

Entity Framework 4 POCO & Persistence Ignorance

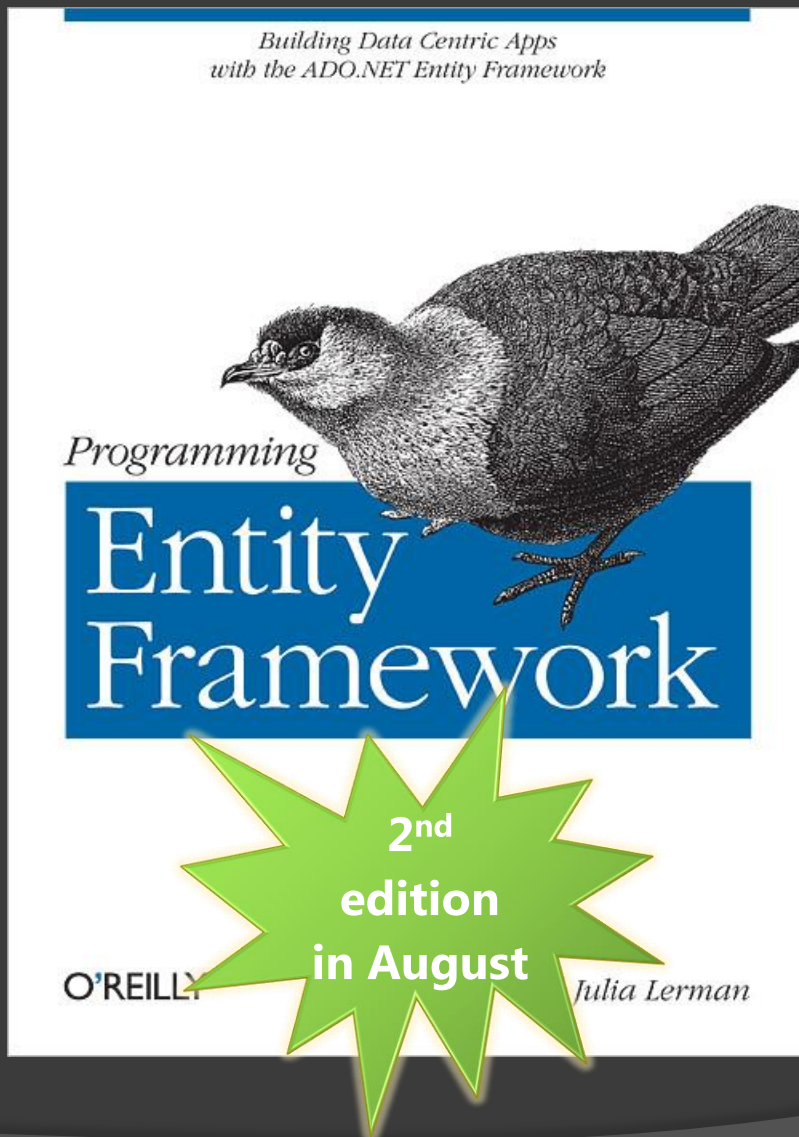
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book web site

