

Sela.



EF6

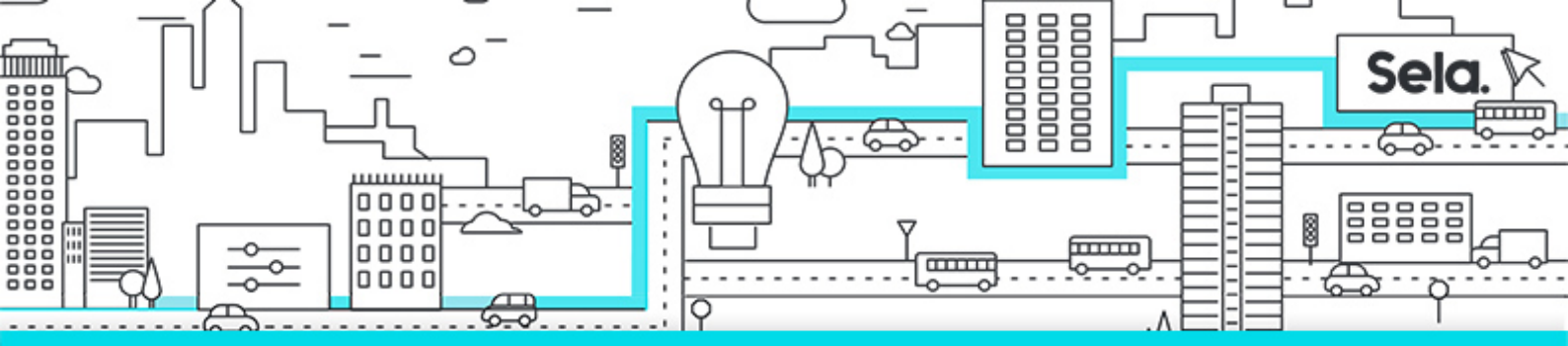
Entity Framework 6



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Entity Framework 6

EF6 - Version: 1

4 days course

Description:

Entity Framework is the new ORM and data access technology introduced by Microsoft. Entity framework provides an easy and efficient mapping from relational data into business entities. It is easy to use and it is integrated with many other Microsoft technologies. The Entity framework relies on the idea of modeling to provide the right level of abstraction. It describes the same data in two different models and provides the mapping between the two. The conceptual model describes the business entities and the storage model describes how the database store that data. The ADO.NET Entity Framework is designed to enable developers to create data access applications by programming against a conceptual application model instead of programming directly against a relational storage schema.

Intended Audience:

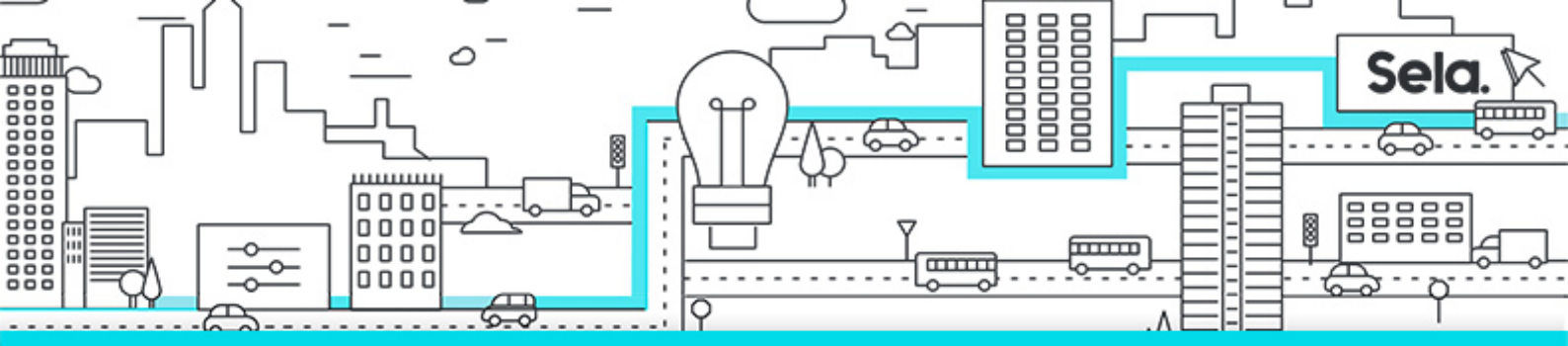
Developers and Designers

Prerequisites:

- .Net framework
- C#
- ADO.Net
- LINQ

Topics:

- **Introduction**
 - About the course



- Storage trends
- Storing Application Data
- Relational DB (Pro / Con)
- NoSQL storage

- **Data Access Foundation (ADO.NET)**

- ADO.NET
- Stored Procedures
- Transactions
- Isolation Levels

- **ORM Introduction**

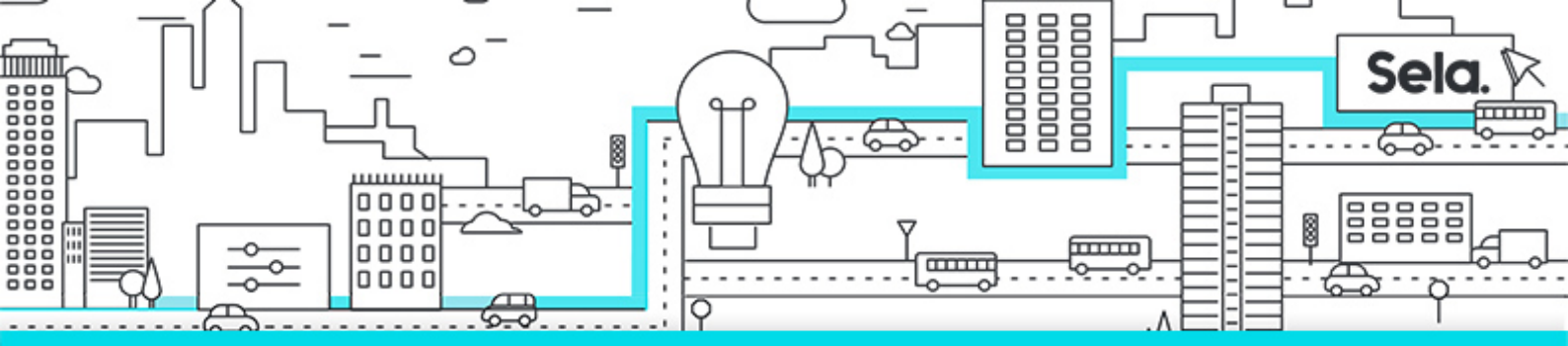
- Introduction
- What is Entity Framework?
- Why Do We Care?
- What Should We Expect?
- Object-Oriented VS RDBMS
- OO vs. Relational Database

- **Get Started with EF 6**

- How to get started
- EF 6, How to start
- Attach database to Visual Studio
- Choosing the Development Work
- Entity Framework Concept
- EDM (Entity Data Model)
- EF Designer (EDM)
- Limitation

- **Code First Fundamentals**

- When to use Code First



- Getting started
- Add DTOs (Data Transfer Objects)
- Add Context
- Start CRUD operation
- Default conversion
- Code First and EDM
- Entity Framework Power Tools
- Complex Type
- Add and Read data

