Persisting Additional Data with Shadow Properties

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Module Overview

- Understand goal of shadow properties
- Define shadow properties in mappings
- Populate shadow properties
- Use or retrieve them in queries
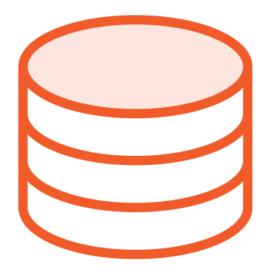- Real-world use

What Are Shadow Properties?

Why Shadow Properties?

Properties and methods that describe your business domain

Values from domain model

Audit information about how and when data was stored

Shadow Properties for "Extra" Data


```
public class Samurai
{
 public int Id {get;set;}
 public string Name {get;set;}
}
```

Samurais

	Column Name	Data Type
🔑	Id	int
	Name	nvarchar(MAX)
	LastModified	datetime

EF Core
shadow properties
let you define & persist
non-domain data

```
modelBuilder.Entity<Samurai>()
            .Property<DateTime>("LastModified");

_context.Entry(samurai)
        .Property("LastModified").CurrentValue = DateTime.Now;

_context.Samurais
        .OrderBy(s => EF.Property<DateTime>(s, "LastModified"));
```

Define, Populate and Query Shadow Properties

Define in OnModelBuilding

Populate using ChangeTracker API

Use in queries via EF.Property

Mapping Shadow Properties

Populating Shadow Properties

Using Shadow Properties in Queries

Examples of How EF Core Uses Shadow Properties

To infer foreign keys in relationships

To infer primary keys in owned types

Auditing Data for All Entities in Your Model

Testing Out the Real-World Shadow Properties Set-up

Review

Shadow properties are great for audit data … or other non-domain data

Available in database to reporting tools

Fully encapsulated in DbContext

Patterns to implement for all entities

You can use shadow props in EF queries

…even retrieve them via EF queries

Resources

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

EF Core Roadmap bit.ly/efcoreroadmap

EF Core Documentation docs.microsoft.com/ef

[Pluralsight] Entity Framework Core 2: Getting Started bit.ly/PS_EFCore2

[Pluralsight] Entity Framework in the Enterprise bit.ly/PS_EFEnt