Introduction to Entity Framework

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Agenda

- Traditional Data Access approaches
- ORM Basics
- Introduction to Microsoft Entity Framework
- Demos

Traditional Data Access approaches

Purpose of Data Access Layer:

- Query data from data store
- Data persistence
- Track changes

Data Access approaches used so far:

- Resultset in classic ASP
- ADO.Net and DataSet
- DataReader\ DataAdapters

Traditional Data Access - Issues

Issues with existing Data Access approaches:

- Tabular Data Representation
- Tight Coupling - DB schema and Business Logic
- Loose-Typing - DataRow Cell Type ➔ Object
- DataSet Performance

Using classes to Organize Data

Class ➔ Table schema

Class Instance ➔ Table Row\ Record

Advatntages:

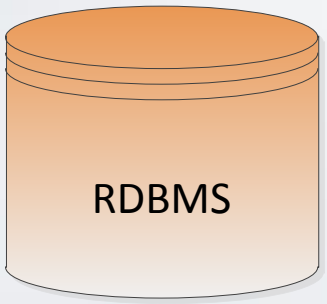
- Strong Typing
- Compile-time checking
- Ease of development
- Storage agnostic interface
- Self-Validation in Classes.

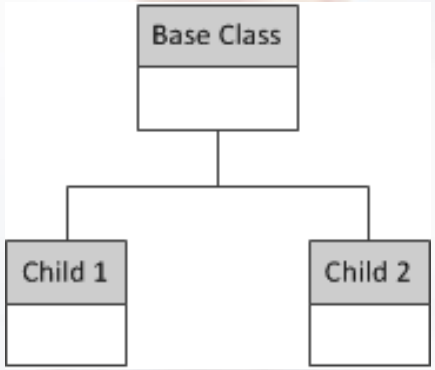
ORM Basics

Relational Model: Efficient storage and retrieval

Object Model: Real-world representation of data

Object/ Relational Mapping:





Advantages of ORM

- Productivity
- Maintainability
- Performance

.Net Entity Framework ➔ ORM by Microsoft

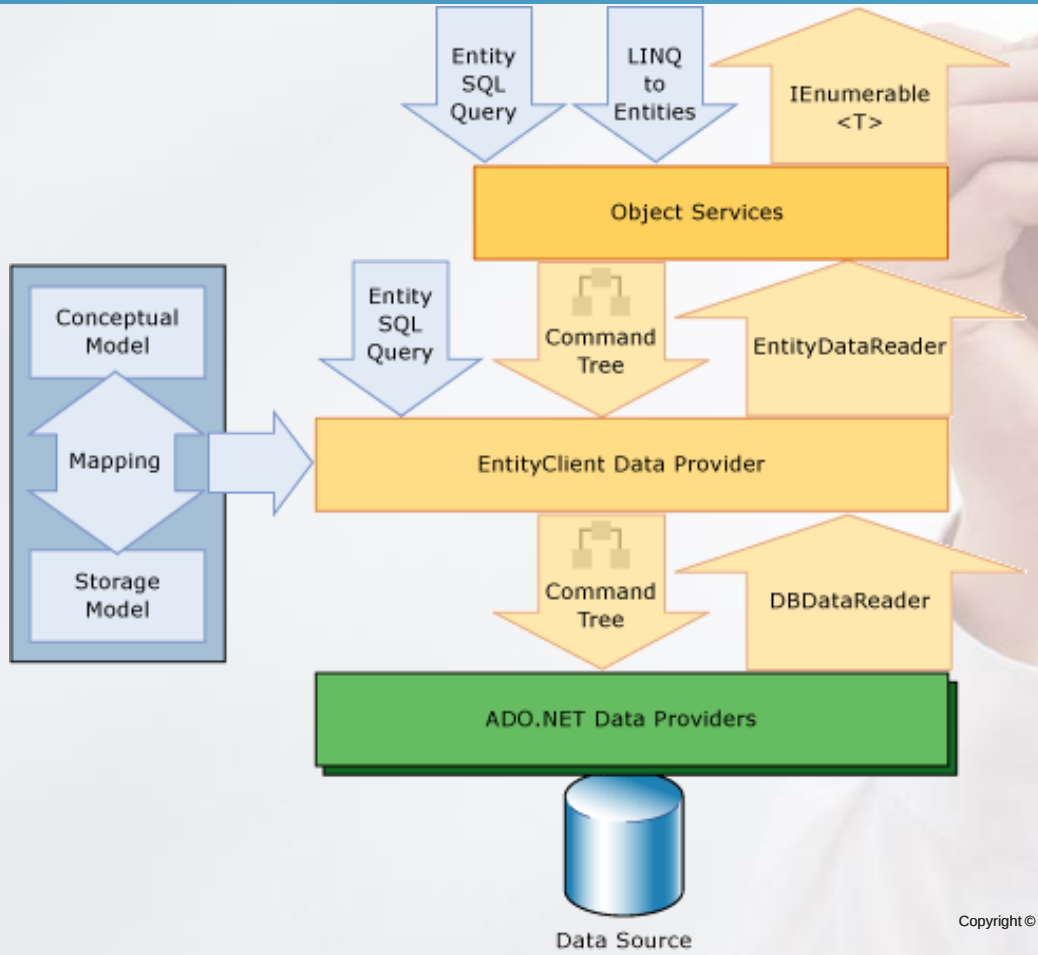
- Part of .Net framework
- Integrated into Visual Studio
- Database type and version independent
- **Future direction recommended for data access by Microsoft!**