• **Configuration**

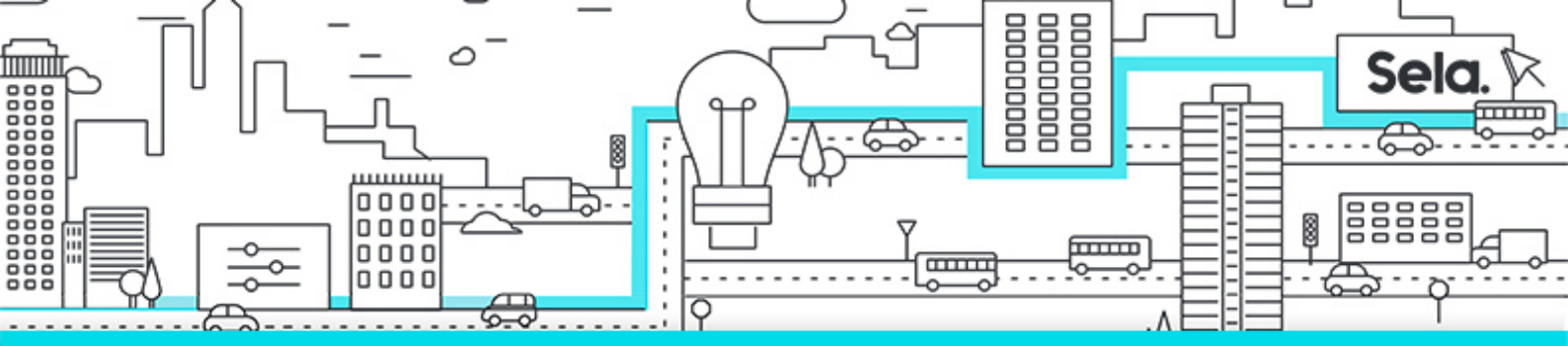
- Database Initialization
- Configuration options
- DbConfiguration discovery
- Connection Convention
- Choosing the Provider
- Handling Initialization
- Custom Initialization

• **Logging**

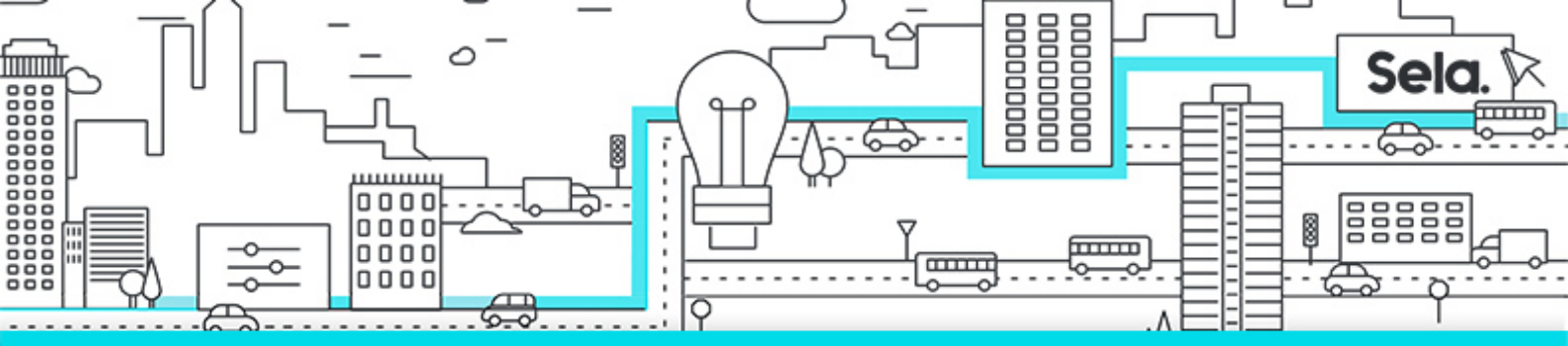
- EF6 Logging API
- Advance Logging
- SQL Server Profiler

