Data Access

What are we talking about?

Applications, particularly business applications, often need a persistent data store.

This store is most often an RDBMS but could be anything from a flat file to a web based storage service.

We will focus on the most common scenario – RDBMS.

Entity Framework

The Entity framework provides object to relational mapping.

LINQ is used to specify operations (queries)

Supports many DB providers including all of the most popular databases.

Two approaches

Code First:

Database code is generated from model objects.

Data First:

Model object code is generated from tables in the DB

Note: Microsoft marketing people often call this code generation scaffolding.

Code First

1) Code up the model classes

2) Generate the DB access code by selecting ‘Add New Scaffolded Item’ for each model class.

3) Generate the DB creation code with ‘Add-Migration InitialMigration’

4) Execute the DB creation code with ‘Update-Database’

DB First

1) Build the DB.

2) Set the connection string in appsettings.json

3) Scaffold the model(s) from the command line with ‘Scaffold-Dbcontext ...’

4) Add code to program.cs to inject the DbContext.

5) Scaffold the controller(s) from VisualStudio ‘MVC controller with views, using Entity Framework’