

Entity Framework in the Enterprise

ARCHITECTING A DATA LAYER



Julie Lerman

MOST TRUSTED AUTHORITY ON ENTITY FRAMEWORK

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Helpful Preparation

Getting Started with Entity Framework 6

by Julie Lerman

Automated Testing for Fraidy Cats Like Me

by Julie Lerman

C# Fundamentals with Visual Studio 2015

by Scott Allen

Bonus:
Domain-Driven Design Fundamentals

by Steve Smith and Julie Lerman



Module Overview



Demo-Ware vs Real-World Software

Encapsulating EF Code (Repositories?)

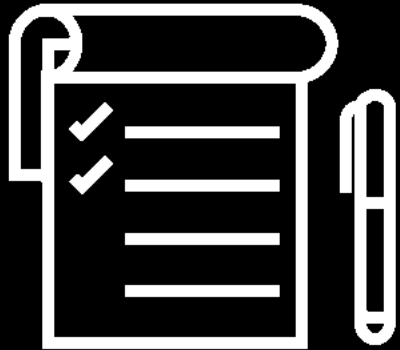
Smaller Data Model, Focused DbContext

EF and Domain-Driven Design

EF6 and Automated Testing



Course Overview



Current Module

Encapsulating EF Code (Repositories?)

Smaller Data Model, Focused DbContext

EF and Domain-Driven Design

Handling State in Disconnected Apps

EF6 and Automated Testing

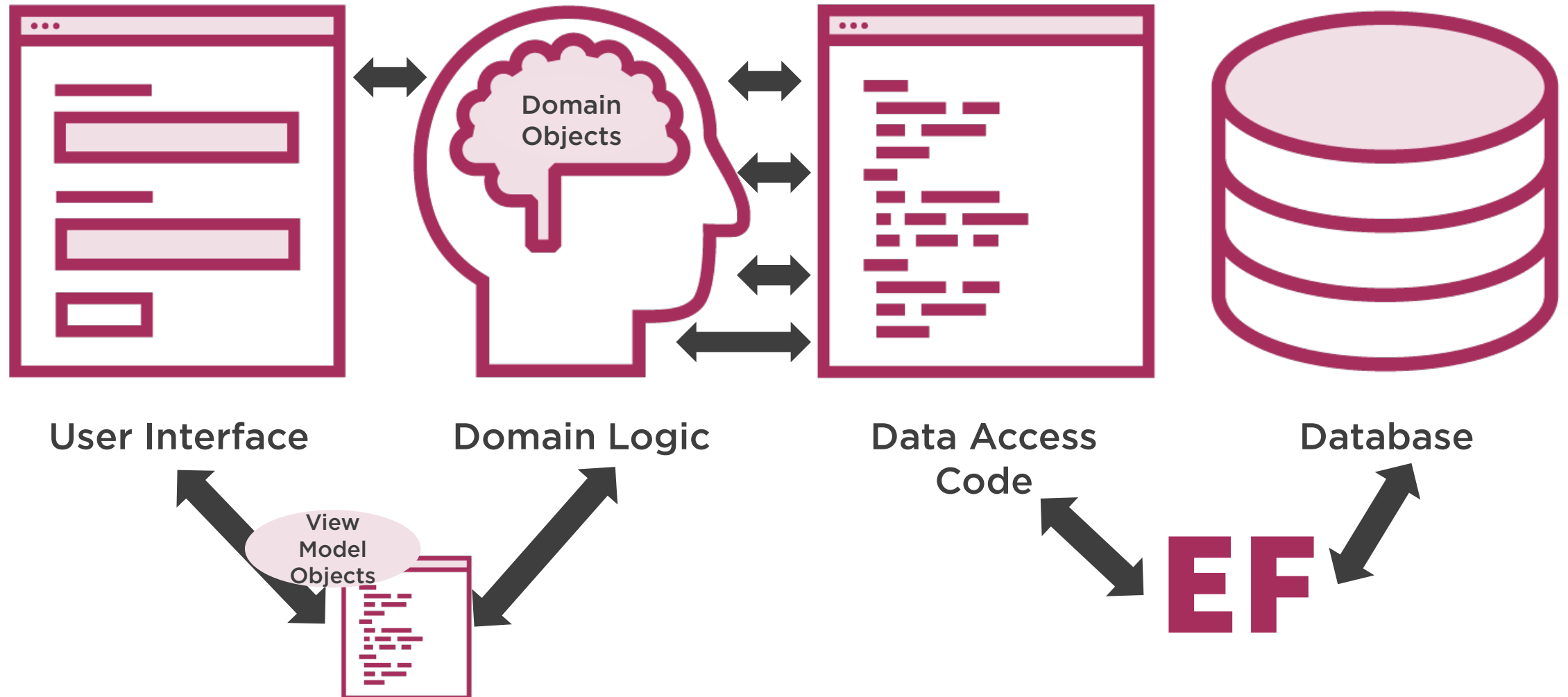




Task focused
Surrounding code is glue
Not built for re-use



Architectural Starting Point



Demo



Demoware Pros & Cons



Separation of Concerns

Readability

Manageability

Maintainability

Testability

The -Abilities



First Pass at Breaking Apart Single Project



Removing Entity Framework from the UI



DbSet Is A Repository

Entity Framework DbSet

*“represents the collection of all entities [of a single type] in the context, or that can be queried from the database”**

DbSet.(LINQ query methods)

DbSet<Type>.Add/Attach

DbSet.Remove

Repository Pattern

*“in-memory domain object collection”**

Execute Queries defined elsewhere

Add objects to repository

Remove objects from repository

*[msdn.microsoft.com/en-us/library/gg696460\(v=vs.113\).aspx](https://msdn.microsoft.com/en-us/library/gg696460(v=vs.113).aspx)

*martinfowler.com/eaCatalog/repository.html



Encapsulated
Data Access Code

vs.

Repository Pattern
(Queryable Collection)