.Net Entity Framework

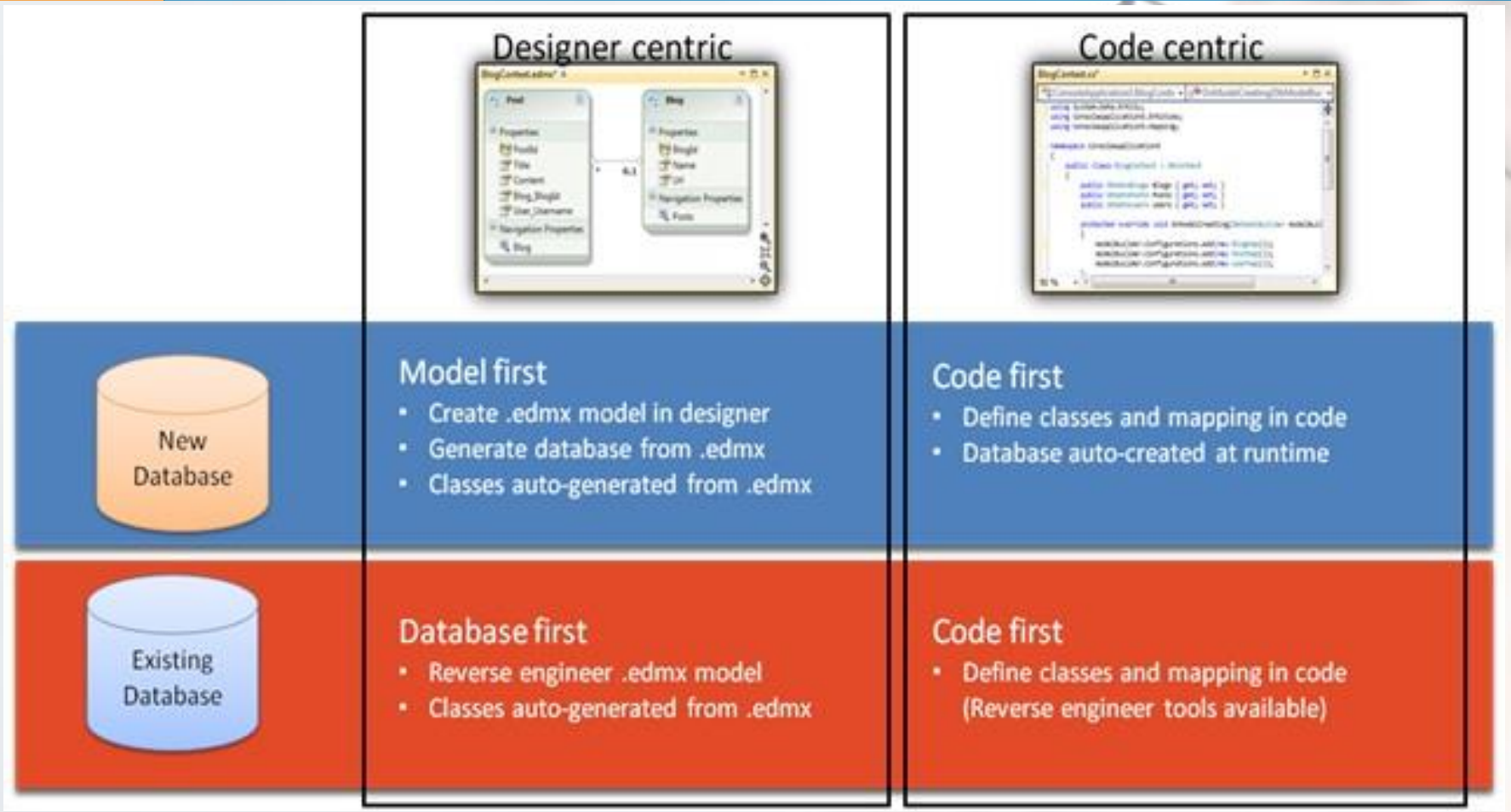
Entity Framework – Mapping files:

