

Entity Framework Core Fundamentals

Creating Your First App Using EF Core



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Version Check



This course was created by using:

- Entity Framework Core 8
- .NET 8
- Visual Studio 2022 v 17.8
- C# 12



Not Applicable



This course is NOT applicable to:

- EF Core 1.0 – EF Core 7
- Entity Framework 6



Courses Covering Earlier Versions

The screenshot shows the course page for "Entity Framework Core: Getting Started" by Julie Lerman. The page includes a preview video, course description, and a table of contents with 11 video lessons ranging from 1m 50s to 45m 37s. The course is part of the Entity Framework Core Path.

Lesson	Duration
Course Overview	1m 50s
Building Your First Application using EF Core	27m 44s
Controlling Database Creation and Schema	21m 9s
Defining Relationships in Your Model	26m 15s
Interacting with Your EF Core Data Model	45m 37s
Interacting with Related Data	50m 48s
Working with Views and Stored Procedures and Raw SQL	21m 52s
Using EF Core with ASP.NET Core	33m 30s
Automated Testing with EF Core	35m 45s

The screenshot shows Julie Lerman's author profile on Pluralsight. It features her photo, bio, and stats (5429 followers). Below this, it lists 31 courses she has authored, categorized under topics like Software Development, Cloud, and Data. Courses include "EF Core 6 and Domain-Driven Design", "EF Core 6: The Big Picture", "EF Core 6 Fundamentals", and "Domain-Driven Design Fundamentals".

Content Authored (31)

- EF Core 6 and Domain-Driven Design
- EF Core 6: The Big Picture
- EF Core 6 Fundamentals
- Domain-Driven Design Fundamentals

EF Core 6 Fundamentals
bit.ly/EFCore6_JL

**Courses on earlier versions of
EF Core, EF6, and more
on my author page
bit.ly/PSJulie**



Code Samples



Demos can be downloaded from

- This course's "Exercise Files" tab on Pluralsight
- And at
github.com/JulieLerman/EFCore8Fundamentals



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 apps
- Using EF Core in your tests
- Practical features to be aware of



Module Overview



What is EF Core?

Starting with a new .NET Console app

Adding EF Core 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?

