

Entity Framework Core 6 Fundamentals

Creating your first app using EF Core 6



Julie Lerman

Most Trusted Authority on Entity Framework Core

@julielerman thedatafarm.com



Version Check



This version was created using:

- Entity Framework Core 6
- .NET 6
- Visual Studio 2022
- C# 10



Not Applicable

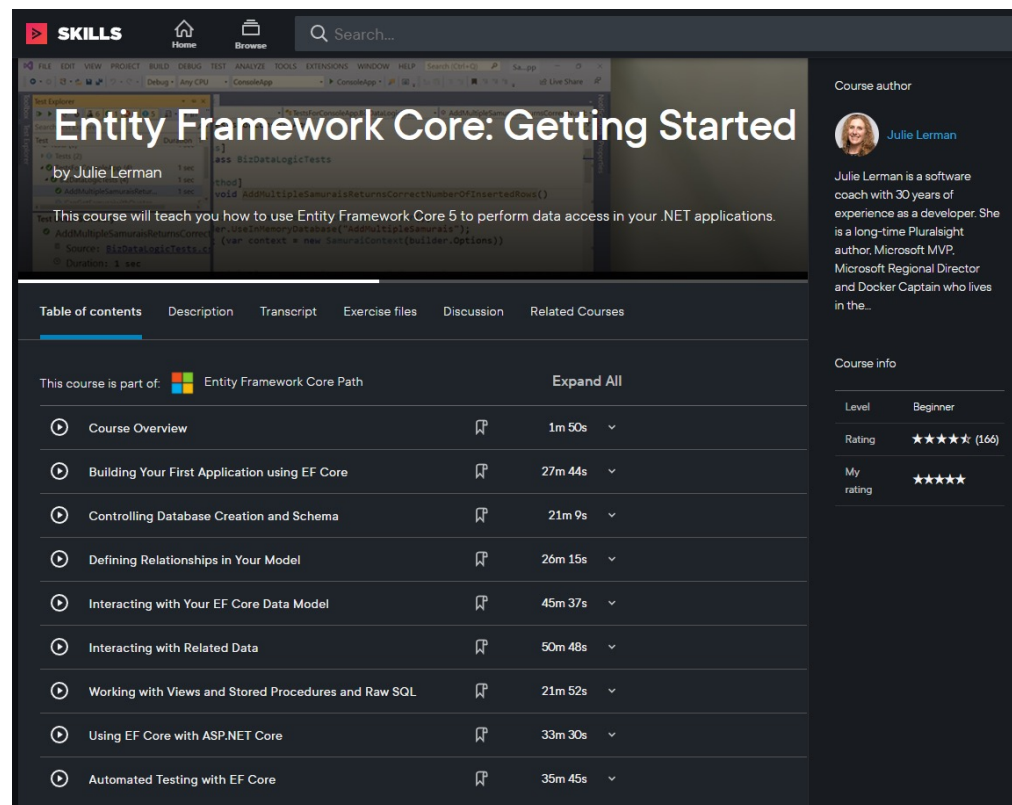


This course is NOT applicable to:

- EF Core 1.0 – EF Core 5
- Entity Framework 6

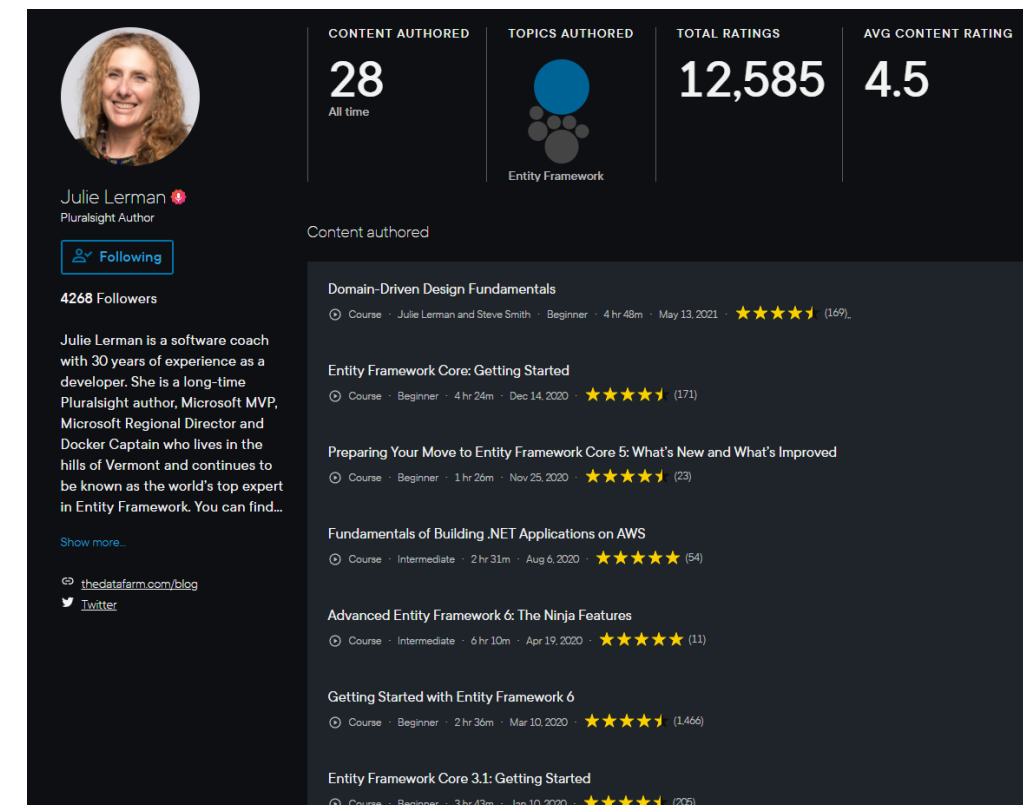


Courses Covering Earlier Versions



Entity Framework Core: Getting Started for EF Core 5

bit.ly/EFCore5Start



Courses on earlier versions of EF Core and EF6 can be found on my author page

bit.ly/PSJulie



Entity Framework Core

Microsoft's cross-platform data access framework for .NET



Course Overview



- Building your first app that uses EF Core**
- Interacting with your EF Core data model**
- Controlling database creation and schema changes**
- Logging SQL and EF Core actions**
- Working with related data**
- Working with raw SQL, views, stored procedures and other database objects**
- EF Core in ASP.NET Core and Blazor apps**
- Using EF Core in your tests**
- Practical features to be aware of**



Module Overview



What is EF Core?

