

.NET Data Access

@POLIMI

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Who we are

- Microsoft Student Partners
 - Growing up team
 - Working with the Developer & Platform Evangelism of Microsoft Italia
- Students
 - @ POLIMI
- IT Professionals





Agenda

- Introduction
- .NET Framework
- Data Access
 - Direct Access
 - Datasets
 - ASP.NET DataSources
 - Entity Framework

A member of the
msdn academic
alliance

Technologies we are using

- Visual Studio 2008 Team Suite with SP1
 - Support for ALM
 - Integrated development
- SQL Server DBMS
- MySQL DBMS
- Access Database
- .NET Framework 3.5
- ASP.NET

MS Stuff IS FREE AT

<https://www.asi.polimi.it/software/msdnaa.html>

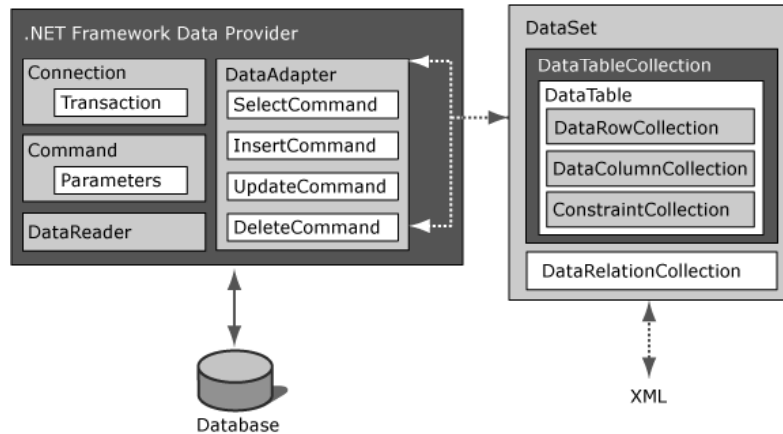
.NET Overview (1)



.NET Overview (2)

- Building Applications:
 - Windows Form Application
 - Windows Mobile Applications
 - Database projects
 - ASP.NET Web Applications
 - Silverlight Applications
- But also...
 - ...supported by open source community:
 - Mono framework -> C# on linux
 - CodePlex development process

ADO.NET Architecture



SQL Server

Mainstream Microsoft DBMS Suite

- Business Intelligence
- Data warehousing
- Online Transaction processing
- Application development
- Server consolidation



Demo

Connecting to database

- SQL Server Management Studio
- Simple SQL Insert statement
- Simple SQL Update statement
- Connection to SQL Server Database from VS
- Simple SQL Select statement
- Iteration across the resultset



Choosing a DataReader or a DataSet

- **Questions:**
 - Do you need to read-only your data?
 - Do you need to easily view your data in .NET controls?
 - Do you need to do heavy editing operations on your data?
 - Do you need to enforce concurrency and multiple versioning of your data?



Demo

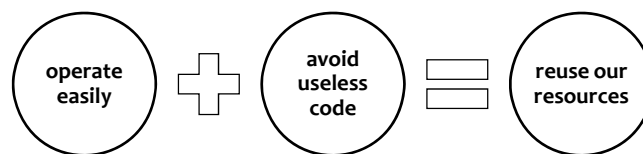
Creation of a disconnected data layer (DataSet):

- Using MySQL Database
- Visual design of complex query
- Linking of the result to .NET windows forms controls
- Exporting the results as a simple XML file



Data-Bound controls

- We need to operate easily
- We need to avoid useless code for view our data
- We need to reuse our resources among different project types



Demo

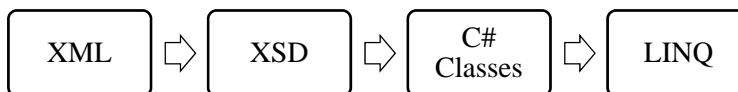
Access DataBase into the ASP.NET web controls

- Generate a DataGrid
- Generate DetailsView



Data Access - File usage

Flat files?? Yes, but boring! What about XML??



```

<?xml version="1.0"?>
<menu>
  <parent title="kirupaPicks">
    <child>
      <title>kirupa.com</title>
      <link>http://www.kirupa.com</link>
    </child>
    <child>
      <title>kirupaForum</title>
      <link>http://www.kirupa.com/forum</link>
    </child>
    <child>
      <title>kirupa's Blog</title>
      <link>http://blog.kirupa.com</link>
    </child>
  </parent>
</menu>
  
```



Demo

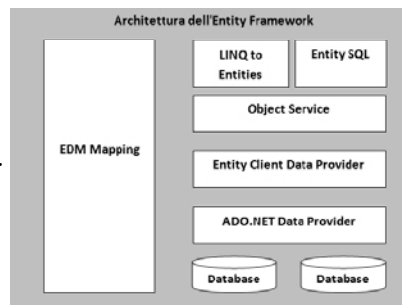
XML usage and object mapping

- Usage of XML
- Usage of XSD
- .NET Object Mapping
- LINQ to Objects data manipulation



ADO.NET Entity Framework

- Developers can work with a consistent application object model that can be mapped to various storage schemas
- Multiple conceptual models can be mapped to a single storage schema.
- Language-integrated query (LINQ) support provides compile-time syntax validation for queries against a conceptual model.



Demo

LINQ2Entities

- Insertion and Selection of some data



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