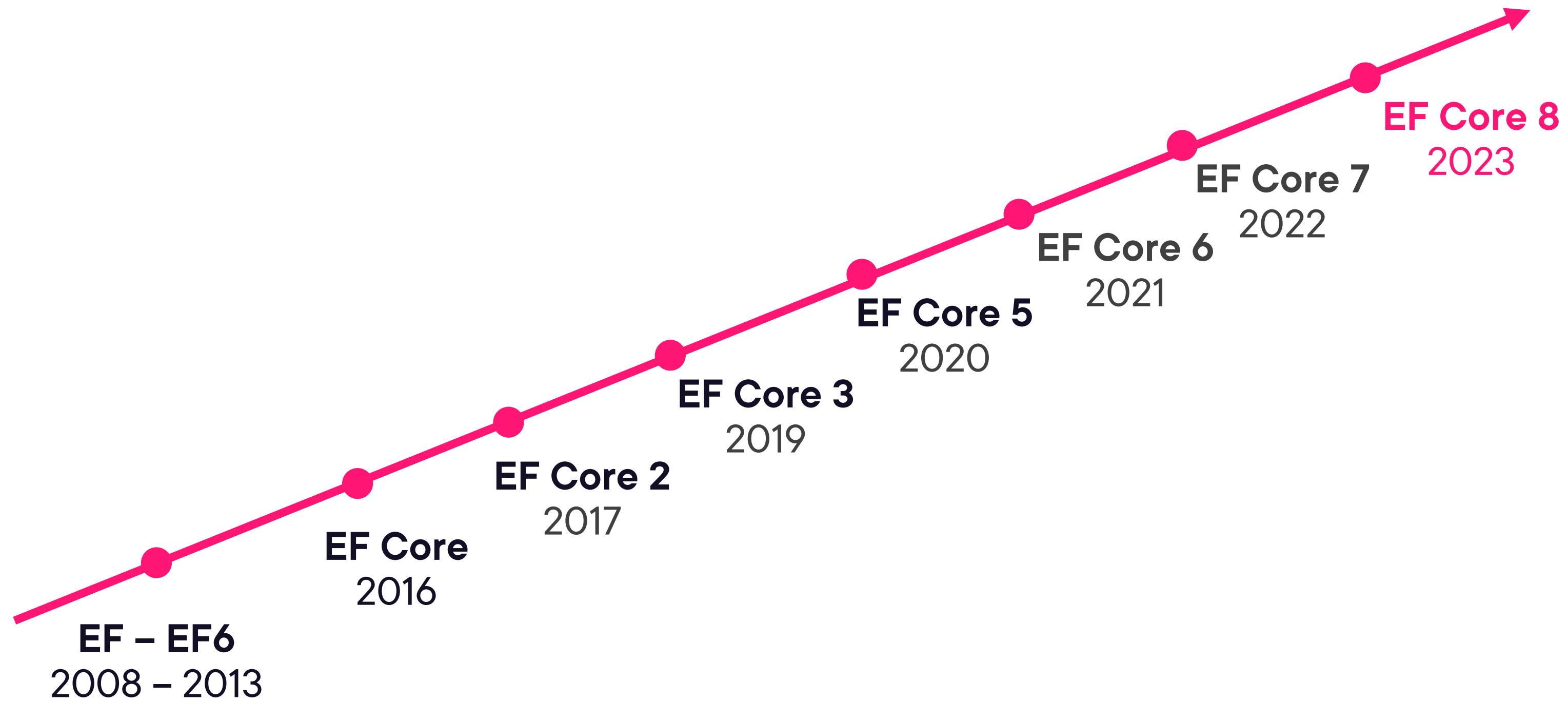


Entity Framework Core

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



EF Core Has a Long History in .NET



What's In a Name?

“EF Core 8” == “EF8”



Entity Framework Core

Microsoft's official data access technology for .NET development

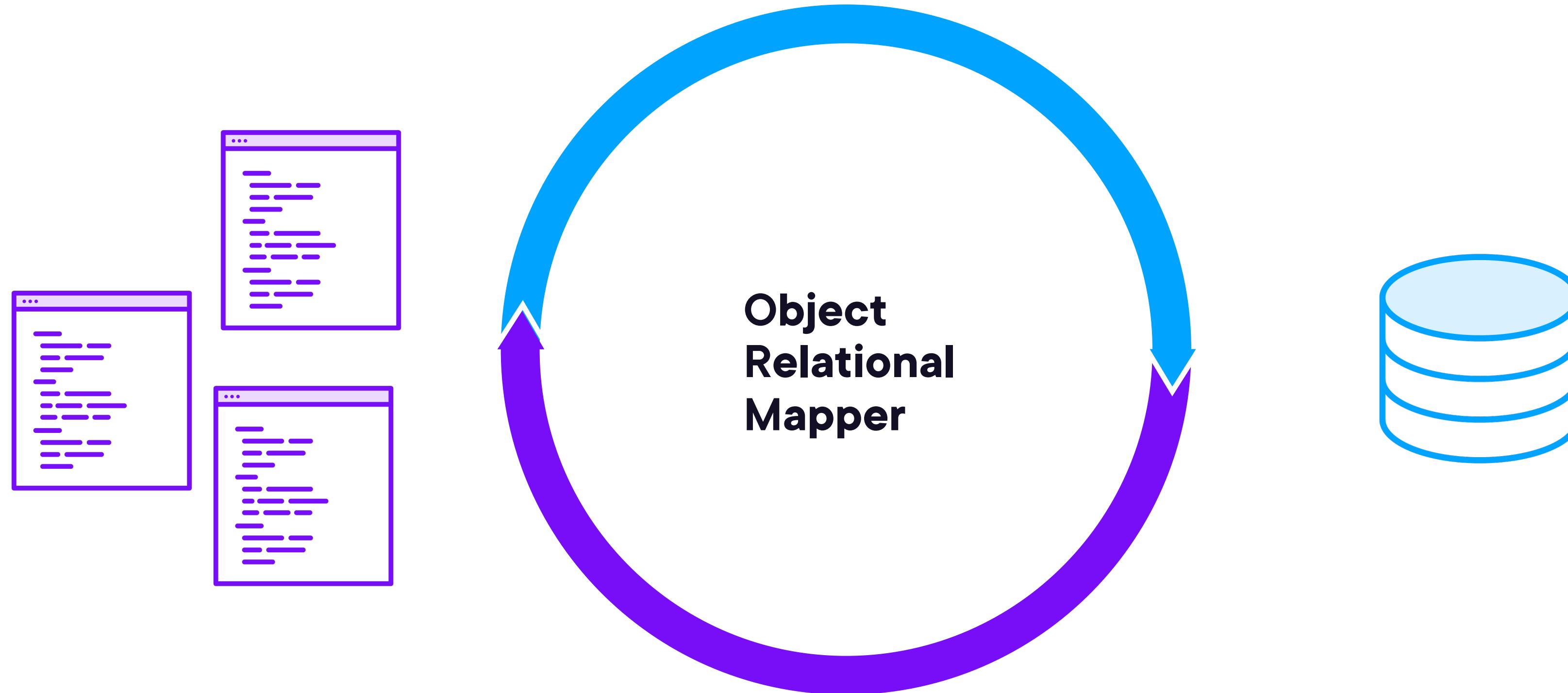
875 million downloads (adding every version)