Starting with a new .NET 6 Console app

Adding EF Core 6 APIs

Creating a data model and DB connection

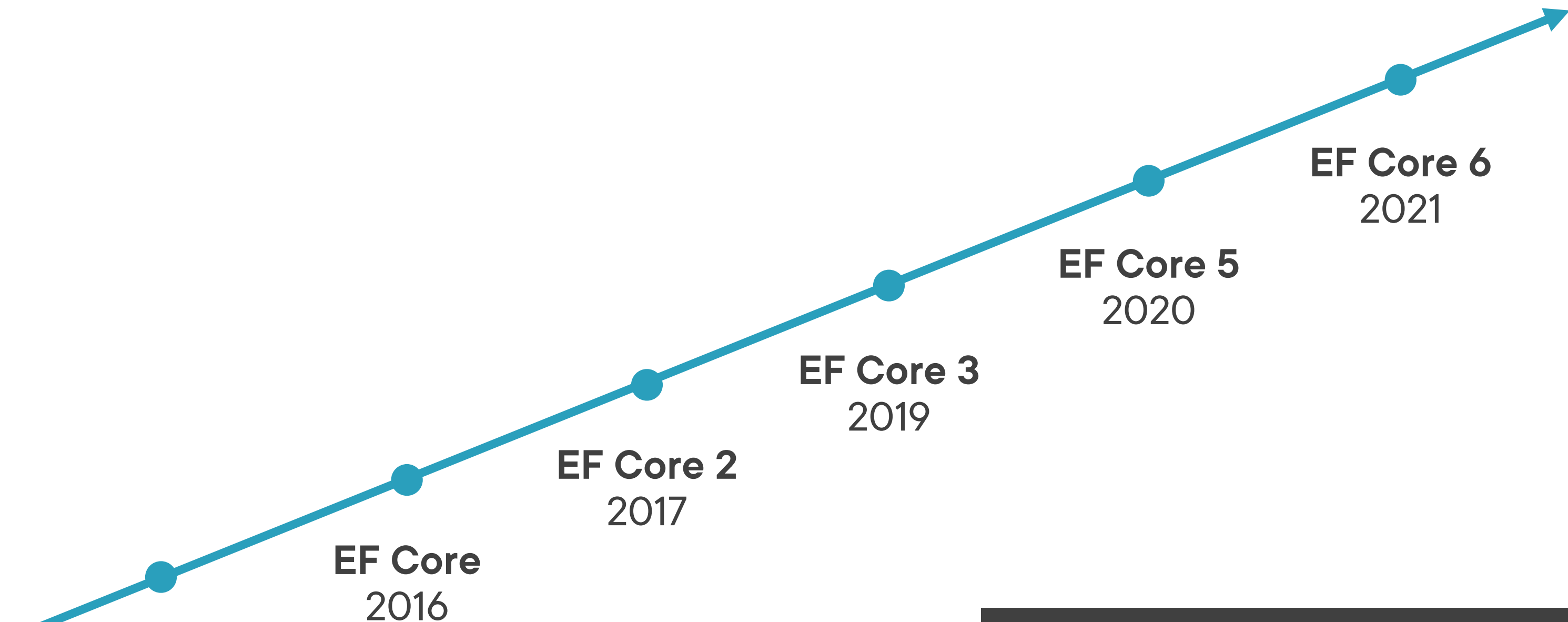
First look at writing and reading data and related data in the application



What is Entity Framework Core?



Microsoft's Object Relational Mapper



EF6.4 ~11 million downloads
EF Core 6 ~1 million
EF Core 5 ~5 million

*Dec 2021

Entity Framework Core

**Microsoft's official data access
technology for .NET development**

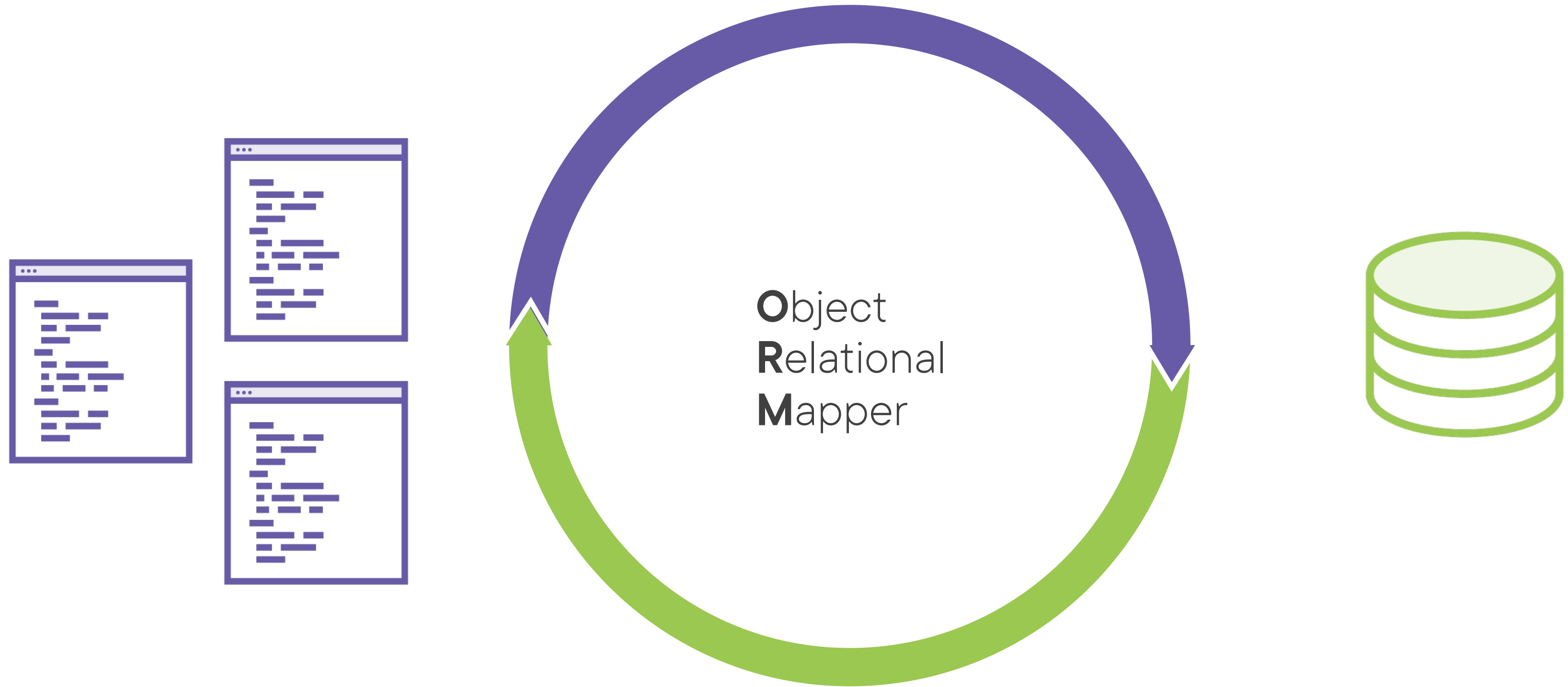
**320 million downloads
(adding every version)**

