Best Practices in ASP.NET: Entities, Validation and View Models

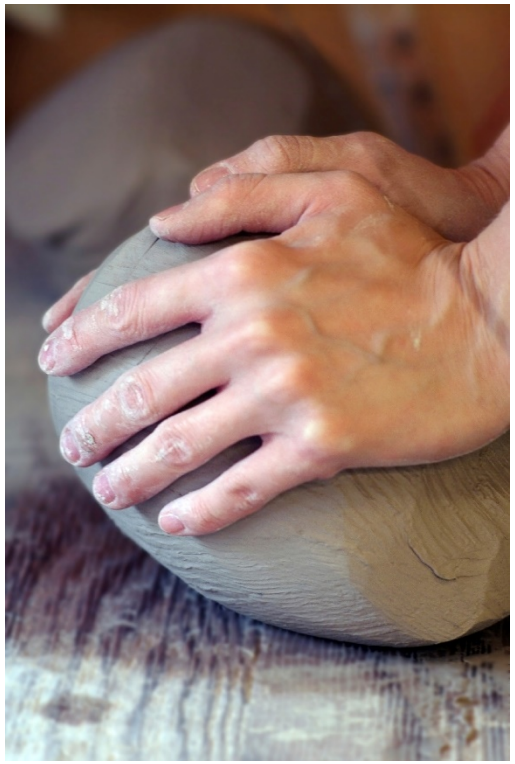
Entities

Shawn Wildermuth

@shawnwildermuth | wilderminds.com

pluralsight

Course Overview

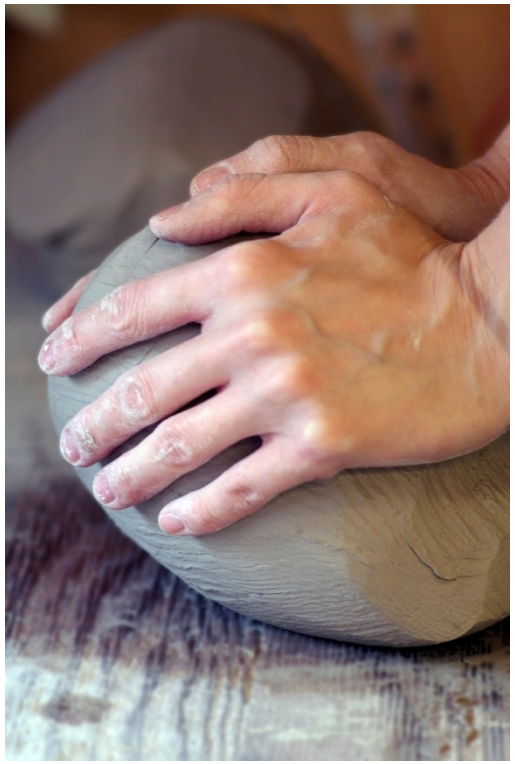


Should You Only Take This Course If…

- …you have the basics of ASP.NET/C#
- …you've been exposed to ASP.NET MVC
- …you have used a database before
- …you want to learn best practices