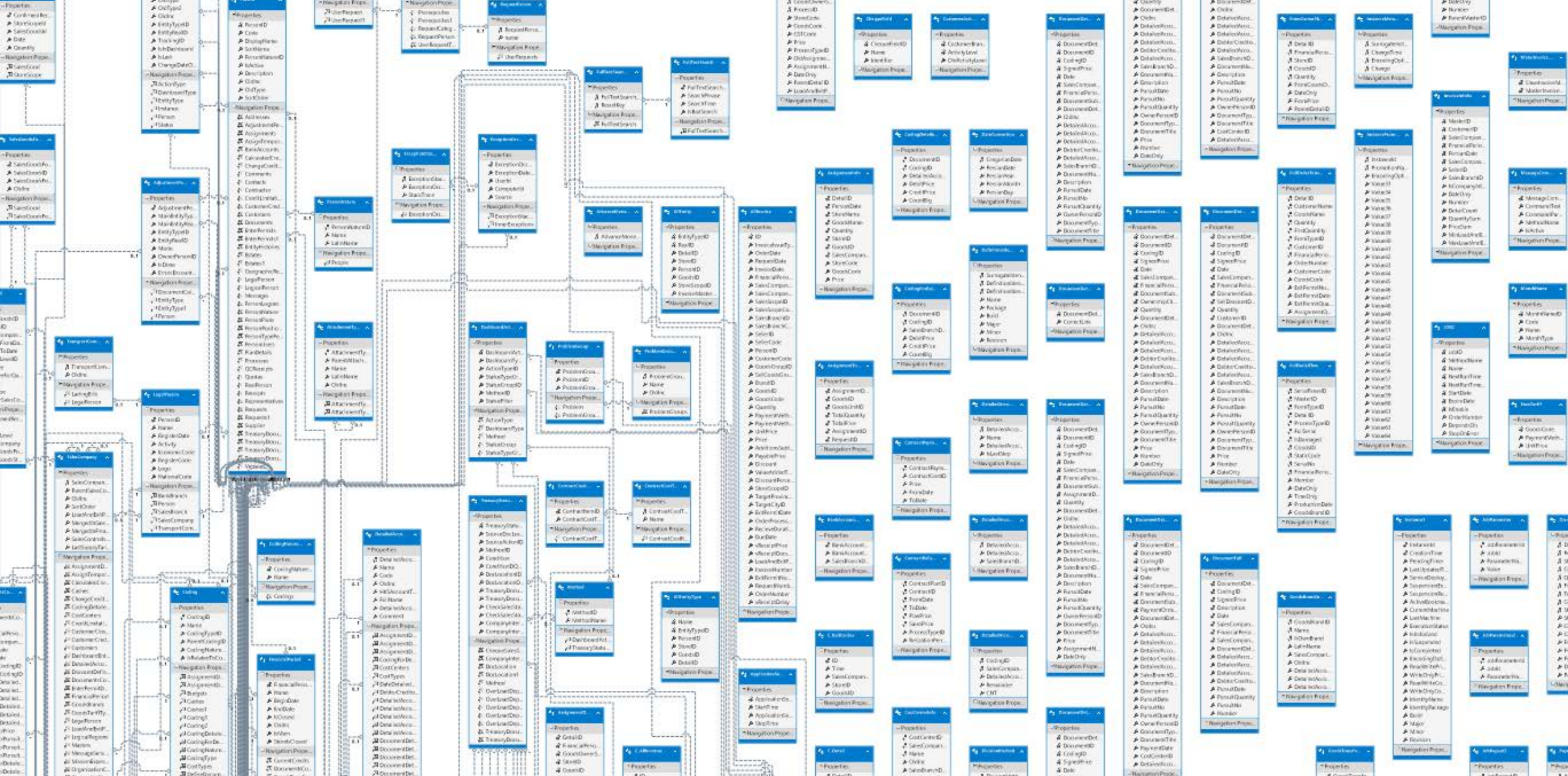


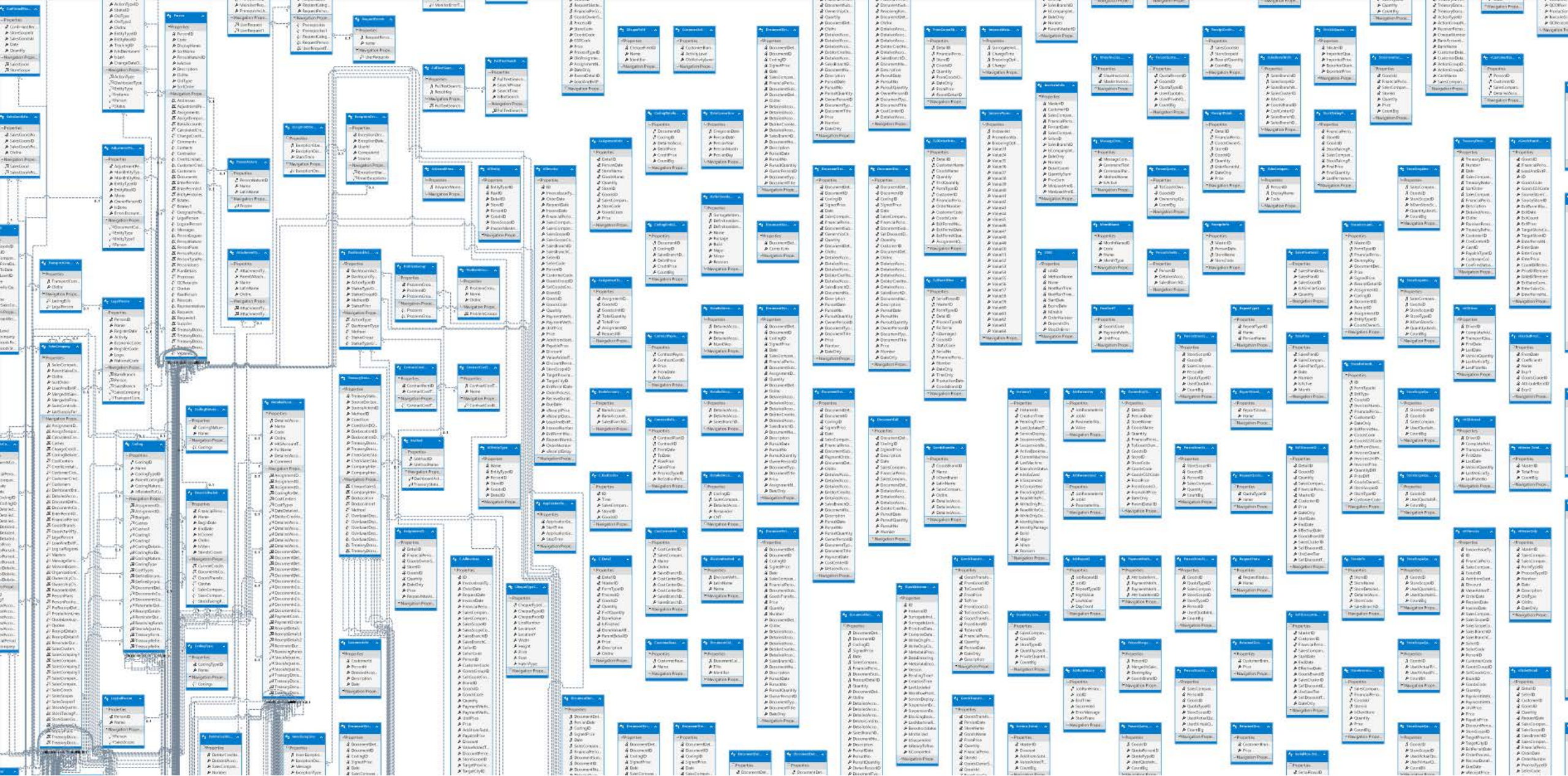
EF, Bounded Contexts & Other Domain-Driven Design Concepts