**~10 million of EF Core 6 in
first 3 weeks**

Windows, macOS & Linux



EF Core Began as an ORM



High Level ORM Benefits

Developer productivity

Coding consistency



EF Core Maps Differently Than Most ORMs

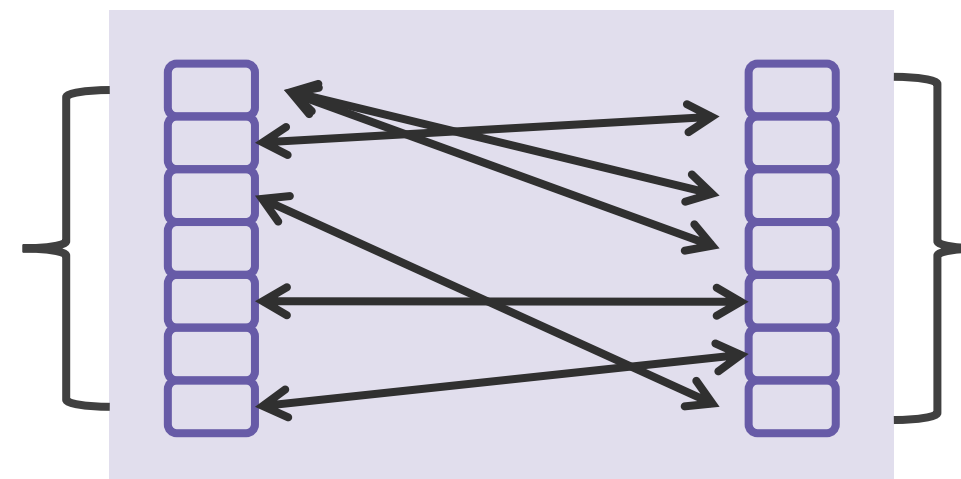
Typical ORM



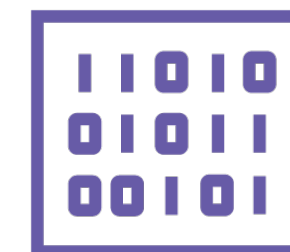
Entity Framework Core



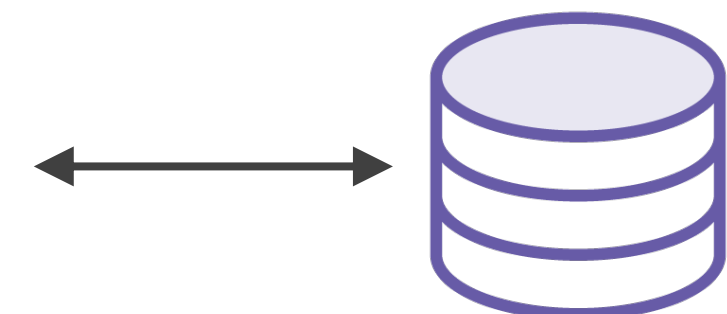
Domain Classes



Mappings



Database Schema



EF Core 6 is mostly backwards compatible to EF Core 5.