LearnEntityFramework.com

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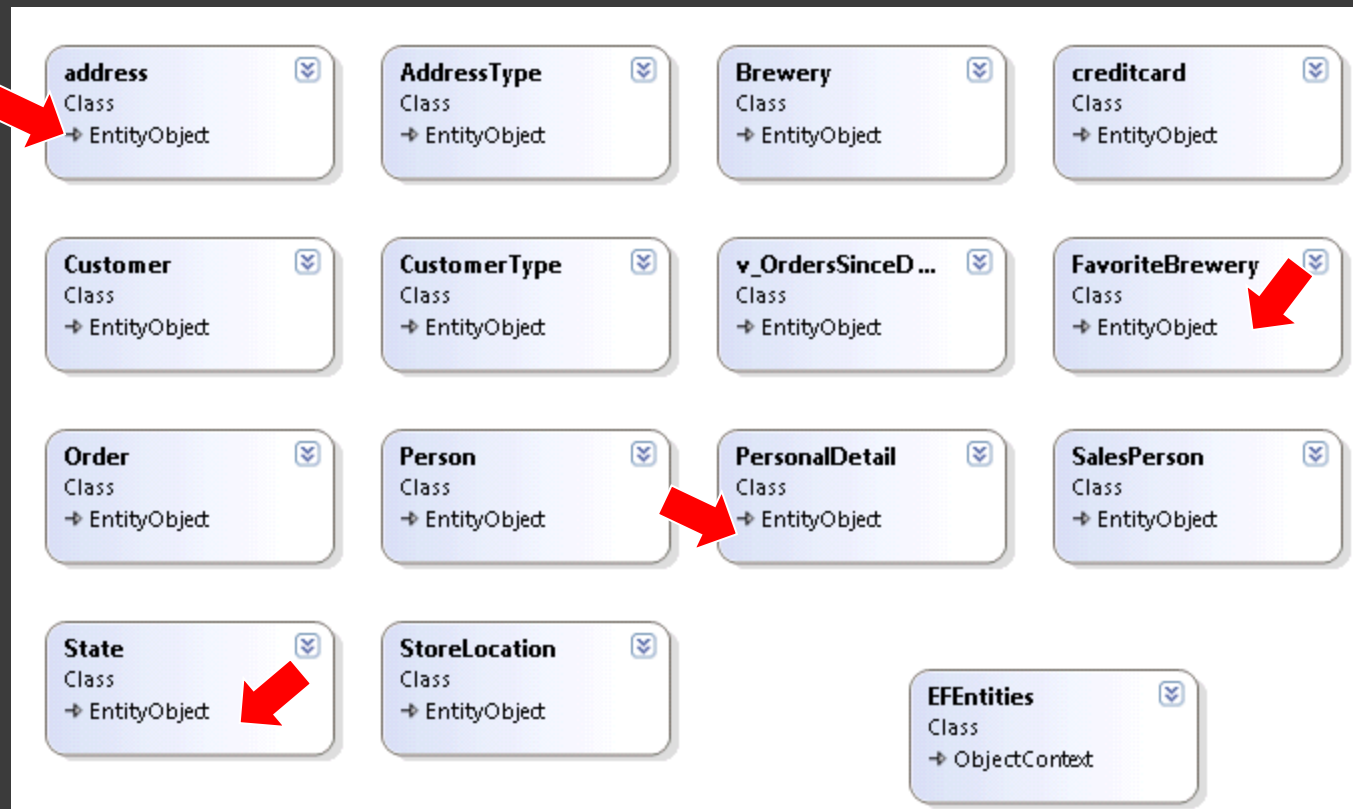
Persistence Dependent

```
var context = new PublishingEntities();  
var book= (from b in context select books where bookid=3).First();  
b.Status = "Sent to Printer";  
Context.SaveChanges();
```

