Creation of database applications using ORM (Entity Framework)

Course code: DOTNET_DB

The course is intended for developers and architects on the .NET platform and will provide students with the knowledge and skills needed to develop data-oriented applications using the latest Entity Framework Core technology.

What we will teach you
- You get an overall overview
- You will learn to use LINQ and querying relational databases
- You will learn how to project changes to a data source using Savechanges
- You will learn to use Migrations

Required entry skills
- The course assumes knowledge and experience with C# programming at the level of the GOC2125 course
- The course can be taken without prior knowledge of c# and the .Net platform, but in that case a very good programming knowledge of other platforms and languages such as Java or C++ is required.

Teaching methods
- Expert interpretation with practical examples, exercises on computers.

Studying materials
- Printed presentations of the discussed material.

Course outline
Introductory overview
- History
- NuGet packages
- Model

Mapping
- Entities
- Property
- Keys, alternative keys
- Generated ID
- Association
- Backing fields
- Owned types
- Model Level Filters
- Table Splitting, Table Sharing
- Heredity, TPT, TPH
- Value Converters, Value Comparators
- Keyless entities
- ctor parameters
- Query tags
- Shadow properties
- Shared entities, property bags
- Flexible mapping
- Seeding

Interviewees
- LINQ, parameters
- pure SQL
- function

GOPAS

- query compilation
- Include, Explicit loading, Filtered Include
- Lazy Loading
- Split queries
- tracking, no tracking queries

SaveChanges
- validation
- batching
- ID generation
- transactions
- ChangeTracker
- concurrency

Migration
- work with migrations
- touch ef
- IMigrator
- script, idempotent, transaction

Other platforms
- Works on other platforms
- Working with "other" DBs