

Working with Views, Stored Procedures and Raw SQL



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Module Overview



Using migrations to add views & stored procedures to a database

Understanding and mapping keyless entities

Mapping and querying with database views

Querying with raw SQL commands and stored procedures

Executing SQL commands on the database



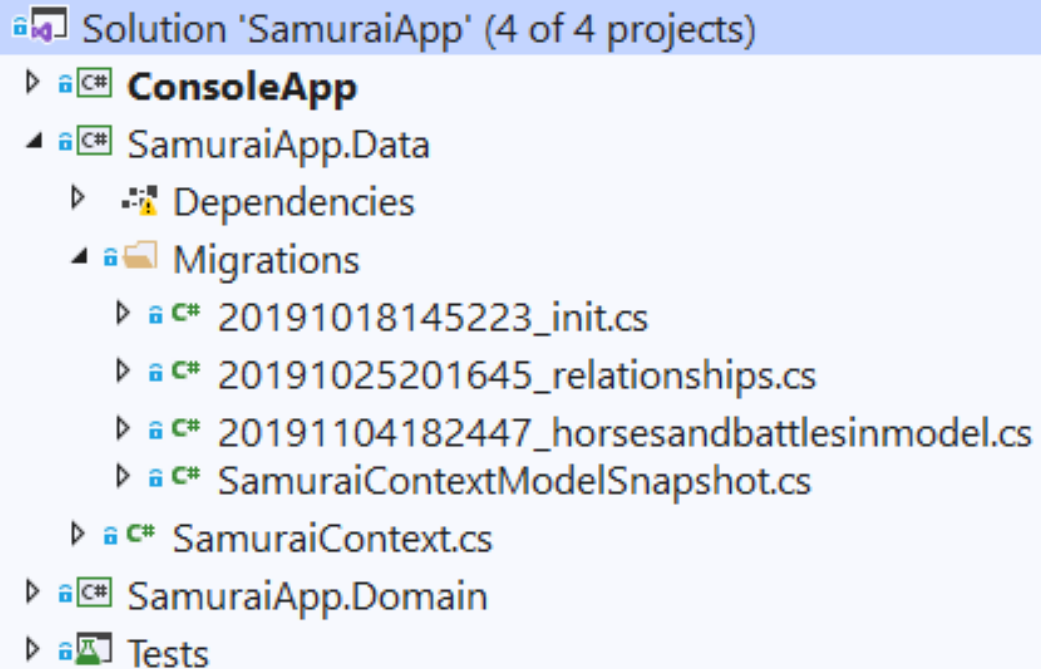
Adding Views and Other Database Objects Using Migrations



