Entity Framework Core: Getting Started

CREATING YOUR FIRST APP USING EF CORE 3.1

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MOST TRUSTED AUTHORITY ON ENTITY FRAMEWORK

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Updated completely for
EF Core 3.1

Using Visual Studio 2019

Entity Framework Core

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

Course Overview

Building your first app that uses EF Core

Controlling database creation and schema changes

Adding more relationships

Interacting with your EF Core data model

Interacting with related data

Working with views, stored procedures and raw SQL

Using EF Core in an ASP.NET Core app

Using EF Core in your tests

Module Overview

What is EF Core?

Setting up a new solution

Adding EF Core APIs

Creating a data model and DB connection

Sneak peek at writing and reading data in the application

What is Entity Framework Core?
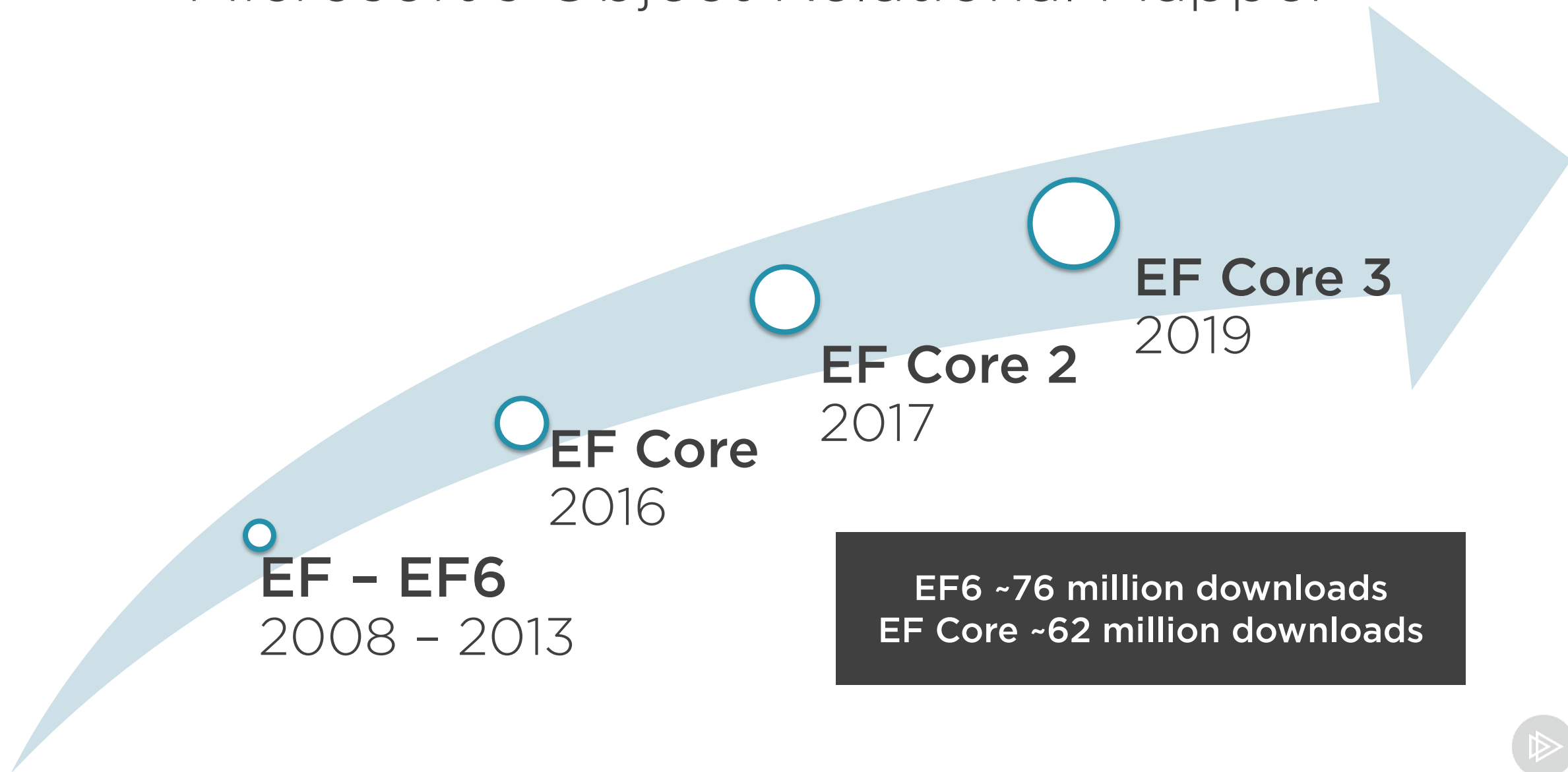
Entity Framework Core