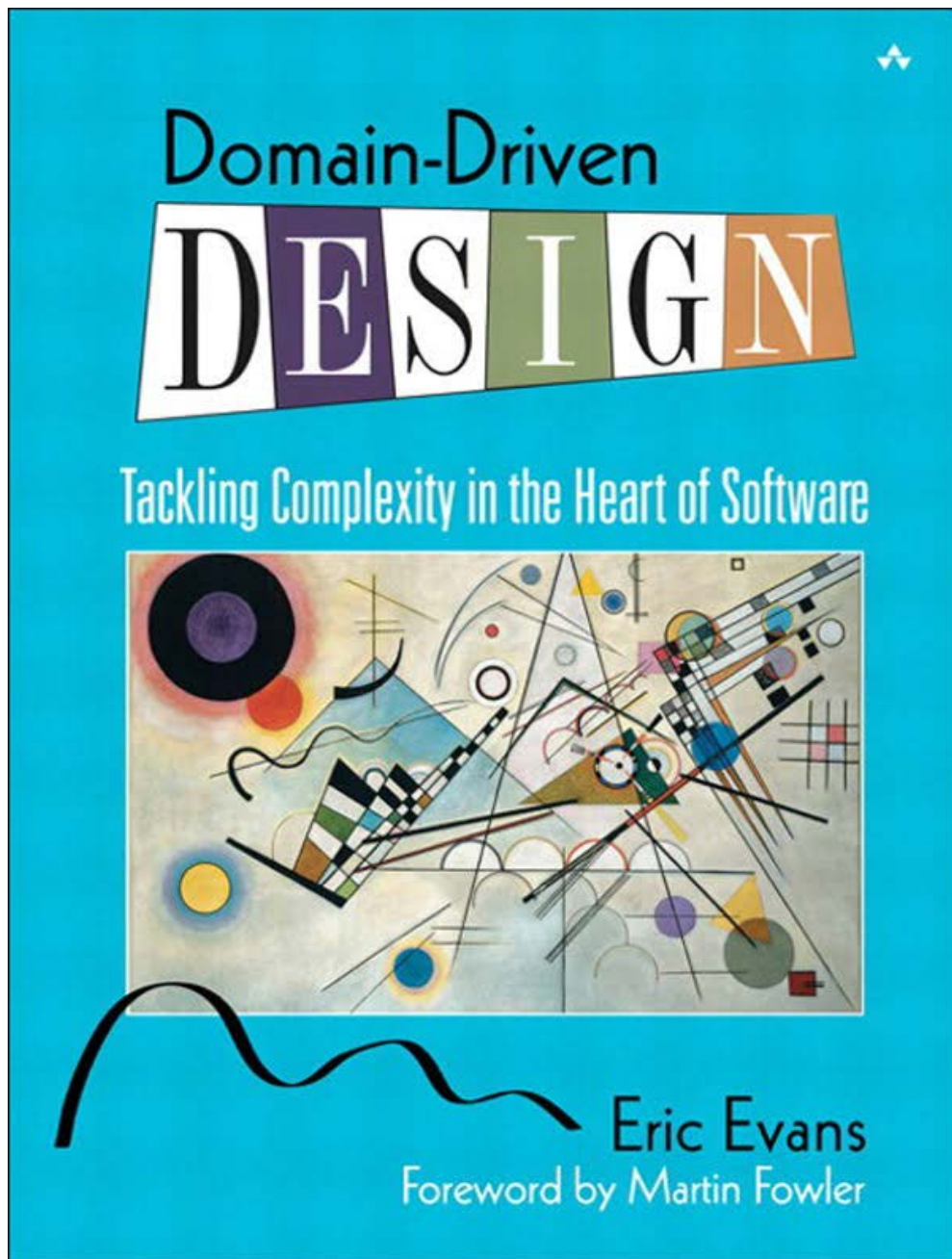


Defining the Model









PLURALSIGHT

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Domain-Driven Design Fundamentals