Consistent workflows are important whether you are solo or working on a team

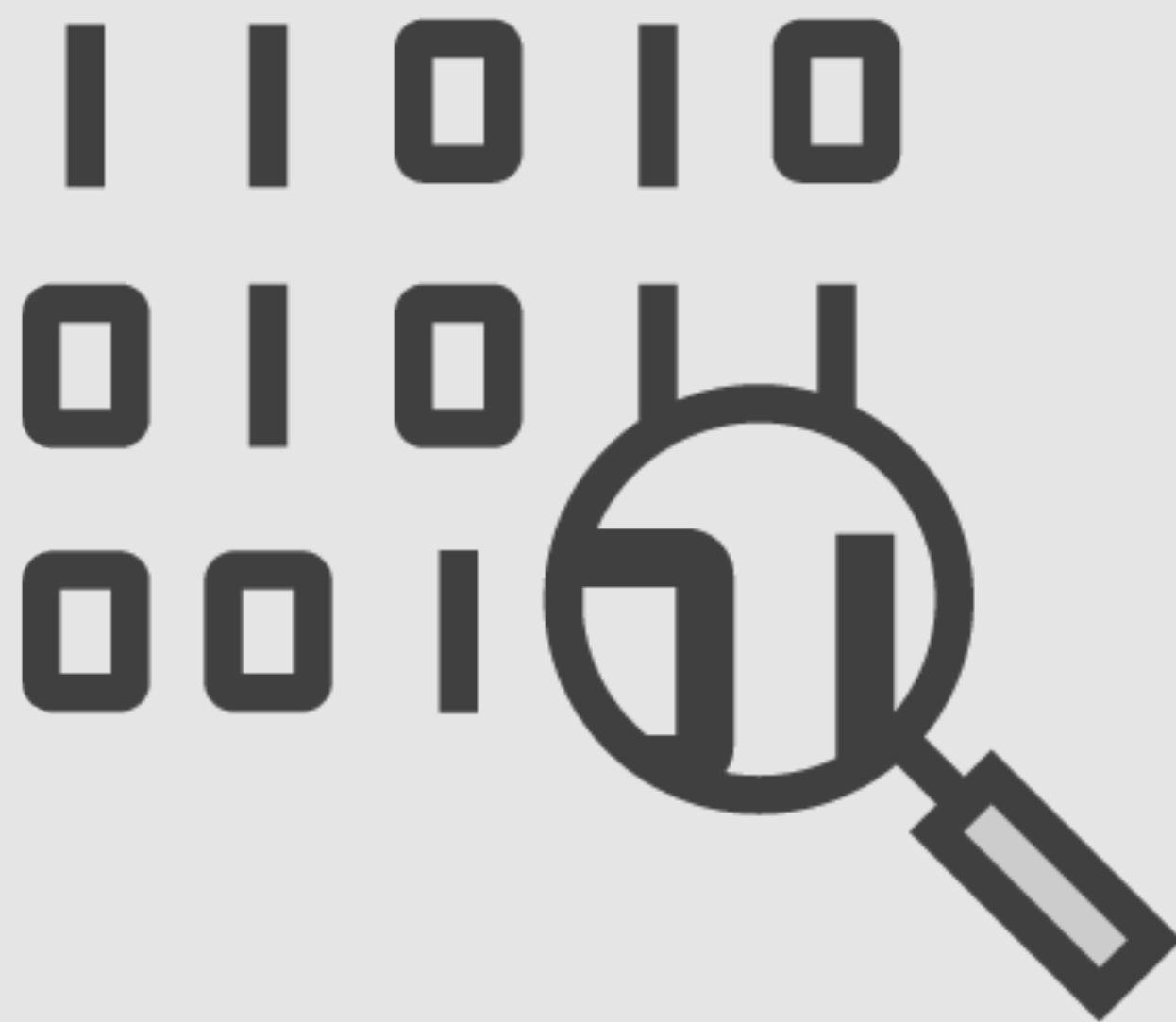


Already Using Migrations for Schema Changes?




Include schema changes, e.g., adding views or creating indexes in custom migration files





Using Keyless Entities to Map to Views





Historically,
EF & EF Core only
understood
entities with keys





EF Core 3
can work with
keyless entities



EF Core 2.1/2.2 Query Types
are now
Keyless Entities



Keyless Entities != Non-Tracking Queries

Non-Tracking Queries

Entity has a key property

No-tracking is optional

Maps to tables with PK

Keyless Entity

No key property in entity

Will never be tracked

Maps to tables/views
with no primary key



Querying the Database Views



Querying with Raw SQL



```
_context.Samurais.FromSQLRaw("some sql string").ToList();  
_context.Samurais.FromSQLRawAsync("some sql string").ToList();  
_context.Samurais.FromSQLInterpolated($"some sql string {var}").ToList();  
_context.Samurais.FromSQLInterpolatedAsyn($"some sql {var}").ToList();
```

DbSet Methods to Run Raw SQL

Synchronous and asynchronous options

Special method for interpolated strings

Creates an IQueryable, so you still need an execution method

Use parameters to avoid SQL injection!!

Raw SQL Results Rules (Limitations)



Must return data for all properties of the entity type



Column names in results match mapped column names



Query can't contain related data



Only query entities and keyless entities known by DbContext





Method names have changed from earlier versions of EF Core!



Interpolated Strings

```
var character="Farmer Manzô";  
var someString=$"Happy Birthday to you, {character}";
```



Running Stored Procedure Queries with Raw SQL



Formatted Strings

```
var character="Farmer Manzô";
```

```
var age=78;
```

```
var s= String.Format("Happy Birthday to you, {0}",  
                     character);
```

```
var s= String.Format("Happy {0} Birthday to you, {1}",  
                     age, character);
```



Executing Non-Query Raw SQL Commands



```
_context.Database.ExecuteSQLRaw("some SQL string");  
_context.Database.ExecuteSQLRawAsync("some SQL string");  
_context.Database.ExecuteSQLInterpolated($"some SQL string {variable}");  
_context.Database.ExecuteSQLInterpolatedAsync($"some SQL string {var}");
```

Run Raw SQL for Non-Query Commands

Only result is number of rows affected

On-the-fly SQL or Stored Procedures



Review

Used customized migrations to add views, stored procedures and more to DB

Learned about keyless entities and mapped them to a database view

Used DbSet to query that database view

More querying using raw SQL and stored procedures including interpolated strings

Execute non-query commands from the DbContext.Database property

...and a handy way to delete entities!

Resources

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

EF Core Roadmap bit.ly/efcoreroadmap

EF Core Documentation docs.microsoft.com/ef

EF Core 3 Breaking changes: Query Types Consolidated with Entity Types
docs.microsoft.com/en-us/ef/core/what-is-new/ef-core-3.0/breaking-changes#qt

Composing Raw SQL Queries with LINQ
docs.microsoft.com/en-us/ef/core/querying/raw-sql#composing-with-linq

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

“Mapping Database Scalar Functions” module of EF Core 2: Mappings Course
bit.ly/2LppcMj



Up Next!

EF Core in an
ASP.NET Core app



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