Microsoft's official data access technology for .NET development
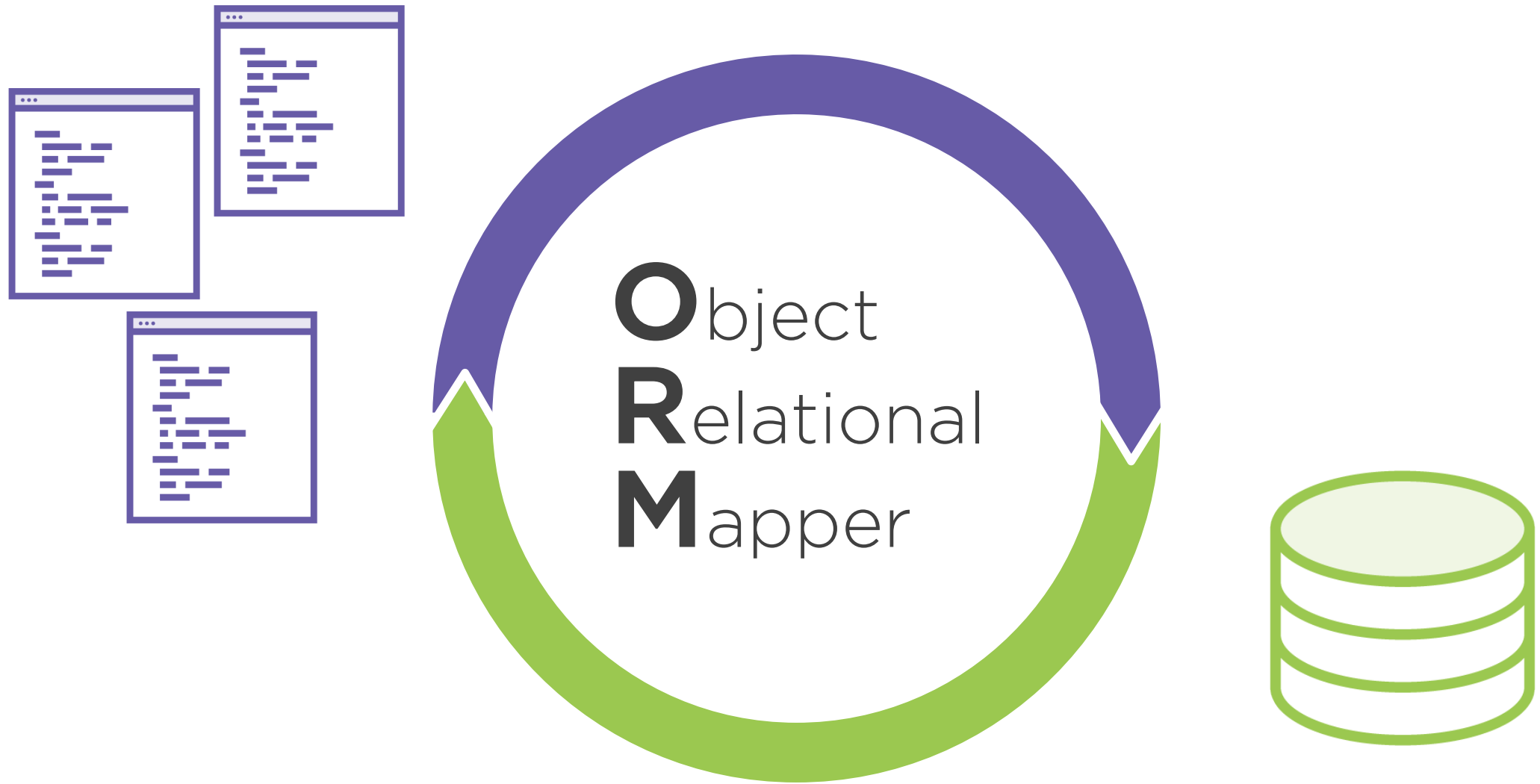
62 million downloads (as of Nov 2019)