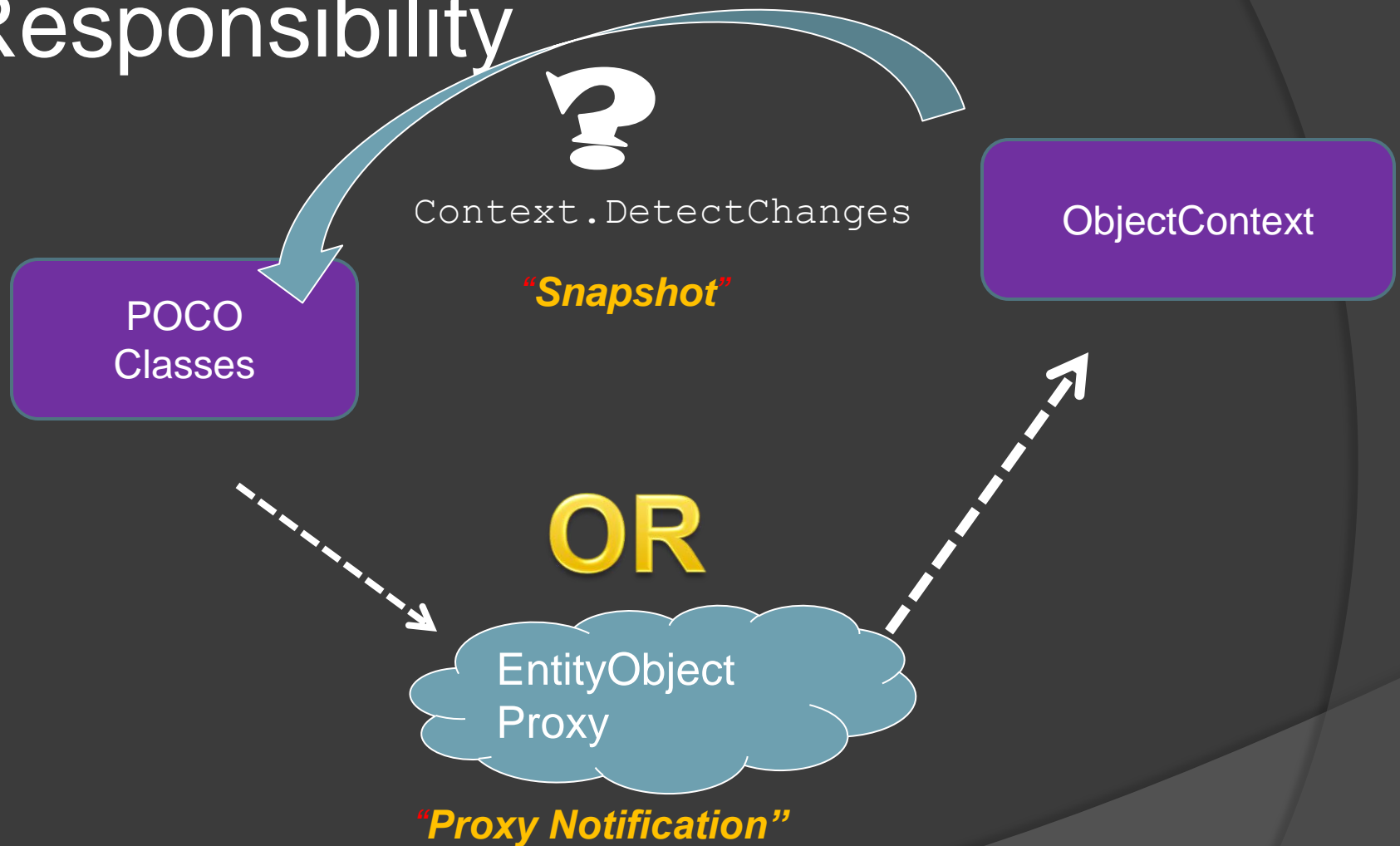
Persistence Ignorance

```
var bookMgr = new BookManager()  
var book=bookMgr.GetBook(3);  
book.Status="Sent to Printer";  
bookMgr.Update(book);
```