pluralsight

Course Overview



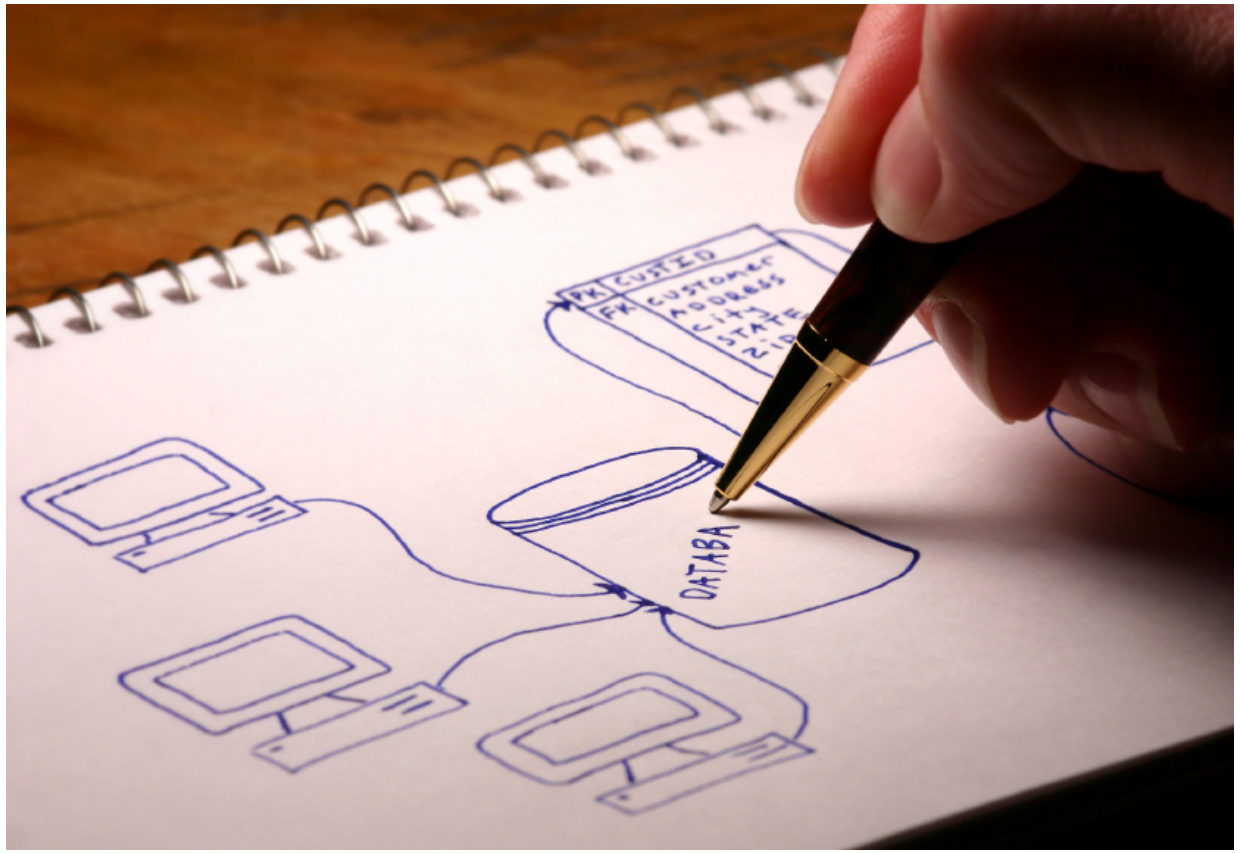
What This Course Will Teach You:

- How to design Entities
- Modeling in ASP.NET MVC
- Effective use of validation
- Working with models in Web API

pluralsight

This Module

Entities



pluralsight

define: Entity

Something that exists in itself, actually or potentially, concretely or abstractly, physically or not that can be uniquely identified in some way.

