

Mastering Entity Framework Core

MODULE 1: EF CORE OVERVIEW

- LESSON 1: INSTALL EF CORE
- LESSON 2: Your first EF Core App
- LESSON 3: NuGet packages

MODULE 2: DB CONTEXT CONFIGURATION AND INITIALIZATION

- LESSON 1: OVERVIEW
- LESSON 2: CONTEXT POOLING

MODULE 3: CREATE A MODEL

LESSON 1: Overview

- Entity types
- Entity properties
- Keys
- Generated values
- Shadow and indexer properties

LESSON 2: Relationships

- Indexes and constraints
- Inheritance
- Sequences
- Backing fields

LESSON 3

- Value conversions
- Value comparers
- Data seeding
- Entity type constructors

LESSON 4: Advanced table mapping

- Owned entity types
- Keyless entity types
- Spatial data
- Bulk configuration
- Alternating models with same DbContext

MODULE 4: MANAGE DATABASE SCHEMAS

LESSON 1: MIGRATIONS

- Overview
- Managing migrations
- Applying migrations
- Team environments
- Custom operations

- Use a separate project
- Multiple providers
- Custom history table

LESSON 2: REVERSE ENGINEERING AND SCAFFOLDING

- OVERVIEW
- CUSTOM TEMPLATES

MODULE 5: QUERY DATA

LESSON 1: Overview

- Client vs. server evaluation
- Tracking vs. no-tracking

LESSON 2: LOAD RELATED DATA

- Split queries
- Complex query operators
- Pagination
- SQL queries
- Database functions
- User-defined function mapping
- Global query filters
- Query tags
- Comparisons with null values in queries

MODULE 6: SAVE DATA

LESSON: Overview

- Basic save
- Related data
- Cascade delete
- Concurrency conflicts
- Transactions
- Disconnected entities

MODULE 7: CHANGE TRACKING

LESSON: Overview

- Explicitly tracking entities
- Accessing tracked entities
- Changing foreign keys and navigations
- Change detection and notifications
- Identity resolution
- Additional change tracking features
- Change tracker debugging

MODULE 8: LOGGING EVENTS AND DIAGNOSTICS

LESSON: Overview

Simple logging

Microsoft.Extensions.Logging
Events
Interceptors
Diagnostic listeners
Event counters

MODULE 9: TESTING

LESSON: Introduction to testing

- Choosing a testing strategy
- Testing against your production database system
- Testing without your production database system

MODULE 10: PERFORMANCE

- Introduction
- Performance diagnosis
- Efficient querying
- Efficient updating
- Modeling for performance
- Advanced performance topics

MODULE 11: DATABASE PROVIDERS

- MICROSOFT SQL SERVER SQLITE
- InMemory (for testing)
- Write a database provider
- Provider-impacting changes