Minimal breaking changes mostly affect less common use cases.



Getting the Correct Versions of .NET, SQL Server and Visual Studio for this Course



EF Core 6 Depends on .NET 6

.NET 6



EF 6 only runs on .NET 6
“LTS”: Long Term Support (3 yrs)
Windows, MacOS, Linux

IDEs supporting .NET 6:
Visual Studio Win/Mac 2022
Visual Studio Code C# Extension
JetBrains Rider



Setting Up to Follow Along



Visual Studio 2022



SQL Server LocalDb (installs with VS 2022)



.NET 6.0 SDK



You'll add EF Core 6.0 directly to the projects you create





dot.net

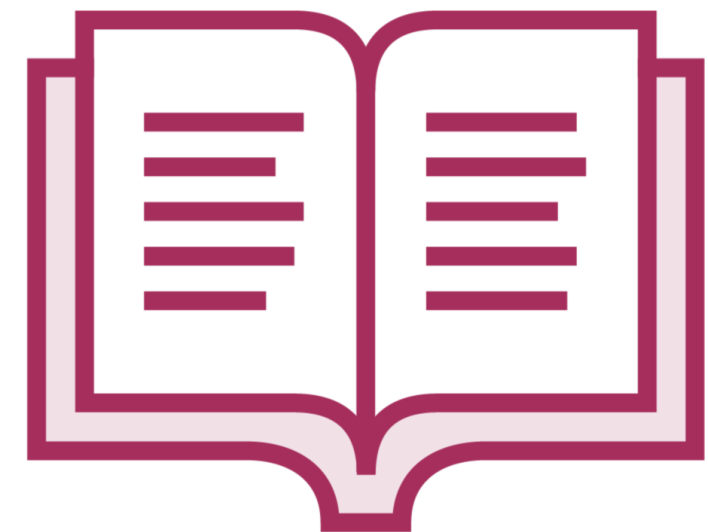
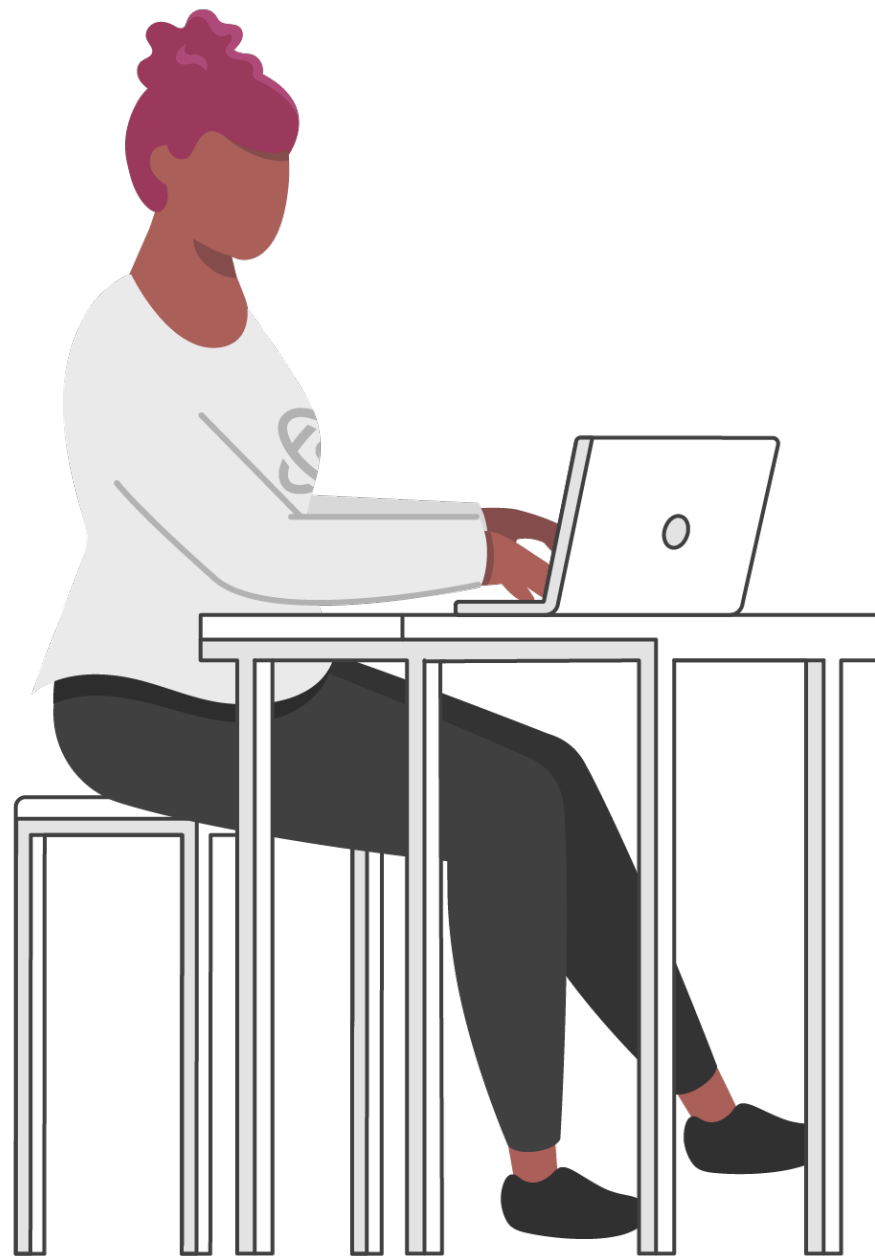
dotnet.microsoft.com/download



