepository.cs
        ▷ IARoupasRepository
    ▲ C# RoupasRepository.cs
        ▷ RoupasRepository
▷ C# Contexto.cs
```

Usando a interface



```
ProjCp1
```

```
ProjCp1.Persistence
```

```
1 using ProjCp1.Models;
2
3 namespace ProjCp1.Persistence.Repository
4 {
5     public interface IARoupasRepository
6     {
7         Roupas GetById(int id);
8         IEnumerable<Roupas> GetAll();
9         void Add(Roupas entity);
10        void Update(Roupas entity);
11        void Delete(Roupas entity);
12    }
13}
14
```

Classe herdando a interface

```
5  {
6      1 referência
7      public class RoupasRepository : IARoupasRepository
8      {
9          private readonly Contexto _dbContext;
10         0 referências
11         public RoupasRepository(Contexto dbContext)
12         {
13             _dbContext = dbContext;
14         }
15
16         1 referência
17         public Roupas GetById(int id)
18         {
19             return _dbContext.Roupas.Find(id);
20         }
21
22         1 referência
23         public IEnumerable<Roupas> GetAll()
24         {
25             return _dbContext.Roupas.ToList();
26         }
27
28         1 referência
29         public void Add(Roupas entity)
30         {
31             _dbContext.Roupas.Add(entity);
32             _dbContext.SaveChanges();
33         }
34
35         1 referência
36         public void Update(Roupas entity)
37         {
38             _dbContext.Entry(entity).State = EntityState.Modified;
39             _dbContext.SaveChanges();
40         }
41
42         1 referência
43         public void Delete(Roupas entity)
```

Esta encapsulando os CRUDS dos dados



Integrantes:

RM95854 - Eduarda Nicoli Cavalheiro

RM95396 - Ingrid Vieira de Oliveira