Used in millions of applications

Windows, macOS, & Linux



EF Core Began as an ORM



High Level ORM Benefits

Developer productivity

Coding consistency

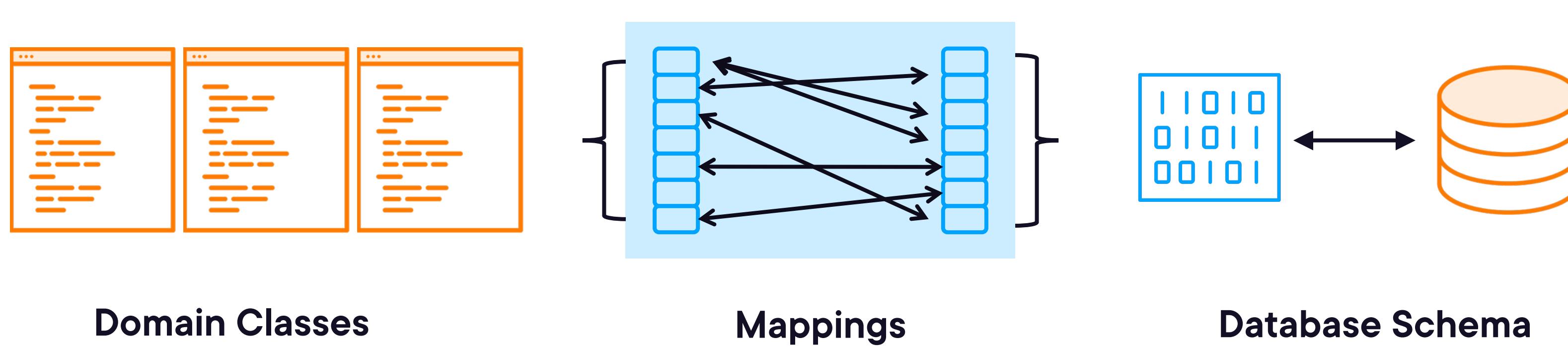


EF Core Maps Differently Than Most ORMs

Typical ORM



Entity Framework Core



**EF Core 8 is mostly
backwards compatible to EF
Core 7.**

**Minimal breaking changes
mostly affect less common
use cases.**



**EF Core 8 is also referred to
as EF8,
even by the EF team**





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



EF Core 8 Targets .NET 8

.NET 8

EF8 targets .NET 8
“LTS”: Long Term Support (3 yrs)
Windows, MacOS, Linux



Visual Studio 2022 v 17.8+
Visual Studio Mac 2022 v 17.6*
Visual Studio Code w/C# DevKit
JetBrains Rider

*VS Mac will be retired August 2024



Setting Up to Follow Along



.NET 8.0 SDK



Visual Studio 2022 v17.8



SQL Server LocalDb (installs with VS 2022, no license needed)