pluralsight

Entities are Nouns

Person

Vehicle

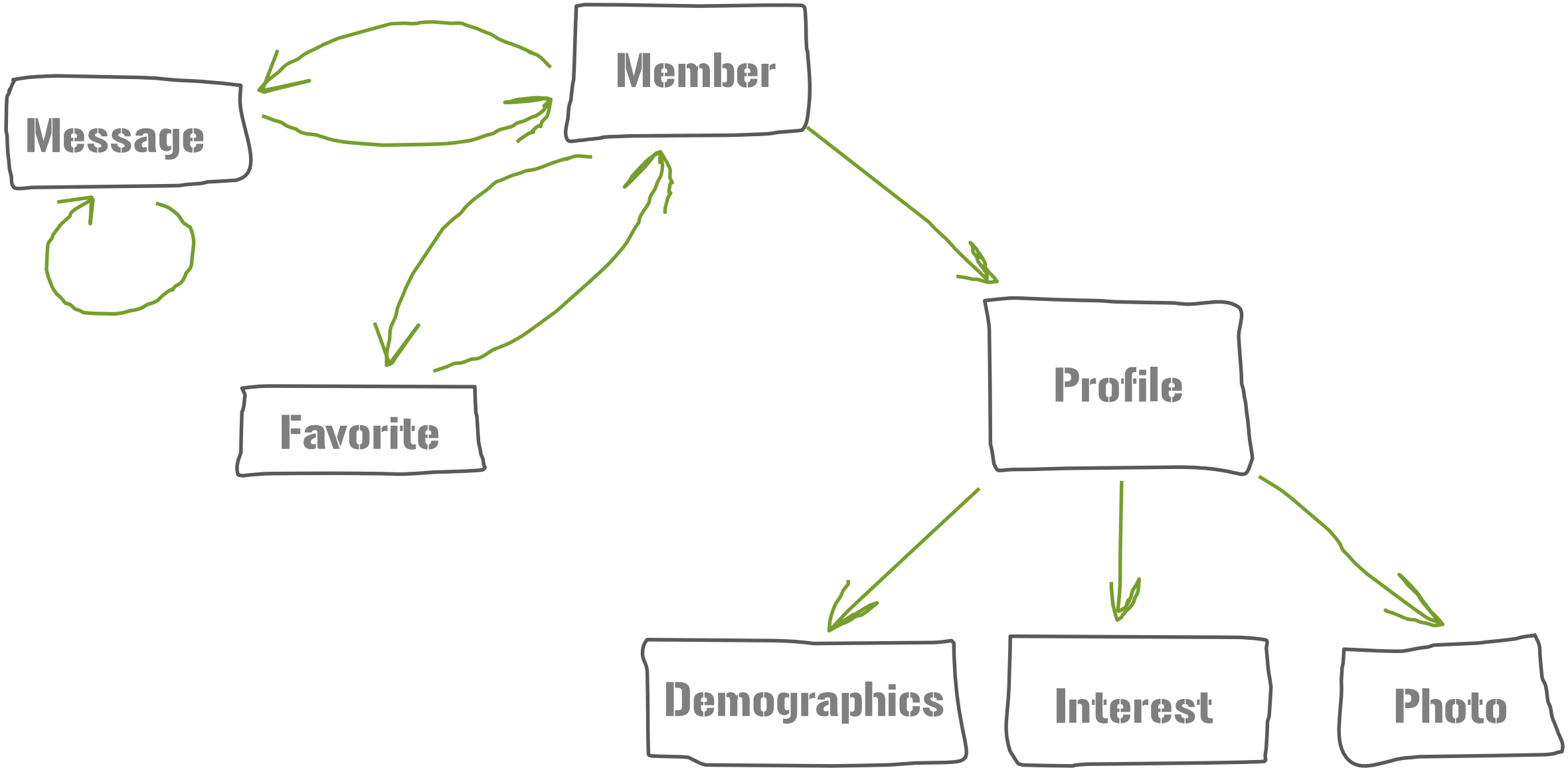
Invoice

Payment

Address

Product

pluralsight



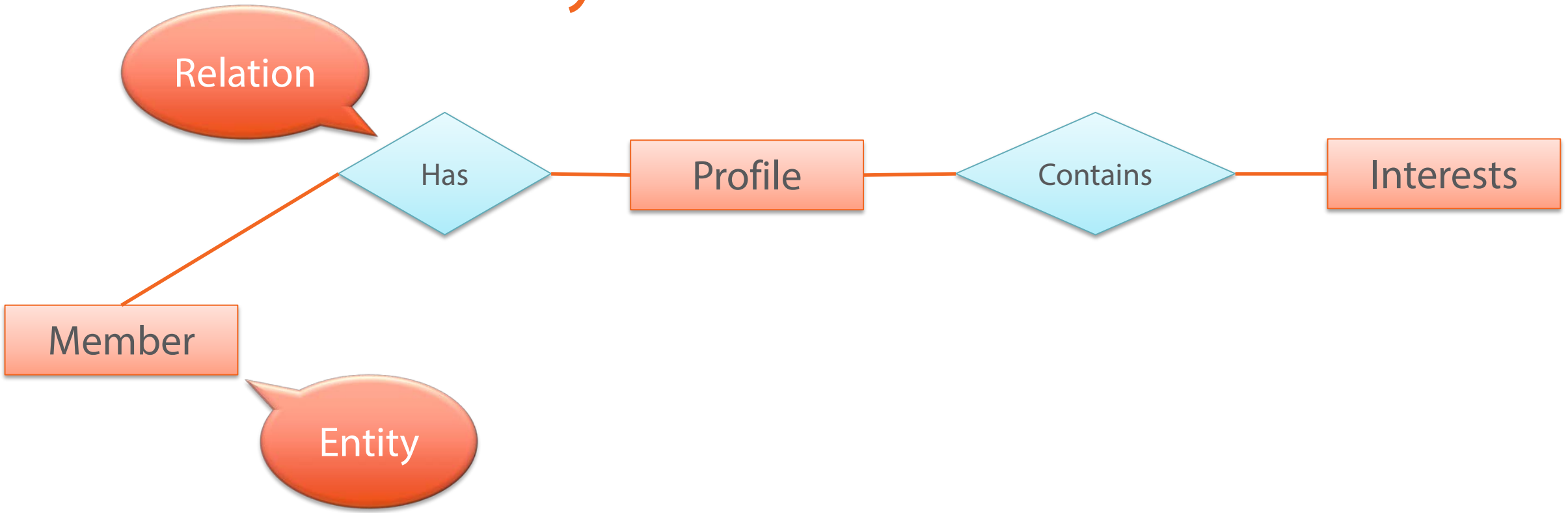
pluralsight

Entity Relational Model

- Method for Describing Data or Information Needs
  - Allows you to abstractly describe your needs to facilitate storage
  - Gives you a core vocabulary for describing your data needs