Design & deploy on Windows, macOS & Linux

Microsoft's Object Relational Mapper

EF Core 3
2019

EF Core 2
2017

EF Core
2016

EF – EF6
2008 – 2013

EF6 ~76 million downloads
EF Core ~62 million downloads

EF Core Is an ORM

Object
Relational
Mapper

EF Maps Differently Than Most ORMs

Typical ORM

Entity Framework Core

Domain Classes

Mappings

Database Schema
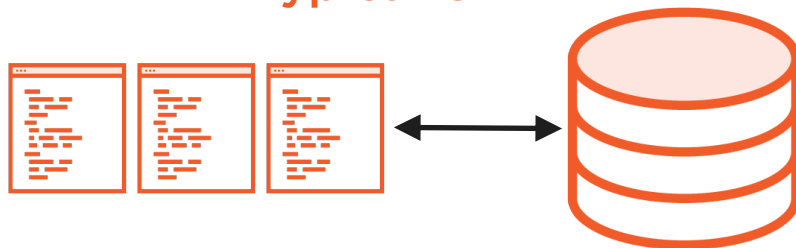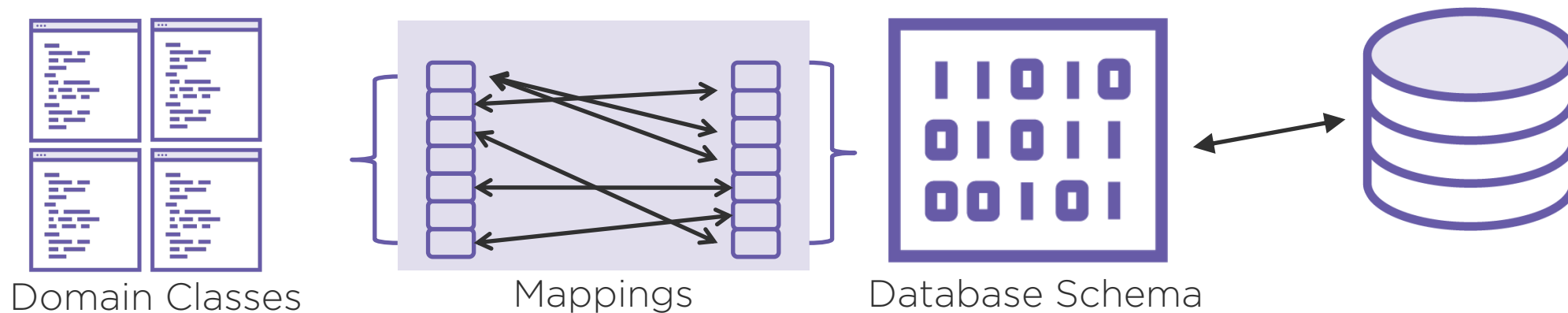
Why This ORM, EF Core?

Developer productivity

**First class member
of
Microsoft .NET stack**

**Consistent query syntax
with
LINQ to Entities**

**Focus on domain,
not on DB, connections,
commands, etc.**

Developer productivity

Coding consistency

Getting the Correct Versions of .NET, SQL Server & Visual Studio for This Course

.NET Core/ASP.NET Core/EF Core

3.0

Released Sept 2019

3.1

Released Dec 2019

Long Term Support

EF Core Dependency on .NET Standard

The following table provides guidance for each .NET implementation:

EF Core	1.x	2.x	3.0	3.1
.NET Standard	1.3	2.0	2.1	2.0+
.NET Core	1.0	2.0	3.0	2.0+
.NET Framework[1]	4.5.1	4.7.2	(not supported)	4.7.2+
Mono	4.6	5.4	6.4	5.4+
Xamarin.iOS[2]	10.0	10.14	12.16	10.14+
Xamarin.Android[2]	7.0	8.0	10.0	8.0+
UWP[3]	10.0	10.0.16299	TBD	10.0.16299
Unity[4]	2018.1	2018.1	TBD	2018.1