EF1 & Default EF4 Classes



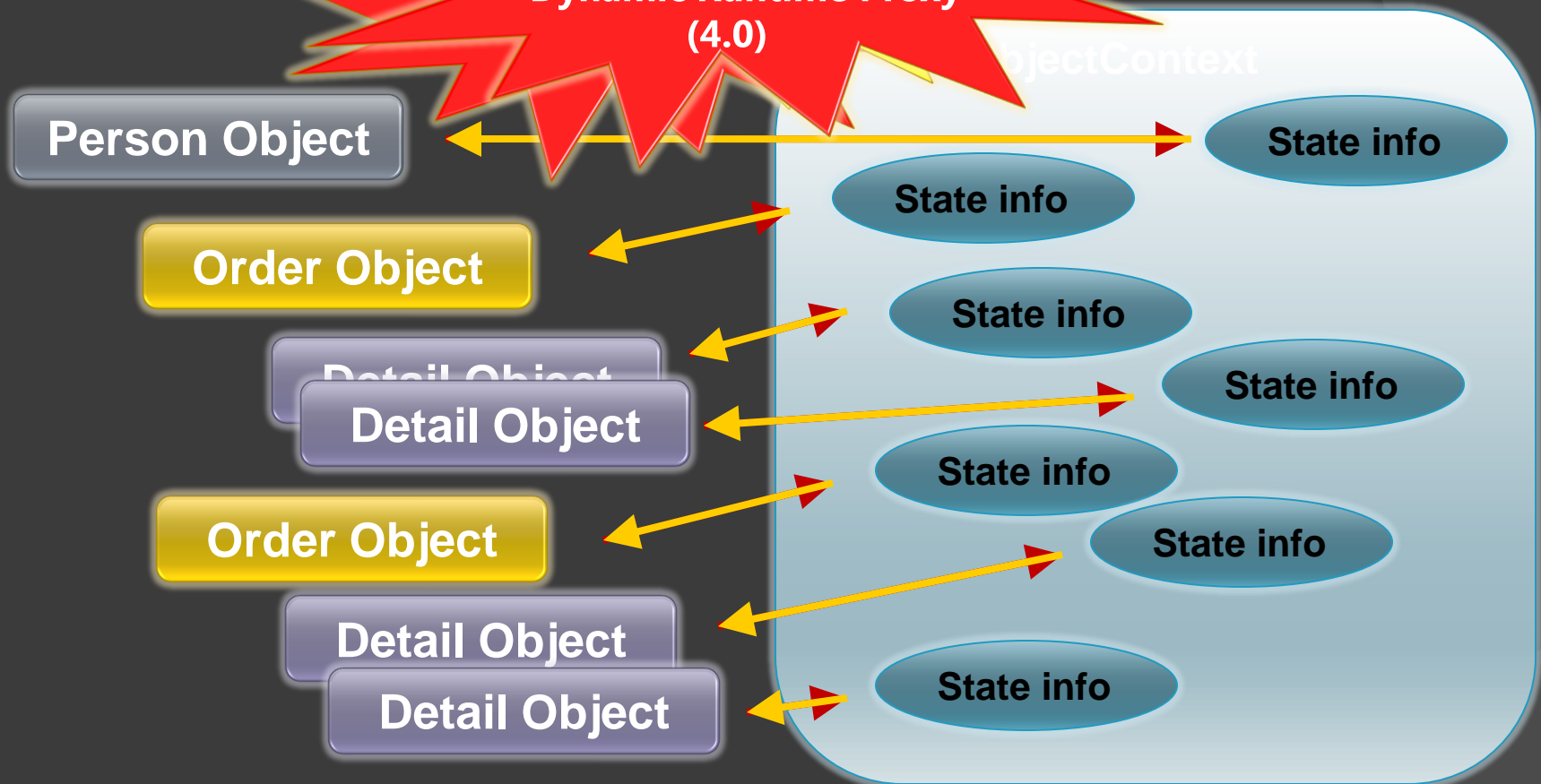
POCO: Shifting the Responsibility



ObjectContext Manages Entities

POCO

+ Dynamic Runtime Proxy
(4.0)

