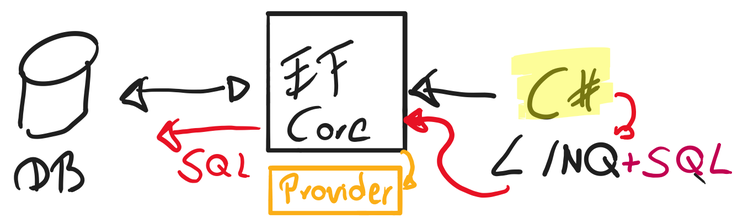
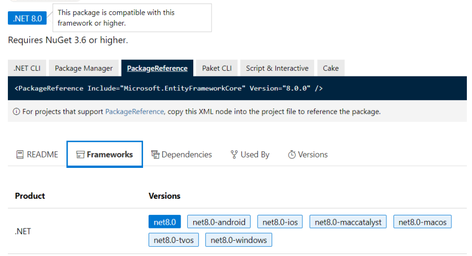
Entity Framework Core

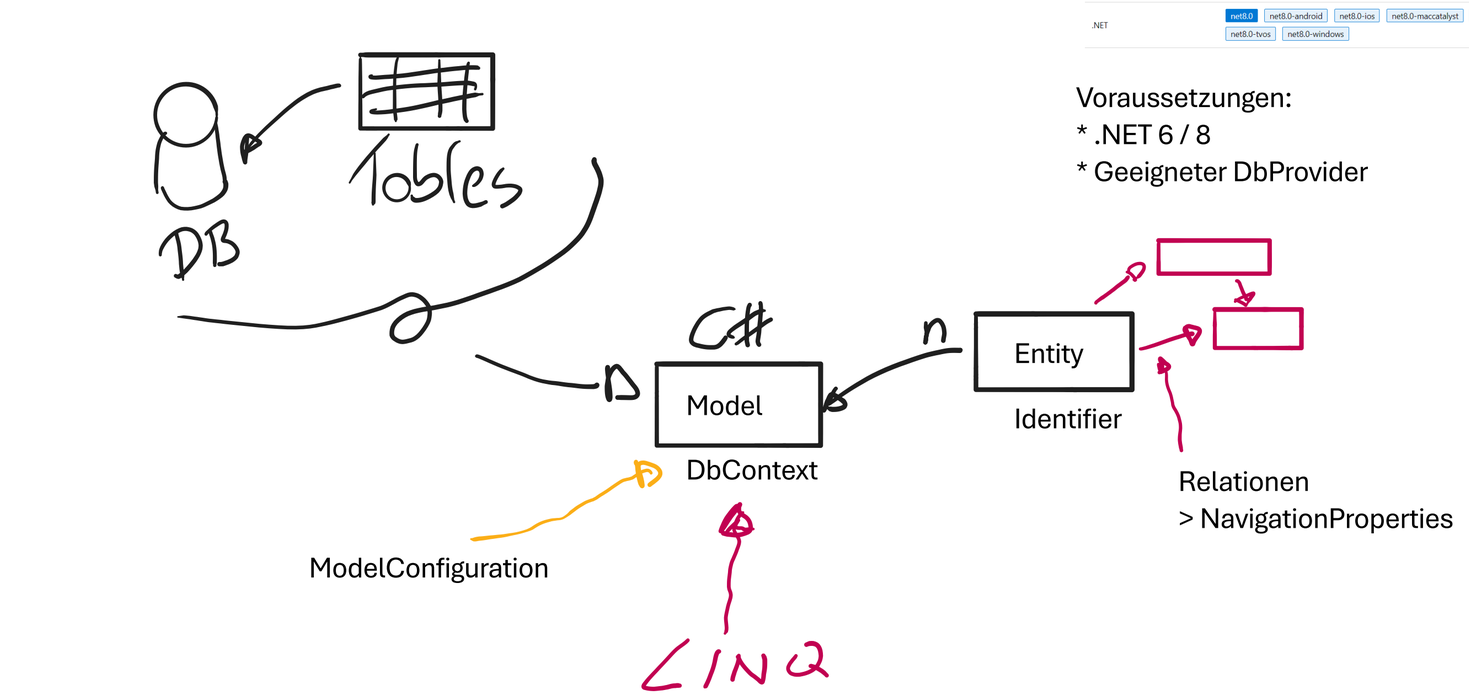


Standard Provider (MS)
* MSSQL
* Cosmos DB (Azure)
* Sqlite
* InMemory
https://learn.microsoft.com/de-de/ef/core/providers/?tabs=dotnet-core-cli

Life-Cycle DB Schema --> Tabellenschema
Code First --> Migrations
DB First



Voraussetzungen:
* .NET 6 / 8
* Geeigneter DbProvider




```cs
protected override void OnModelCreating(ModelBuilder modelBuilder)
{
    modelBuilder
        .Entity<Article>();
    // Model Configuration
    // .HasKey(x => new{ x.Key, x.Id })
    // .HasKey(x => x.Key)
    // .HasKey(nameof(Article.Key))
}
```

3 Standard Möglichkeiten
> Convention mit Namen (=Id)
> DataAttribute [Key]
> OnModelCreating

```cs
1 usage
public class Article

    // Convention
    public Guid Id { get; set; }

    [Key] //Configuration with DataAttribute
    public Guid Key { get; set; }
```

Migrations - "Fotos" vom DbSchema

> Migration beschreibt "Was muss getan werden für Update/Downgrade"
> ModelSnapshot gibt den aktuellsten "DB-Schema"-Stand wieder.
> Migrationen können auf unterschiedliche Arten auf die DB gebracht werden
  > Code selbst die Migrationen ausführt
  > Tool von MS - Migrate Database
  > SQL aus Migrationen generieren

--> EF Core CLI Tool (-> https://learn.microsoft.com/de-de/ef/core/cli/dotnet)

```
C:\Users\cgiesswein>dotnet ef

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Entity Framework Core .NET Command-line Tools 8.0.0

Usage: dotnet ef [options] [command]

Options:
  --version        Show version information
  -h|--help        Show help information
  -v|--verbose     Show verbose output.
  --no-color       Don't colorize output.
  --prefix-output  Prefix output with level.

Commands:
  database    Commands to manage the database.
  dbcontext   Commands to manage DbContext types.
  migrations  Commands to manage migrations.

Use "dotnet ef [command] --help" for more information about a command.
```

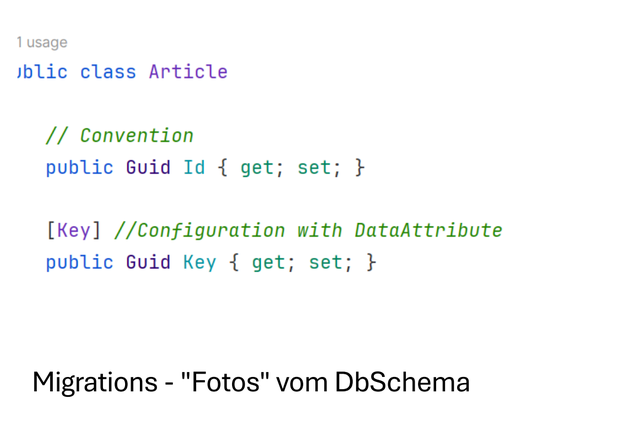

"Datenbankstand"

```
dotnet ef migrations add CustomMigrationBEcauaseINeedIt
```

```
dotnet ef migrations remove -f
```

Löscht die letzte Migration, stellt SnapShot wiederher, und reverted die Änderungen in der DB

```cs
await using SampleDb db = new(options);
await db.Database.MigrateAsync(); // DB Update aller Migrations
```