EF Core 3.0

EF Core 3.1
Long Term Support

Installing .NET Core

dot.net
brings you to
microsoft.com/net/download

Setting Up to Follow Along

✓ **Visual Studio 2019**

✓ **SQL Server LocalDb (installs with VS 2019)**

✓ **.NET Core 3.1 SDK**

✓ **You'll add EF Core 3.1 directly to the solution that you create**

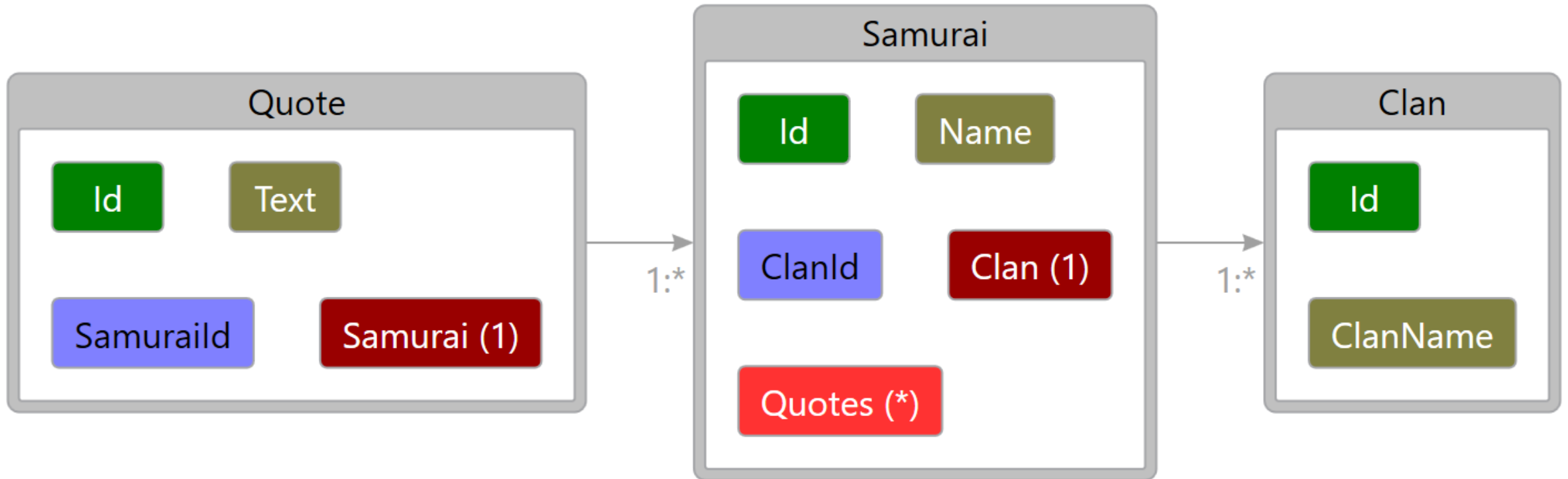# Setting up the Solution

Adding EF Core with the NuGet Package Manager

Model view generated from EF Core Power Tools extension for VS2019

Creating the Data Model with EF Core

Specifying the Data Provider and Connection String

No More Database Magic
You must specify
data provider & connection string

What About My Database?