Filename	Description	Alternative name	Extension
Conceptual model	Describes the model classes and their relationships	Conceptual schema, conceptual side	CSDL
Storage model	Describes the database tables, views, and stored procedures, and their keys and relationships	Storage schema, storage side	SSDL
Mapping model	Maps the conceptual and storage models	Mapping schema, mapping side	MSL

EF Data Access Architecture

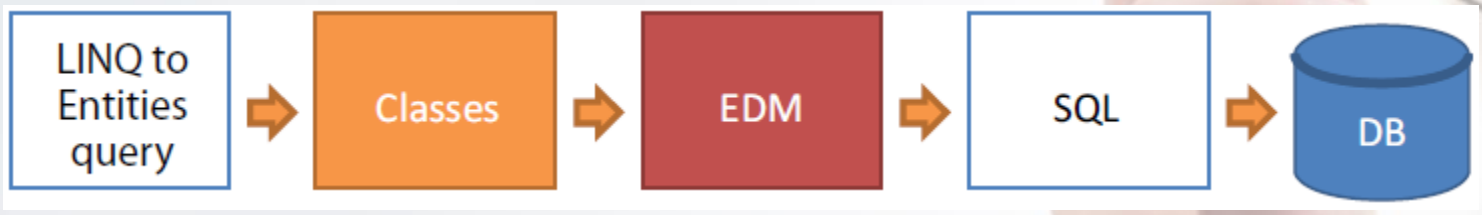


.Net EF – Development Workflows

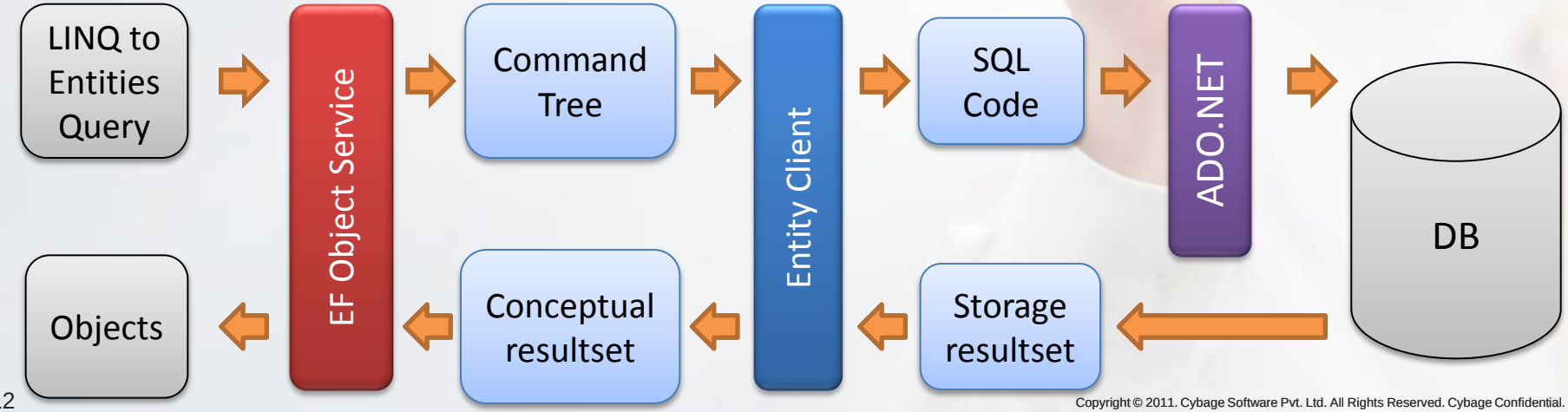


Querying the Object Model

Write queries against Entity Classes and NOT against actual Tables



Internal Flow:



EF Demo

- Code First Approach

References

https://msdn.microsoft.com/en-in/data/ef.aspx

Any Questions?

Thank you!