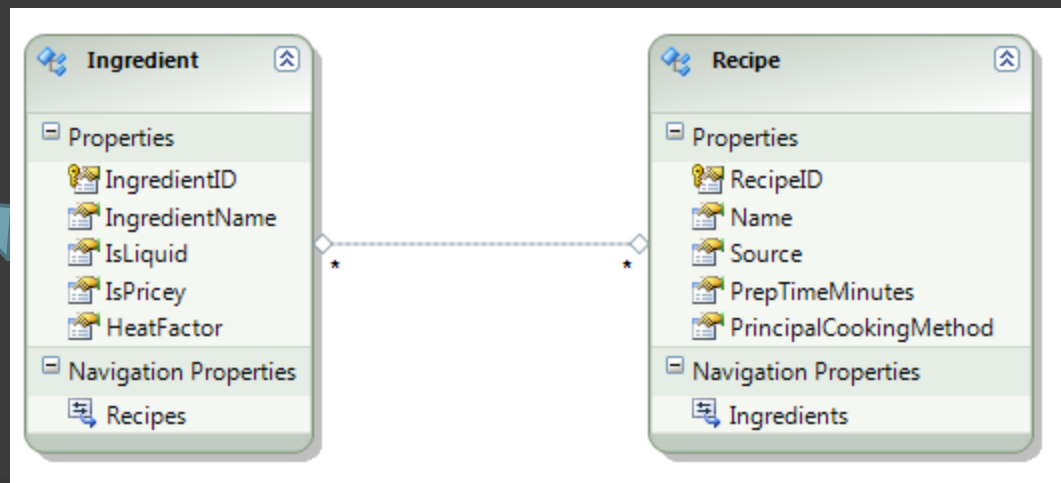


Basic POCO Support

- Turn off code generation from EDMX
- “Convention” will auto-map

```
public class Ingredient
{
    public int IngredientID { get; set; }
    public string IngredientName { get; set; }
    public bool IsLiquid { get; set; }
    public bool IsPricey { get; set; }
    public string HeatFactor { get; set; }
    public ICollection<Recipe> Recipes { get; set; }
}
```

```
public class Recipe
{
    public int RecipeID { get; set; }
    public string Name { get; set; }
    public string Source { get; set; }
    public int PrepTimeMinutes { get; set; }
    public string PrincipalCookingMethod { get; set; }
    public ICollection<Ingredient> Ingredients { get; set; }
}
```



POCO and Other EF Features

⦿ Complex Types: Supported

- Use a class (no structs) to represent the type

⦿ Explicit Loading

- `ObjectContext.LoadProperty(myObj, "PropertyName")`
- `ObjectContext.LoadProperty(myObj, o=>o.property)`

⦿ Lazy Loading (new to EF4!)

- Declare property as virtual
- EF uses a proxy instance at runtime to load

Rules for Proxy Notification

1. All properties of the model entity must be virtual
2. Use `ICollection<T>` for child collections
3. `ObjectContext.CreateObject<T>` for new
4. Class cannot be sealed
5. Navigation props cannot be sealed
6. Class cannot be abstract
7. Constructor with no parameters

POCO Classes from Model

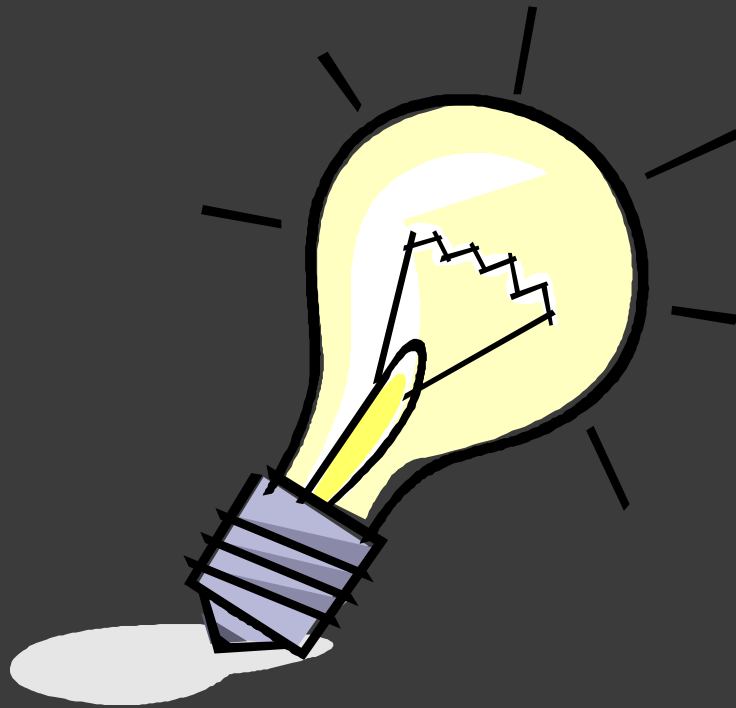
A large, bold, yellow 'T4' logo is centered on the slide. Below the logo is a faint, dark, semi-transparent reflection of the same 'T4' text.

Text Template Transformation Toolkit

P.I.?

Huh?