Introducing the Project



Publisher of Solo Author Books Only





Use the **BEFORE** solution for this module from the course downloads





Pluralsight course for more info:

Domain-Driven Design Fundamentals

Julie Lerman and Steve Smith





Pluralsight Intro to .NET 6

.NET 6 First Look

Gill Cleeren



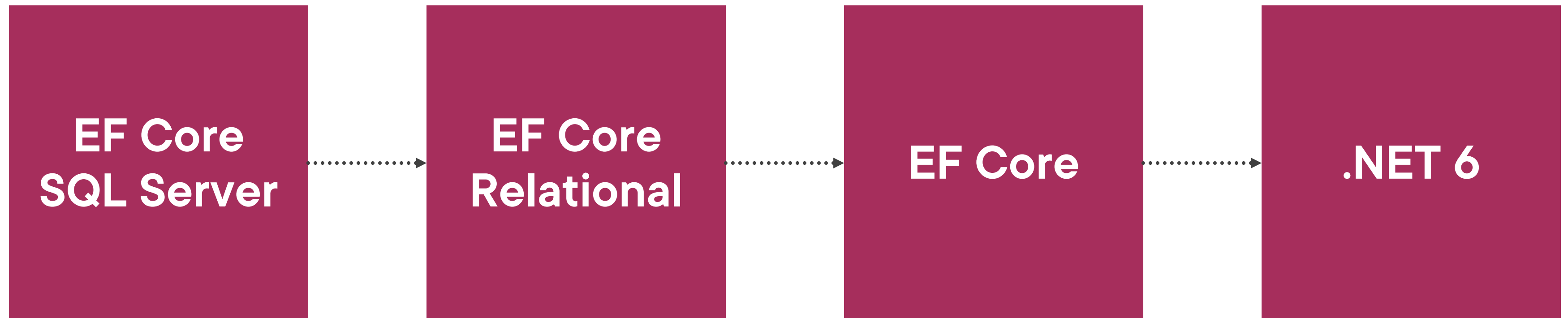
Creating a Data Project with EF Core 6 Packages



