

**ENTITY FRAMEWORK
CODE FIRST
END TO END**

Sergey Barskiy
Architect, Tyler Technologies






INTRODUCTION TO EF

- ENTITY FRAMEWORK IN MICROSOFT'S ORM TOOL
 - HAS BEEN OUT SINCE 2008
 - CODE FIRST HAS BEEN OUT SINCE 2011







WHY ENTITY FRAMEWORK CODE FIRST

- ORM
 - CODE / TYPE SAFETY
 - RAPID APPLICATION DEVELOPMENT AND PROTOTYPING
 - SUPPORTED AND DEVELOPED BY MICROSOFT
 - CONTINUOUS COMMITMENT FROM MICROSOFT
 - OPEN SOURCED
 - TESTABLE
 - FLEXIBLE / CONVENTIONS AND CONFIGURATIONS
- 




APPROACHES

- DAL?
 - BUSINESS LAYER?
 - UI?
- 
- 




SEPARATION OF CONCERNS

- EF IS DAL TECHNOLOGY
 - ISOLATION FROM OTHER LAYERS
 - PATTERNS
 - REPOSITORY
 - DATA MAPPER
 - TABLE DATA GATEWAY
 - ROW DATA GATEWAY
 - DATA MAPPER
- 




DAL STRATEGY

- KEEP DATA (TABLE) OBJECTS CLEAN
 - SEPARATE DATA ACCESS FROM DTOS
 - CREATE ACCESS INTERFACE
 - EXPOSE DATA ACCESS IN A SERVICE LAYER WITH BUSINESS OBJECTS
 - USING MAPPERS TO CUT DOWN ON CODE
- 




DEVELOPING MODEL

- CONFIGURATION OPTIONS
 - CONFIGURATION CLASSES
 - ATTRIBUTES?
 - HANDLING RELATIONSHIPS
 - RELATIONSHIP TYPES
 - USING FOREIGN KEY COLUMNS
 - USING COMPLEX TYPES
 - LEGACY DATABASES / EXPLICIT MAPPINGS
- 




HANDLING SCHEMA CHANGES

- CODE FIRST MIGRATIONS
 - CREATE DATABASE
 - MAINTAIN SCHEMA
 - COMMAND LINE MIGRATIONS
 - EXPLICIT VS. IMPLICIT MIGRATIONS
 - INITIALIZERS (FOR RAPID PROTOTYPING)
 - MIGRATING INITIALIZER
- 




CREATING DATA ACCESS LAYER

- REPOSITORY PATTERN
 - MEDIATES BETWEEN THE DOMAIN AND DATA MAPPING LAYERS USING A COLLECTION-LIKE INTERFACE FOR ACCESSING DOMAIN OBJECTS.
 - INTERFACE BASED REPOSITORY
 - CQRS
 - WRITE VS. READ REPOSITORY
 - TAKING DEPENDENCY ON IQUERYABLE?
- 




WORKING WITH VIEWS AND STORED PROCEDURES

- EF IS NOT ALL-OR-NOTHING ANSWERS
 - WRITING CLASSES FOR MATERIALIZATION
 - AVOIDING SQL INJECTION
- 



PERFORMANCE

- CACHING CONTEXT
 - WEB ENVIRONMENTS
 - CRUD EFFICIENCIES
 - UPDATE
 - DELETE
 - SELECT
 - LAZY LOADING
 - BEWARE OF MULTIPLE QUERIES
- 



DEMO SOLUTION

- ASP.NET MVC
 - LAYER SEPARATION VIA PROJECTS
- 



WHAT'S NEW IN EF 6

- ASYNCHRONOUS SUPPORT
- CONNECTION RESILIENCY
- IMPROVED PERFORMANCE
- MANY MORE





CONTACT INFO

- SERGEY@BARSKIY.COM
 - WWW.DOTNETSPEAK.COM
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