EF1



EF4

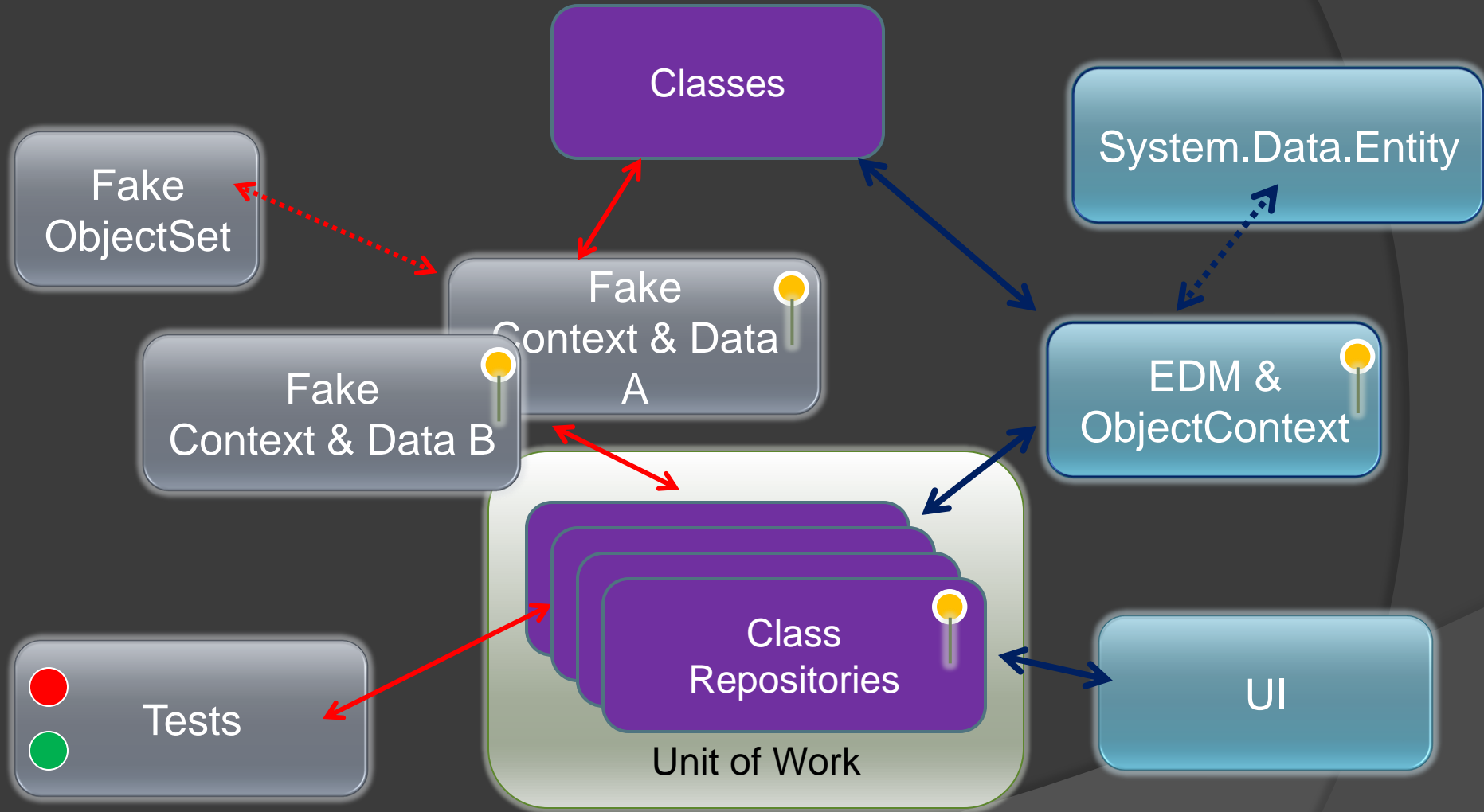
EF4 POCO Support

- ⦿ All entity properties must be represented
 - Hand Code
 - Code Gen with T4
- ⦿ Snapshot
 - ObjectContext does all of the work
- ⦿ Lazy Loading
 - Virtual navigation properties
- ⦿ Dynamic Runtime Proxies
 - Every single property is virtual
 - Proxy emulates EntityObject behavior