Database already exists

— NO → **Need to control creation**

— NO → **Use EF Core run-time creation**

Good for limited scenarios

Create DB directly

YES ↓

Let EF Core reverse-engineer classes & context from DB*

YES → **Use EF Core design-time "Migrations" feature**

Create SQL Script

OR

Create DB directly
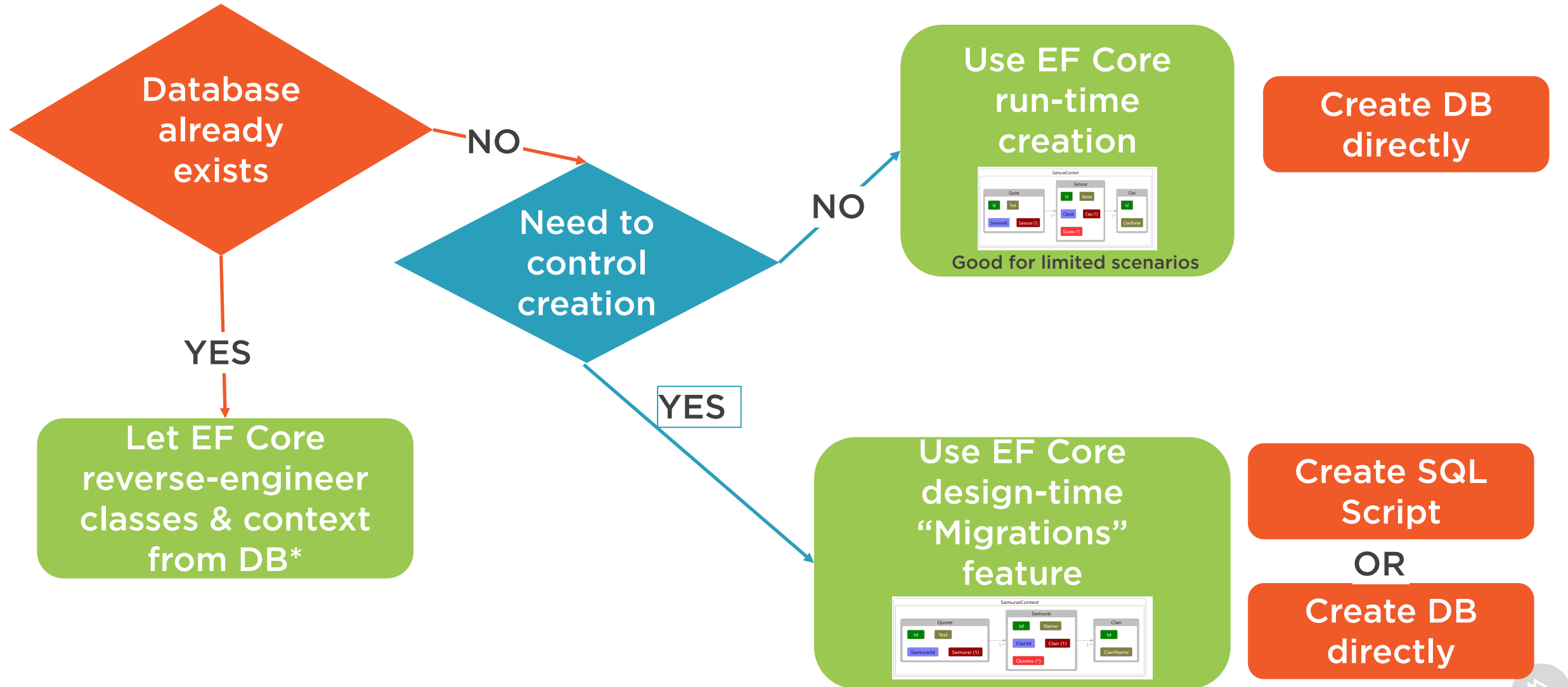
A Sneak Peek at Writing and Reading Data

The following code will be a simple hack so you can see EF Core do its job before learning more.

Review

Learned what EF Core is for

Created a data model with EF Core

Learned about the EF Core APIs and their storage provider APIs

Witnessed some basic interaction to insert and query data

Resources

Entity Framework Core on GitHub github.com/aspnet/entityframework

EF Core Documentation docs.microsoft.com/ef

Bulk Operations Commands Explanation by Richie Rump:
brentozar.com/archive/2017/05/case-entity-framework-cores-odd-sql/

Install dotnet Core SDK [dot.net](dot.net) or microsoft.com/net/download

EF Core 3 Documentation: Breaking Changes
docs.microsoft.com/en-us/ef/core/what-is-new/ef-core-3.0/breaking-changes

Entity Framework Core 3.0: A Foundation for the Future
codemag.com/Article/1911062/Entity-Framework-Core-3.0-A-Foundation-for-the-Future

EF Core Power Tools Wiki github.com/ErikEJ/EFCorePowerTools/wiki

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