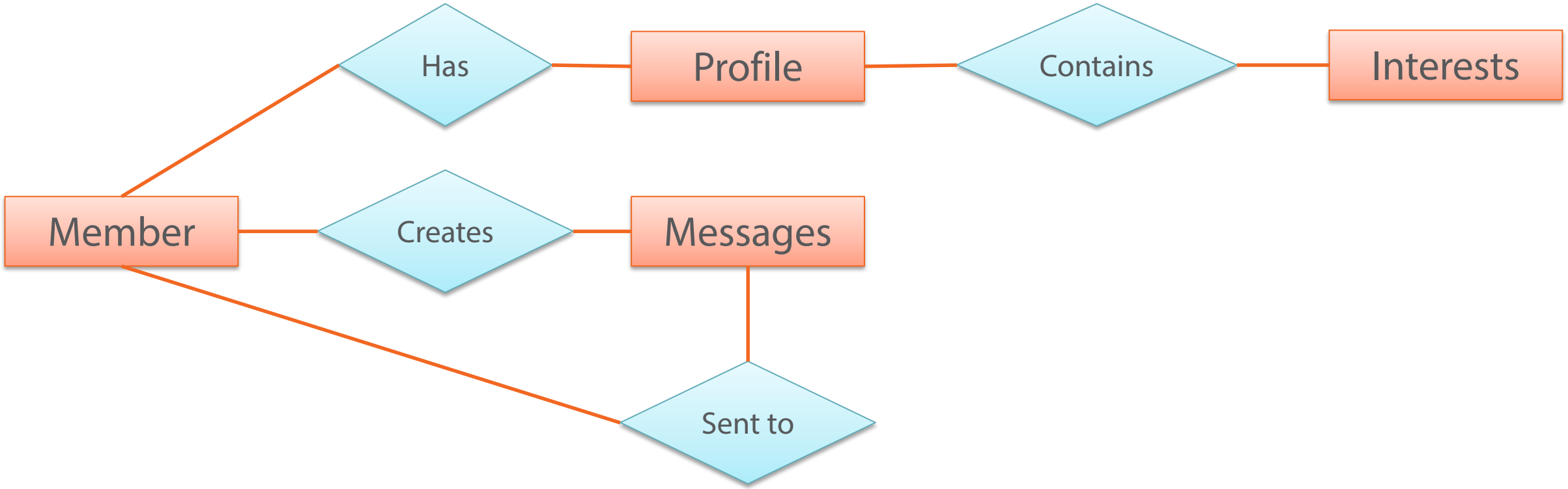
pluralsight

Entity Relational Model



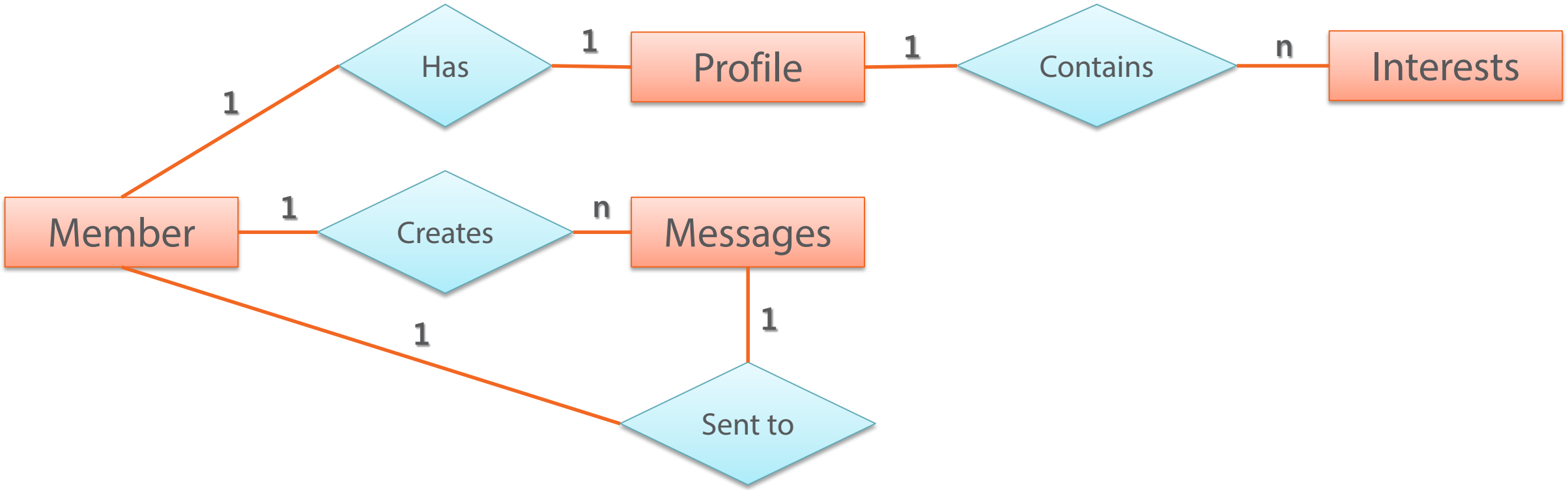
pluralsight

Entity Relational Model



pluralsight

Entity Relational Model



pluralsight

Entities require unique identification. That is what keys are for.

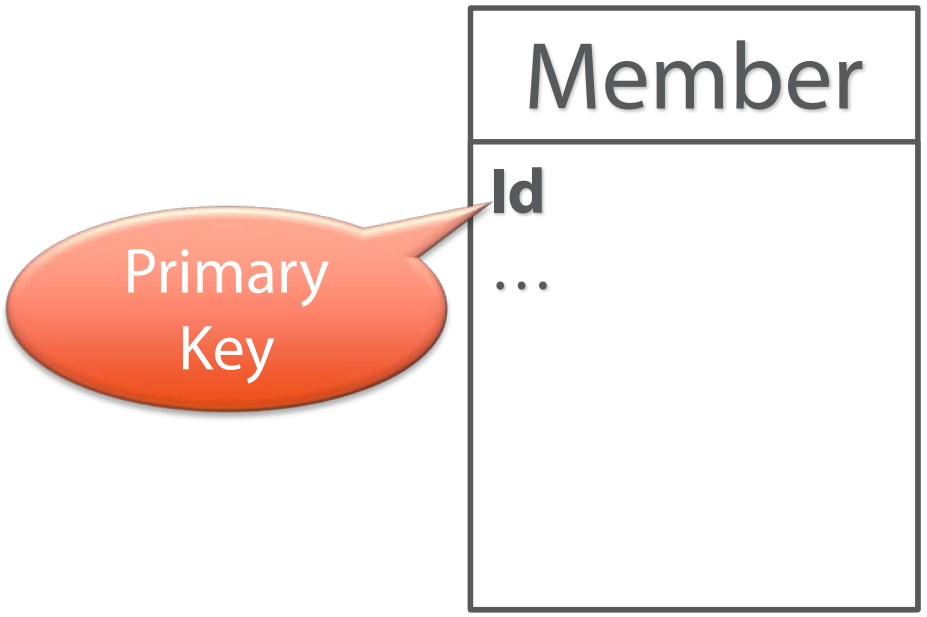
pluralsight

Entity Keys

- Key Types
  - Primary Key: An attribute(s) that unique identifies the entity
  - Foreign Key: An attribute that connects two entities via a relation
  - Natural Key: An attribute that exists in the real world to identify an entity
    - E.g. Serial Number or Social Security Number