IObjectSet for Separation

- ⦿ Set with Collection-like behavior
 - Add, Attach, Delete, etc.
- ⦿ ObjectSet
 - Concrete class
 - Implements IObjectSet
 - Inherits ObjectQuery

PI/Repositories



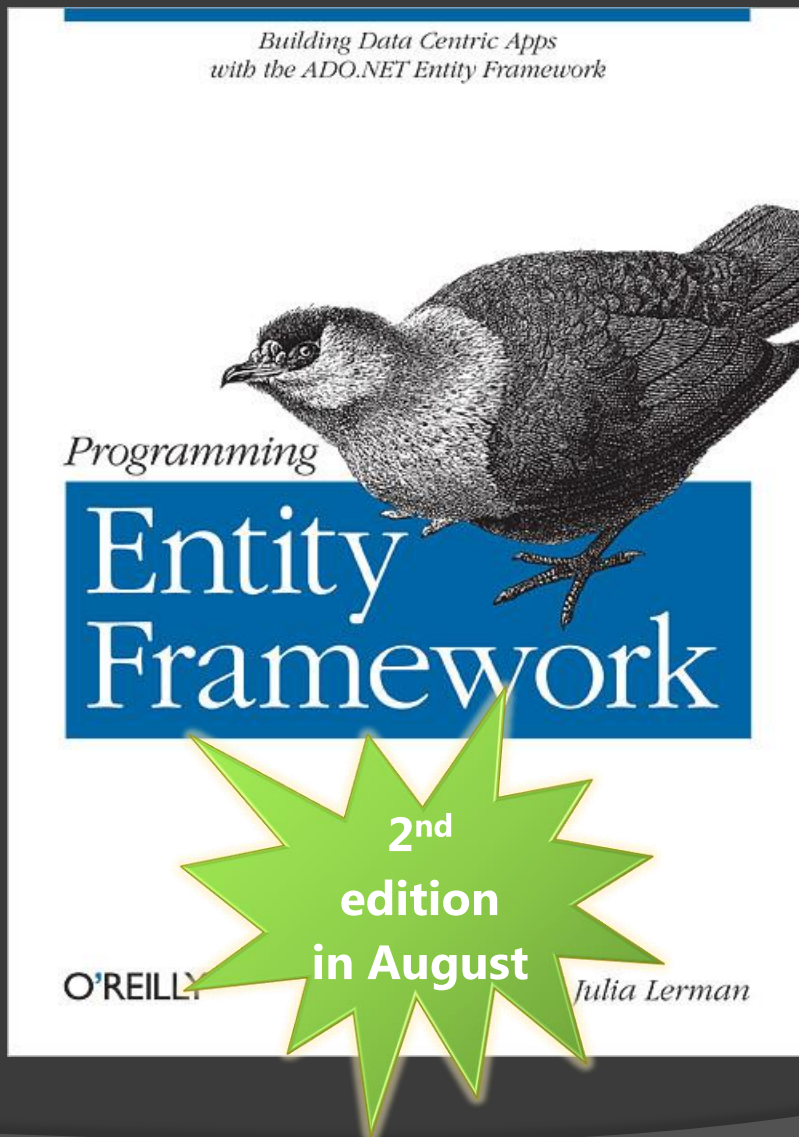
Entity Framework 4

- ⦿ Supports POCO
- ⦿ Separation of concerns
- ⦿ Unit Testing
- ⦿ Coming soon:
 - Code First
 - Currently part of CTP4, not part of .NET 4

Resources

- msdn.com/data
- Learnentityframework.com
- Testability and Entity Framework 4.0, Scott Allen, <http://msdn.microsoft.com/en-us/ff714955.aspx>
- Agile Entity Framework 4 Repository: blog series
 - <http://thedatafarm.com/blog/data-access/agile-entity-framework-4-repository-part-1-model-and-poco-classes/>

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