You'll add EF Core 8.0 directly to the projects you create





dot.net

dotnet.microsoft.com/download





visualstudio.com

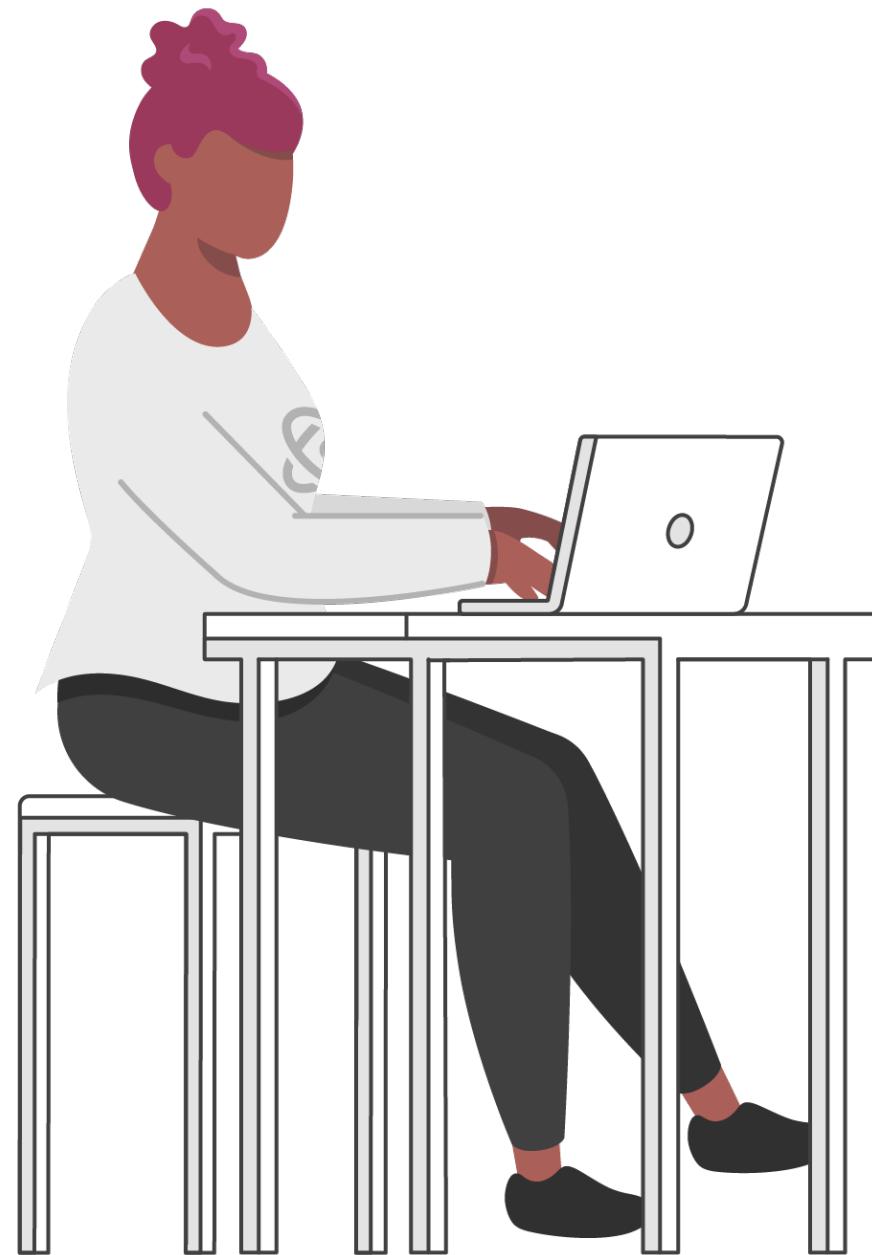


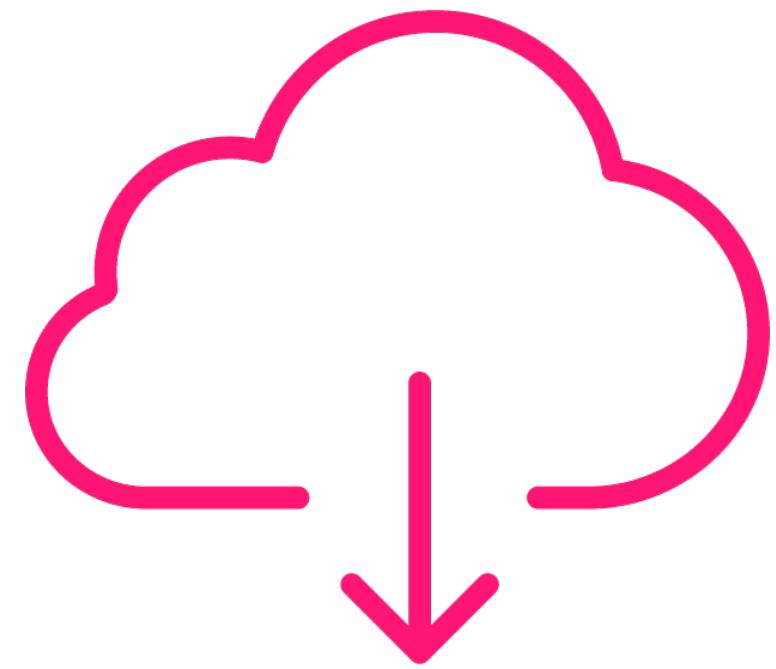


Introducing the Project



Publisher of Solo Author Books Only





Use the BEFORE solution for this module from the course downloads

```
Solution 'PublisherApp' (2 of 2 projects)
  PublisherConsole
    Dependencies
    Program.cs
  PublisherDomain
    Dependencies
    Author.cs
    Book.cs
```