By Julie Lerman and Steve Smith

This course teaches the fundamentals of Domain-Driven Design (DDD) through a demonstration of customer interactions and a complex demo application, along with advice from Eric Evans.

Course info

Level	Intermediate
Rating	★★★★★ (1026)
Duration	4h 16m
Released	24 Jun 2014

Course authors

Julie Lerman
Steve Smith

Start free trial now

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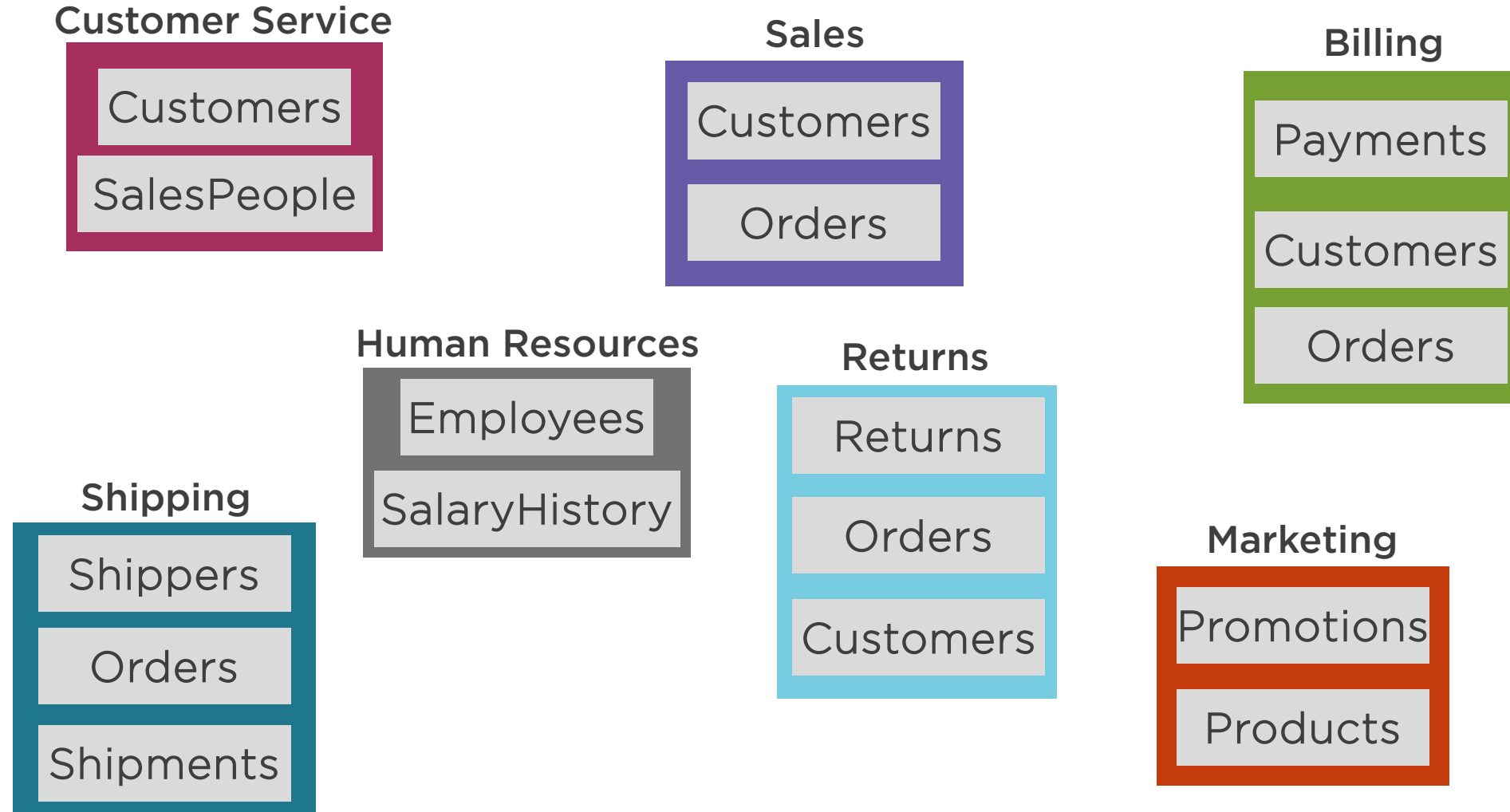
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Table of contents	Description	Exercise files	Transcript	Discussion	Learning check
Introducing DDD					24m 19s
DDD: Modeling Problems in Software					45m 6s
Elements of a Domain Model					1h 1m
Aggregates in Domain-Driven Design					24m 44s
Repositories					27m 51s
Domain Events and Anti-corruption Layers					35m 53s
Reaping the Benefits of Domain-Driven Design					37m 30s

