

Adding data with EF Core



Gill Cleeren

ARCHITECT

@gillcleeren www.snowball.be



Overview



An overview of Entity Framework Core

Adding EF Core to our application

Database initialization and migrations



An overview of Entity Framework Core



Entity Framework



Code



Entity Framework



Database

Entity Framework

Code-First
&
Database-First

SQL Server and
other DBs

LINQ-based



What EF Does for You

Class

```
public class Pie
{
    public int PieId { get; set; }
    public string Name { get; set; }
    public string Description { get; set; }
}
```

Table

Field	Int (PK)
Name	String
Description	string



“Entity Framework (EF) Core is a lightweight and extensible version of the popular Entity Framework data access technology”

EFProject.net



Entity Framework Core (EF Core)

“EF 7”

**Lightweight &
Cross-platform**

Open-source

**SQL Server and
other, non-relational
DB support**

Code-First only

**Added using
package**



Adding EF Core to Our Application



Model Classes

```
public class Pie
{
    public int PieId { get; set; }
    public string Name { get; set; }
    public string ShortDescription { get; set; }
    public string LongDescription { get; set; }
    public string AllergyInformation { get; set; }
    public decimal Price { get; set; }
    public string ImageUrl { get; set; }
    ...
    public virtual Category Category { get; set; }
}
```



project.json

```
{  
  "dependencies": {  
    "Microsoft.NETCore.App": {  
      "version": "1.0.1",  
      "type": "platform"  
    },  
    ...  
    "Microsoft.AspNetCore.Mvc": "1.0.1",  
    "Microsoft.EntityFrameworkCore.SqlServer": "1.0.1",  
    "Microsoft.EntityFrameworkCore.Tools": "1.0.0-preview2-final",  
    "Microsoft.Extensions.Configuration.Json": "1.0.0"  
  }  
}
```



project.json

```
"tools": {  
  "Microsoft.AspNetCore.Razor.Tools": "1.0.0-preview2-final",  
  "Microsoft.AspNetCore.Server.IISIntegration.Tools": "1.0.0-preview2-final",  
  "Microsoft.EntityFrameworkCore.Tools": {  
    "version": "1.0.0-preview2-final",  
    "imports": [ "portable-net45+win8+dnxcore50",  
                 "portable-net45+win8" ]  
  }  
}
```



The Database Context

```
public class AppDbContext : DbContext
{
    public AppDbContext(DbContextOptions<AppDbContext> options)
        : base(options)
    { }

    public DbSet<Pie> Pies { get; set; }
    public DbSet<Category> Categories { get; set; }
}
```



```
{  
  "ConnectionStrings": {  
    "DefaultConnection":  
      "Server=(localdb)\\MSSQLLocalDB;Database=BethanysPieShop;  
        Trusted_Connection=True;MultipleActiveResultSets=true"  
  }  
}
```

The Connection String in appsettings.json



Configuring Our Application

```
private IConfigurationRoot _configurationRoot;

public Startup(IHostingEnvironment hostingEnvironment)
{
    _configurationRoot = new ConfigurationBuilder()
        .SetBasePath(hostingEnvironment.ContentRootPath)
        .AddJsonFile("appsettings.json")
        .Build();
}

public void ConfigureServices(IServiceCollection services)
{
    services.AddDbContext<AppDbContext>(options =>
        options.UseSqlServer(_configurationRoot.GetConnectionString(
            "DefaultConnection")));
}
```



```
_appDbContext.Pies.  
    Include(c => c.Category).Where(p => p.IsPieOfTheWeek);
```

Querying for Data



Modifying Data

```
foreach (var shoppingCartItem in shoppingCartItems)
{
    var orderDetail = new OrderDetail()
    {
        Amount = shoppingCartItem.Amount,
        PieId = shoppingCartItem.Pie.PieId,
        OrderId = order.OrderId,
        Price = shoppingCartItem.Pie.Price
    };
    _appDbContext.OrderDetails.Add(orderDetail);
}

_appDbContext.SaveChanges();
```



Demo



Adding the DbContext

Creating a repository

Configuring the application for EF Core



Database Initialization and Migrations

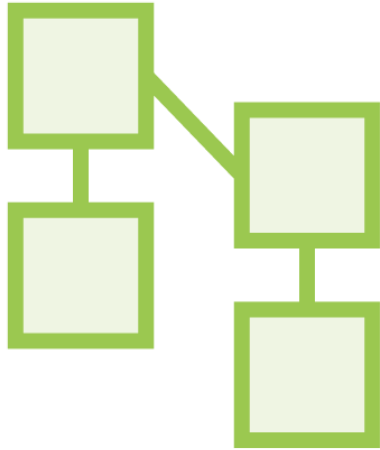


Database Initialization

```
public void Configure(IApplicationBuilder app, IHostingEnvironment env,  
    ILoggerFactory loggerFactory)  
{  
  
    app.UseDeveloperExceptionPage();  
    app.UseStatusCodePages();  
    app.UseStaticFiles();  
  
    DbInitializer.Seed(app);  
  
}
```



Database Migrations



Model changes



Available via
Package Manager Console



Demo



Loading initial data

Using migrations



Summary



EF Core is the ORM for ASP.NET Core MVC applications

Common functionality already available

- Migrations
- Database updates