• **Entity Framework Tuning**

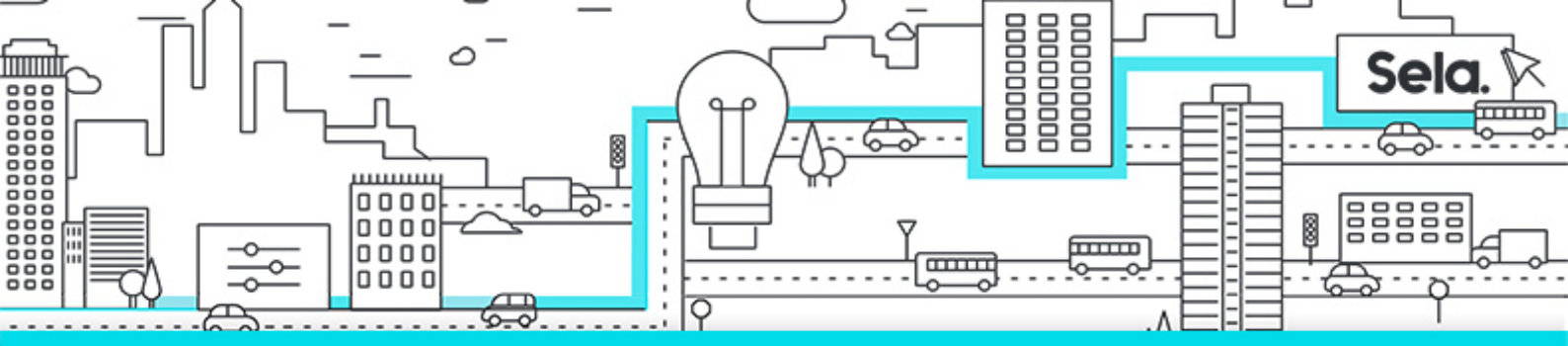
- Unit of work
- Local cache
- Lazy
- Change Tracking Proxies
- Limitation
- Laziness and Serialization
- Unit of Work / Save



- Auto Detect Changes
 - On-Demand Detect Changes
 - Manual State Management
 - Batch operation
 - Query the tracking state
 - Transaction
 - Distributed Transaction
 - Disable Laziness
- **Fine Tuning Configuration**
 - Limitations of Convention
 - Schema definition
 - Annotation
 - Annotation Limitation
 - Fluent API
 - Fluent API Limitation
 - Entity Framework Power Tools
- **Basic Interceptions**
 - DbContext Extensions
- **EF Designer**
 - Query and Save Changes
 - Connection String
 - Connection String (Best Practice)
 - Model Browser
 - Update Model from Database
- **T4**
 - Code Generation
 - T4 template



- When to use T4
 - Directives
 - Hybrid Text and Code
 - T4 Syntax
 - T4 Tooling
 - Reuse T4 across multiple files
 - Tuning the EDM
 - Disable proxies
- **Best practice**
 - Separation of Concern
 - Multiple EDMs with cross-entities (same assembly)
 - Separation of EDMs
 - Entity Color
 - Multiple-Diagram View
 - EF Designer vs. Code First
- **Service-Oriented Architecture**
 - SOA orientation
 - Distributed (SOA) scenario
 - Batch loading
 - Loading a graph with a single request
 - Loading indirect, related entities
 - Loading multiple related enti
 - Include's Limitations
 - Explicit loading of related entities
 - Fine-tuning explicit loading
- **Code First Migrations**
 - What is Migration
 - Code First Migration
 - Trace schema changes



- Update the Database
- Migration Summary

- **Stored Procedures**

- Entity Framework and Stored Procedures
- Insert, Update, Delete
- Code First
- EF Designer