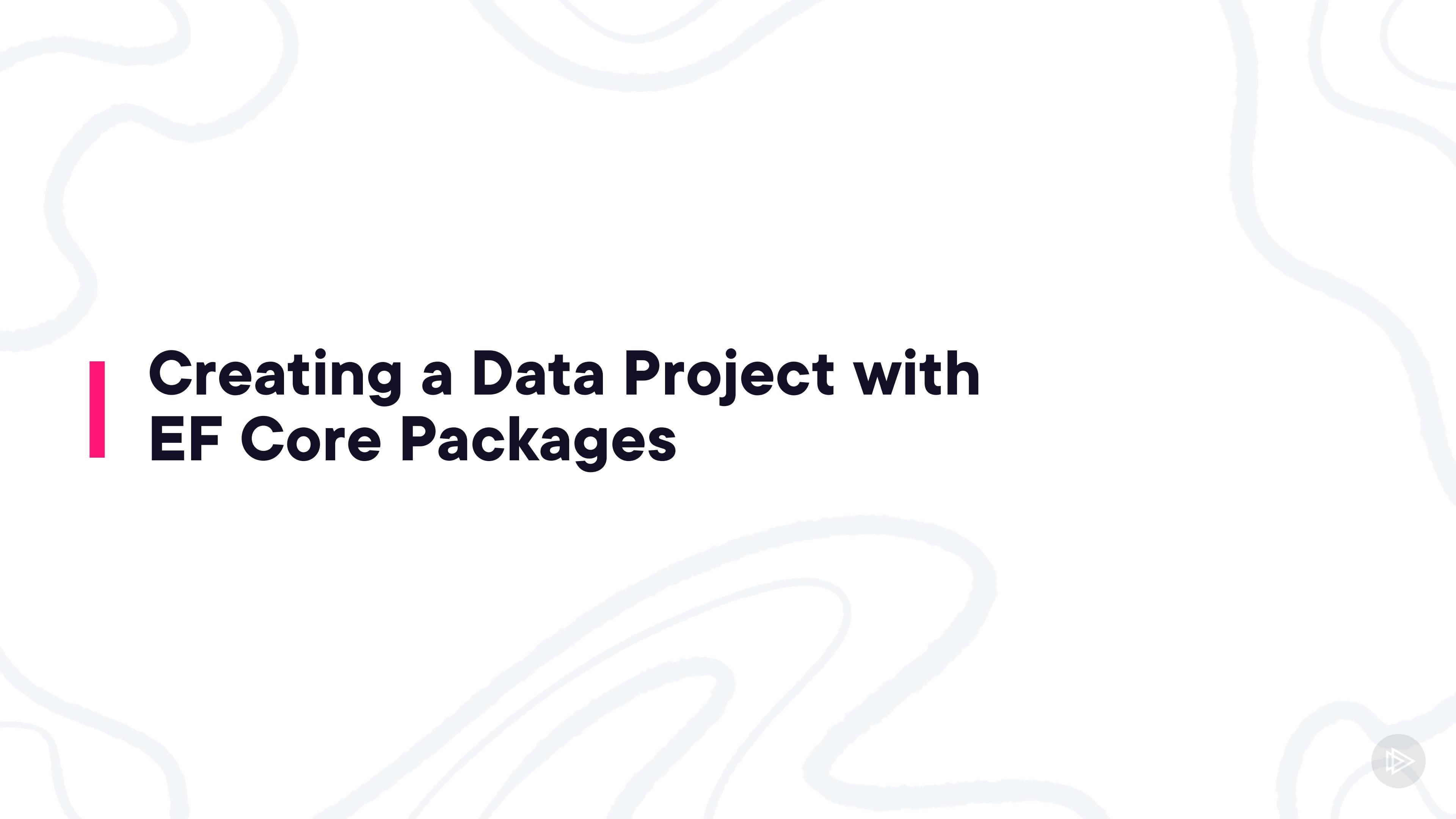


Pluralsight course for more info:

Domain-Driven Design Fundamentals

Julie Lerman and Steve Smith





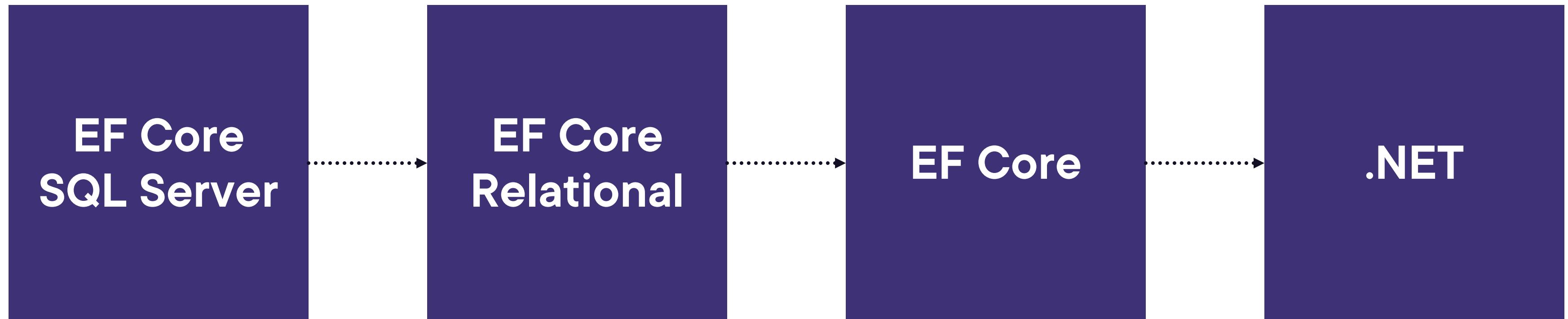
Creating a Data Project with EF Core Packages