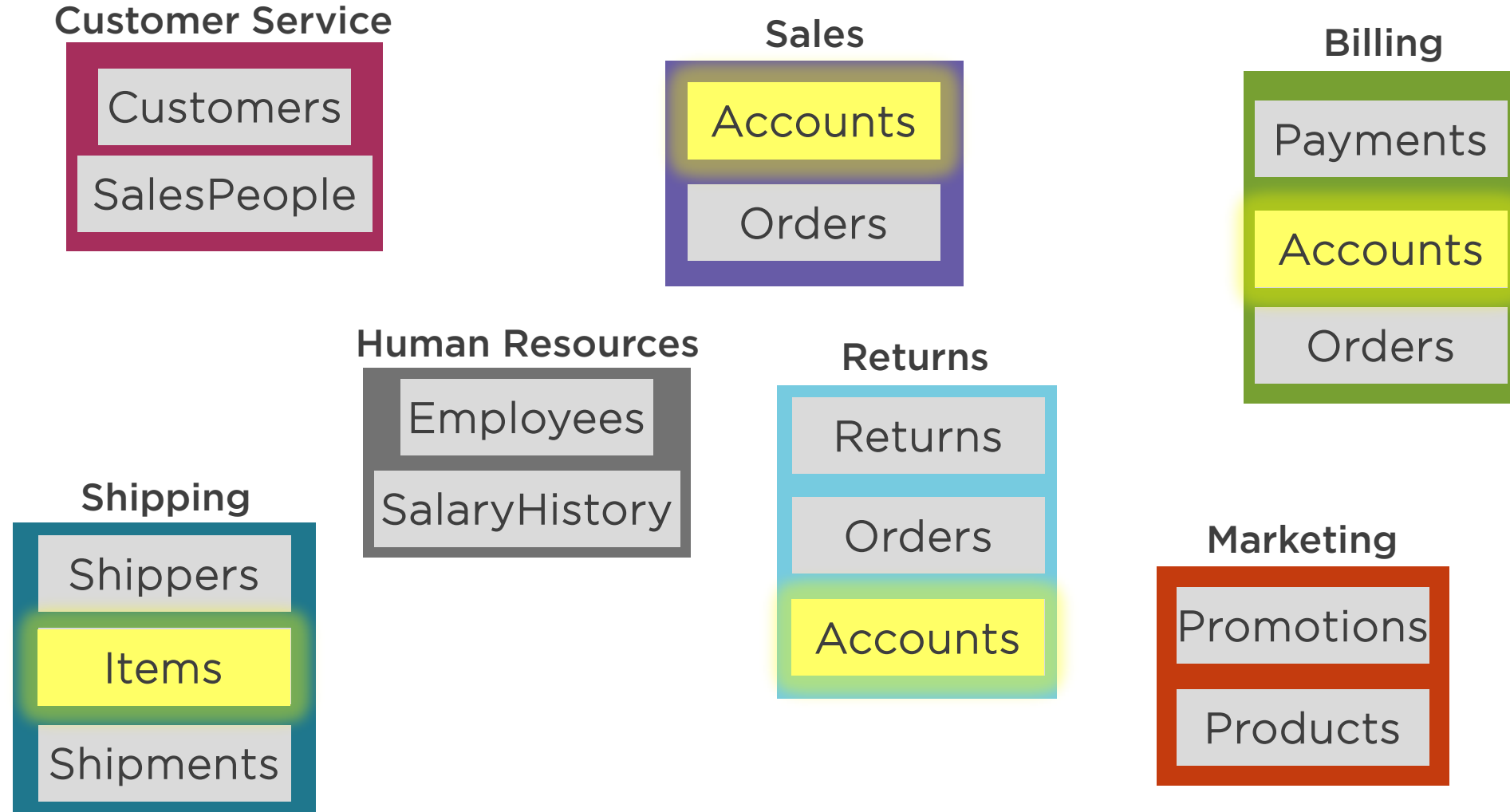
www.bit.ly/PS-DDD



Domain-Driven Design: “Bounded Contexts”