- **Exception Handling**

- How to

- **Concurrency**

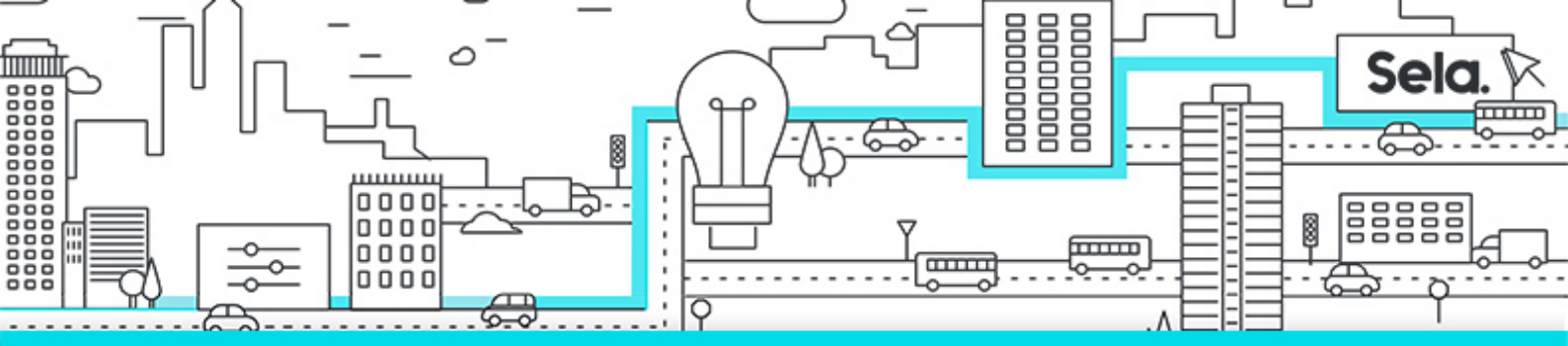
- Conflicts
- Common Concurrency Patterns
- Common Optimistic Patterns
- Code First
- Ef Designer

- **Spatial and Enum**

- Enum support
- Spatial Types
- Geographic standard
- Parsing Geographical Data

- **Performance**

- Paging
- Batch Update / Delete
- Bulk Insert
- Pre-Generated Mapping Views
- Default Mapping (Include)



- Multiple Result Set

- **Asynchronous**

- Async (Introduction to I/O operations)
- Task is Data Structure
- Scheduling a Task using Factory
- Task
- New async syntax
- async and UI
- Using
- Exception flow control
- IOCP
- Pitfall and Best Practice

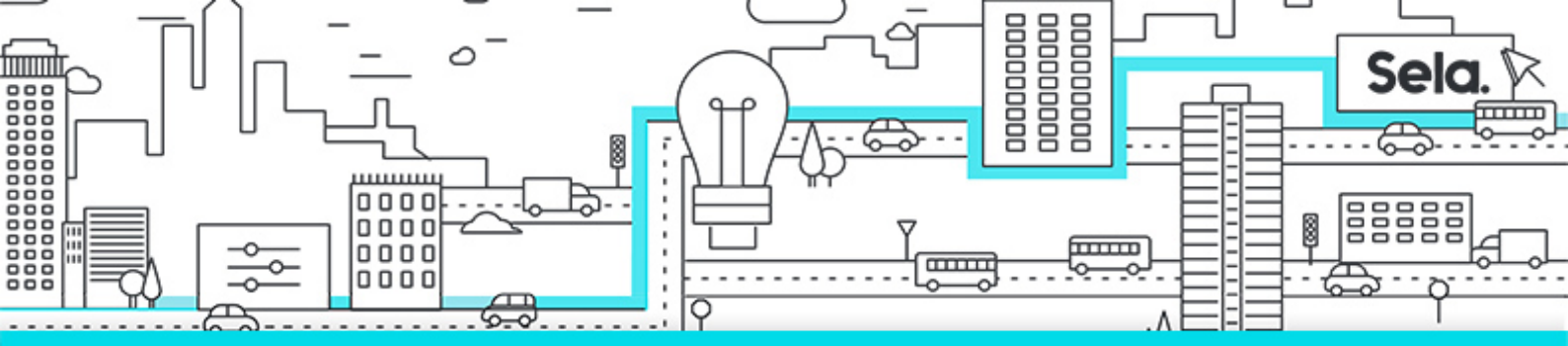
- **Trouble shooting**

- Deferred Execution
- Expression vs. Delegate
- Update From Database
- Namespace agnostic
- Code First and Shared DTOs
- Code First and Shared
- Configuration racing problem
- Migration

- **Unit Testing**

- Unit Test for Entity Framework
- Isolating the context
- Mocking the Context
- Prerequisite

- **Appendix**



- Inheritance: Table Per Type (TPT)
- Inheritance: Table Per Hierarchic (TPH)
- Map a Single Entity to Multiple Tables
- Table Splitting
- Trouble Shooting OO

- **Summary**