Creating the Data Model with EF Core



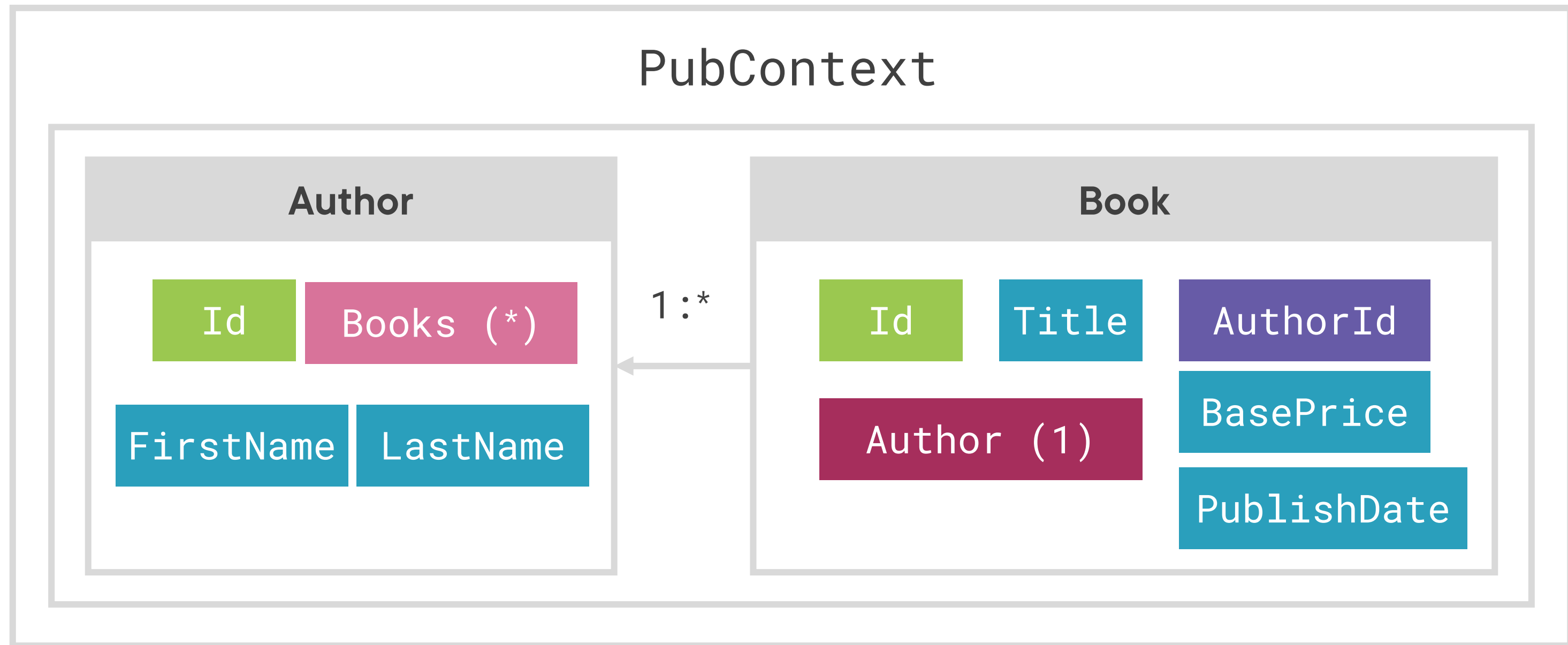
NuGet Package Dependencies



EF Core uses “conventions” to infer the schema of the database you are working with.



