

Day 8

The one link you need to recall

<https://ddl.s.to/20483>

Ready?

Do this every day BEFORE the class starts (takes about 15 minutes)
(<http://ddls.to/everyday>)

1. Launch Lab01.
2. Login to Lab01 as **Admin**.
3. While in the Lab01 environment,
 - i. run **cmd.exe** from the Windows Start button.
 - ii. Run the command **git clone --depth 1 <https://github.com/Mark-AIICT/CAD-2.git> C:\Users\Admin\Desktop\MarksFiles**
 - iii. Navigate to **C:\Users\Admin\Desktop\MarksFiles\setups**, then right-mouse click **bootstrap.cmd** and run as administrator
 - iv. While it's running, Sign in to Visual Studio on the Lab Environment. You can use any Microsoft account.
 - v. When the script end it reboots the Virtual Machine. That's necessary.
 - vi. Save the lab. (the save link is at the top right of the screen in the dropdown menu)

Course Outline

- Module 1: Review of Visual C# Syntax
- Module 2: Creating Methods, Handling Exceptions, and Monitoring Applications
- Module 3: Basic Types and Constructs of Visual C#
- Module 4: Creating Classes and Implementing Type-Safe Collections
- Module 5: Creating a Class Hierarchy by Using Inheritance
- Module 6: Reading and Writing Local Data
- **Module 7: Accessing a Database**

- Creating and Using Entity Data Models
- Querying Data by Using LINQ

Styles

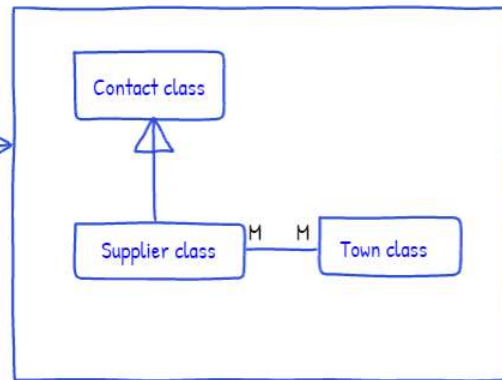
- relational
- key\value
- wide column
- network
- hierarchical

"what is a database?"

- stores data
- electronic/digital storage
- has a physical and logical architecture
- can search/query data
- supports create/read/update/delete
- has a schema storage mechanism

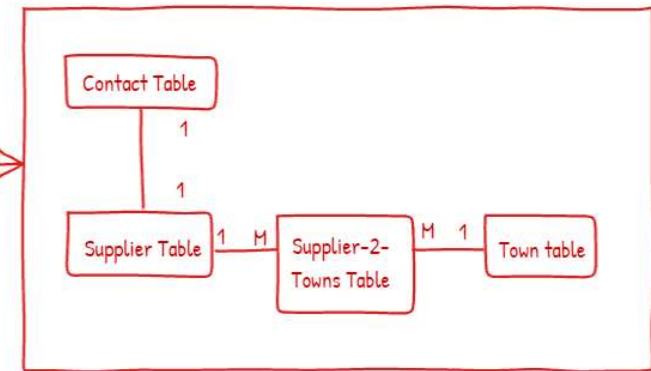


Conceptual Schema



ORM Mapping Schema

Storage Schema



Lesson 1: Creating and Using Entity Data Models

- Introduction to the ADO.NET Entity Framework
- Using the ADO.NET Entity Data Model Tools
- Customizing Generated Classes
- Reading and Modifying Data by Using the Entity Framework

Lesson 2: Querying Data by Using LINQ

- Querying Data
- Querying Data by Using Anonymous Types
- Forcing Query Execution


```
9  using System.Windows.Forms;
10
11  namespace WindowsFormsApp1
12  {
13      public partial class Form1 : Form
14      {
15          public Form1()
16          {
17              InitializeComponent();
18              button1.Click += ( sender, e) => MessageBox.Show("Hello " + ((Button)sender).Text);
19          }
20      }
21  }
```

method

method parameters

method body

Lambda operator



Desktop (presentation layer)

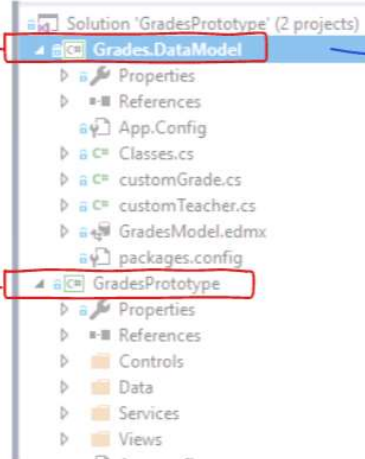
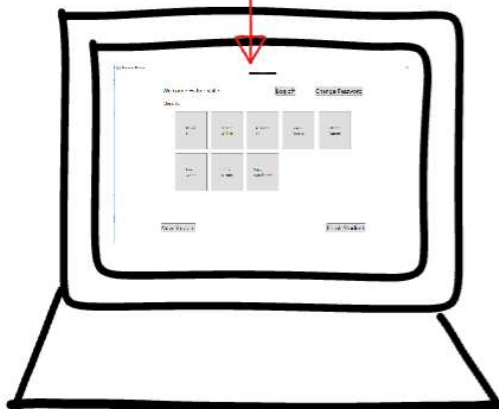
code that accesses the
data service layer and
maintains a model

.DLL

depends on

user
interface

.EXE



Data Services Layer

SQL Server



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- Module 7: Accessing a Database
- Module 8: Accessing Remote Data (I'm replacing this with a better module)
- Module 9: Designing the User Interface for a Graphical Application
- Module 10: Improving Application Performance and Responsiveness
- Module 11: Integrating with Unmanaged Code
- Module 12: Creating Reusable Types and Assemblies
- Module 13: Encrypting and Decrypting Data