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

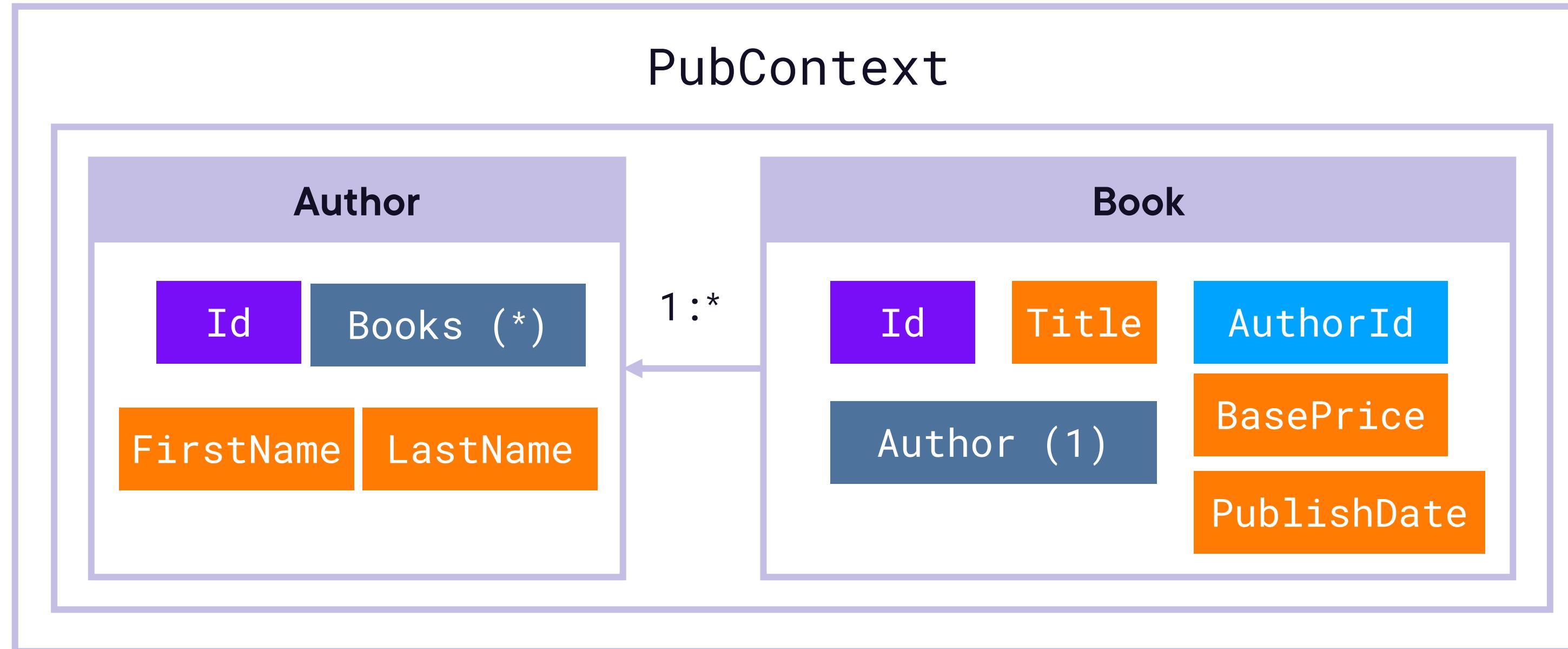


Image based on a model view generated from EF Core Power Tools extension for VS2022.
I'll demo using this tool later in the course



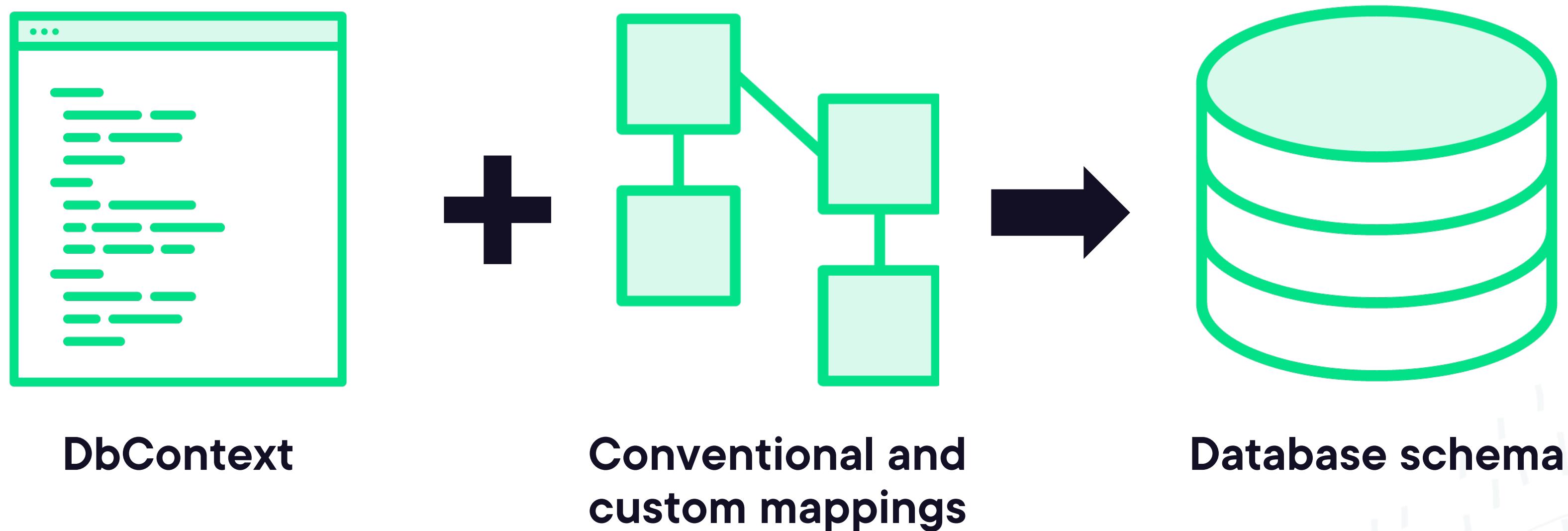
Specifying the Data Provider and Connection String



You must specify data provider and connection string.



How EF Core Interprets Your Data Model



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: an object relational mapper with many more capabilities

EF Core requires .NET which requires VS 2022 v17.8 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 to Query a Database



Resources

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

EF Core Documentation: learn.microsoft.com/ef

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

Sample code to follow along: Exercise files tab on Pluralsight and also
github.com/JulieLerman/EFCore8Fundamentals



Resources Cont.

Minimal APIs: learn.microsoft.com/aspnet/core/fundamentals/minimal-apis

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

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