Visualizing the DbContext's Interpretation



Model view generated from EF Core Power Tools extension for VS2022.
I'll demo using this tool later in the course



Specifying the Data Provider and Connection String



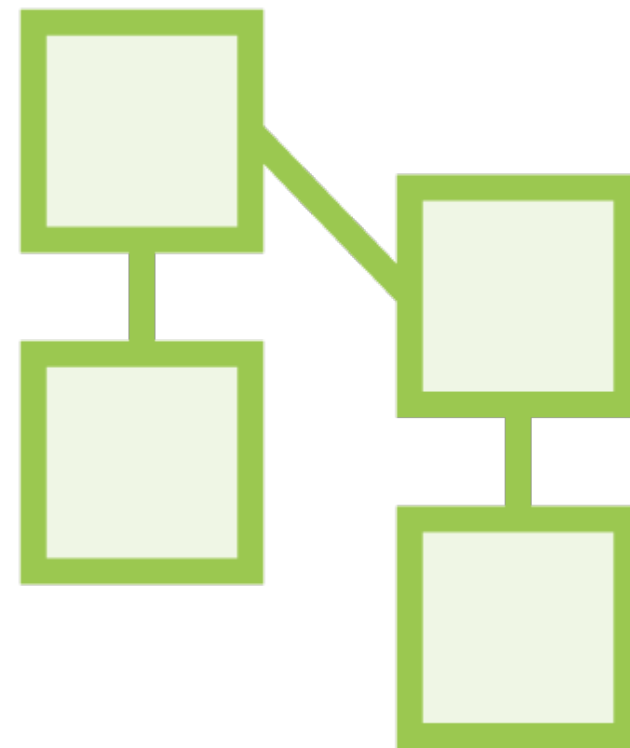
You must specify data provider
and connection string.



How EF Core Interprets Your Data Model



DbContext



**Conventional and
custom mappings**



Database schema

Creating the Data Model and Database

At runtime with code

At design time with tools

Create the database

**Generate SQL for database
schema**



Reading and Writing Some Data



The following code creates a database on-the-fly.

This is useful only in limited scenarios, including demos.



LINQ

Language Integrated Query: part of the C# and VB.NET languages



Reading and Writing Some Related Data



Review



EF Core 6: an object relational mapper with many more capabilities

EF Core 6 requires .NET 6 which requires VS 2022 for dev (or VS Code or JetBrains' Rider)

Learned about some EF Core APIs, database providers and dependencies

Created a data model with DbContext

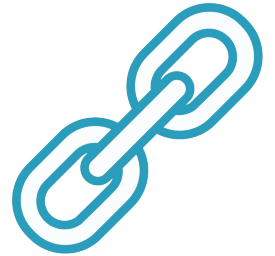
Experienced some basic interaction to insert and query data



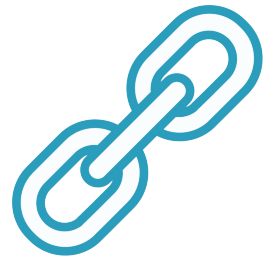
Up Next:
Using EF Core 6 to Query a Database



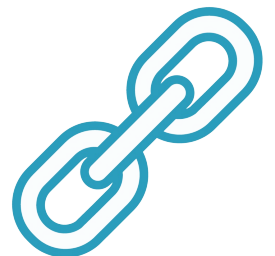
Resources



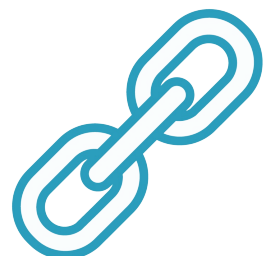
Entity Framework Core on GitHub: github.com/dotnet/efcore



EF Core Documentation: docs.microsoft.com/ef



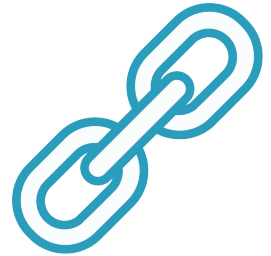
Install dotnet Core SDK dot.net or dotnet.microsoft.com/download



EF Core 6.0: Fulfilling the Bucket List: codemag.com/Article/20100412



Resources Cont.



EF Core providers: docs.microsoft.com/ef/core/providers



Domain-Driven Design Fundamentals (Pluralsight):
bit.ly/DDDFundamentals



.NET 6 First Look (Pluralsight): bit.ly/31kRdCu



Entity Framework Core 6 Fundamentals

Creating your first app using EF Core 6.0



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@julielerman thedatafarm.com