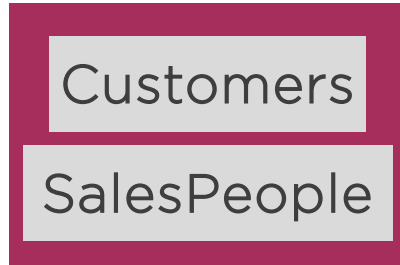


Domain-Driven Design: “Bounded Contexts”

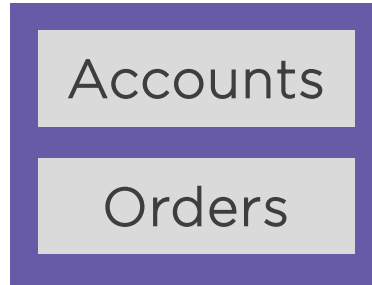


Focused DbContexts

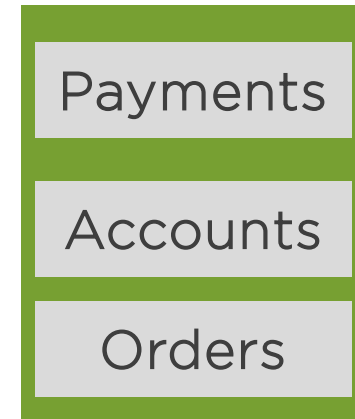
Customer Service



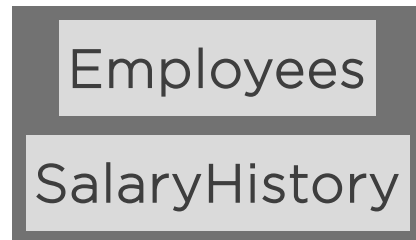
Sales



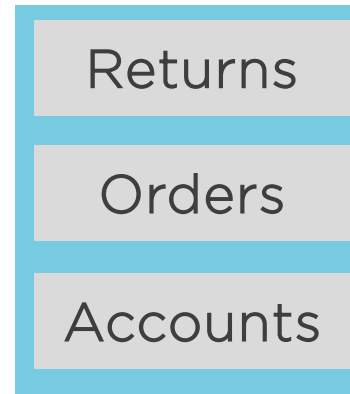
Billing



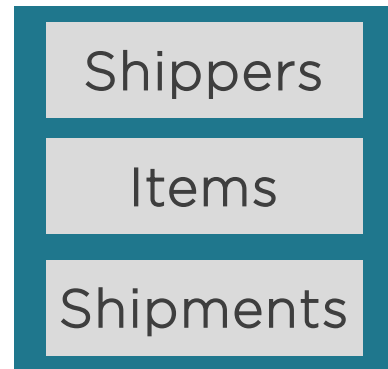
Human Resources



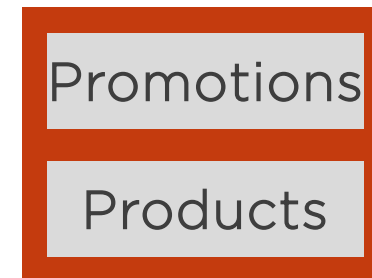
Returns



Shipping



Marketing



Entity Framework & Designing for Testing



Automated Tests Make Testing Easier

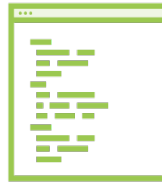
Unit Tests

Test small bits of independent logic

Test this ➡



Test this ➡



Test this ➡



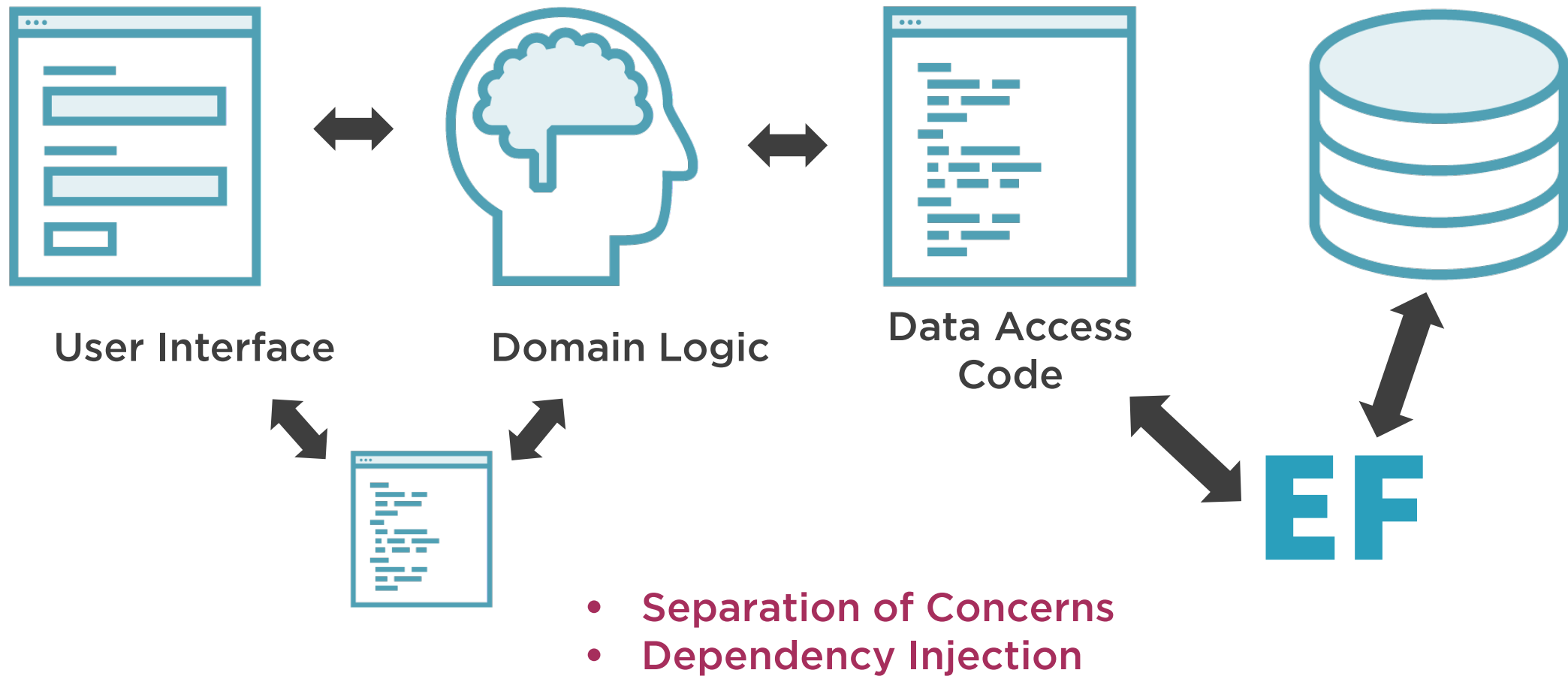
Integration Tests

Logic from multiple sources

Test this ➡



Good Design Makes Testing Easier



Architecting a Data Layer



Demo-Ware vs Real-World Software

Encapsulating EF Code (Repositories?)

Domain-Driven Design Bounded Contexts

Focused Data Models/EF DbContext

EF6 and Automated Testing



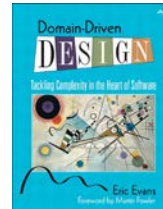
Resources

Helpful Pluralsight Courses

- Getting Started with Entity Framework 6 bit.ly/PS-EF6Start
- Automated Testing for Fraidy Cats Like Me bit.ly/PS-Testing
- C# Fundamentals with Visual Studio 2015 bit.ly/1JxmjH8
- Domain-Driven Design Fundamentals bit.ly/PS-DDD
- SOLID Principles of Object Oriented Design bit.ly/1PhN6ny

How EF6 Enables Mocking DbSet More Easily bit.ly/JL_EF6Mock

Domain-Driven Design, Eric Evans



domainlanguage.com/ddd



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