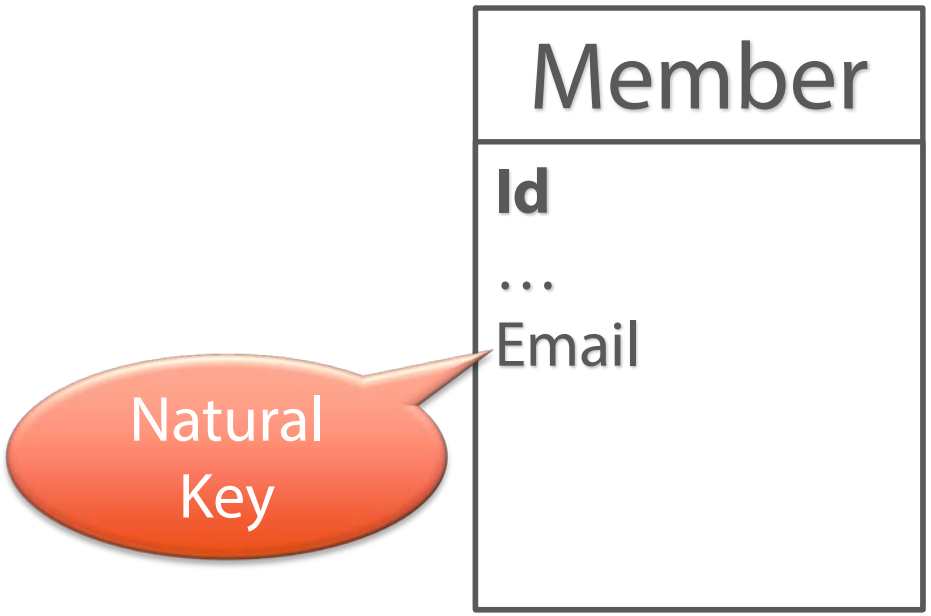
pluralsight

Keys



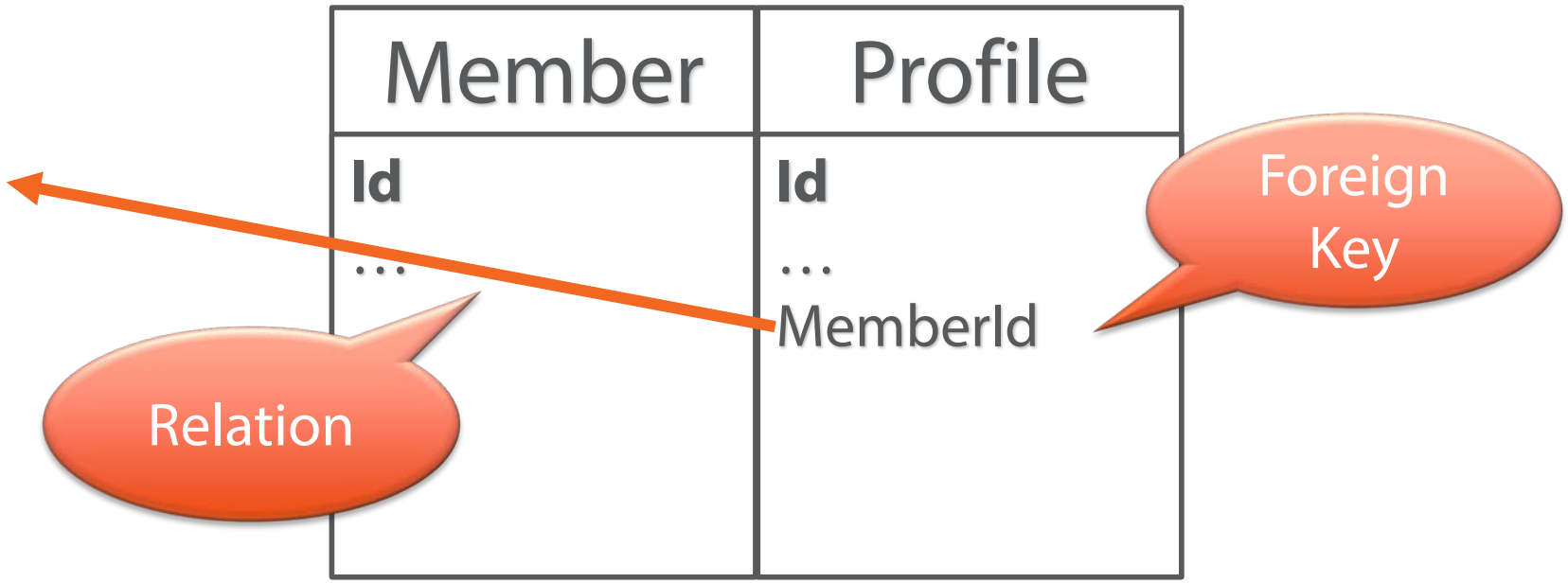
pluralsight

Keys



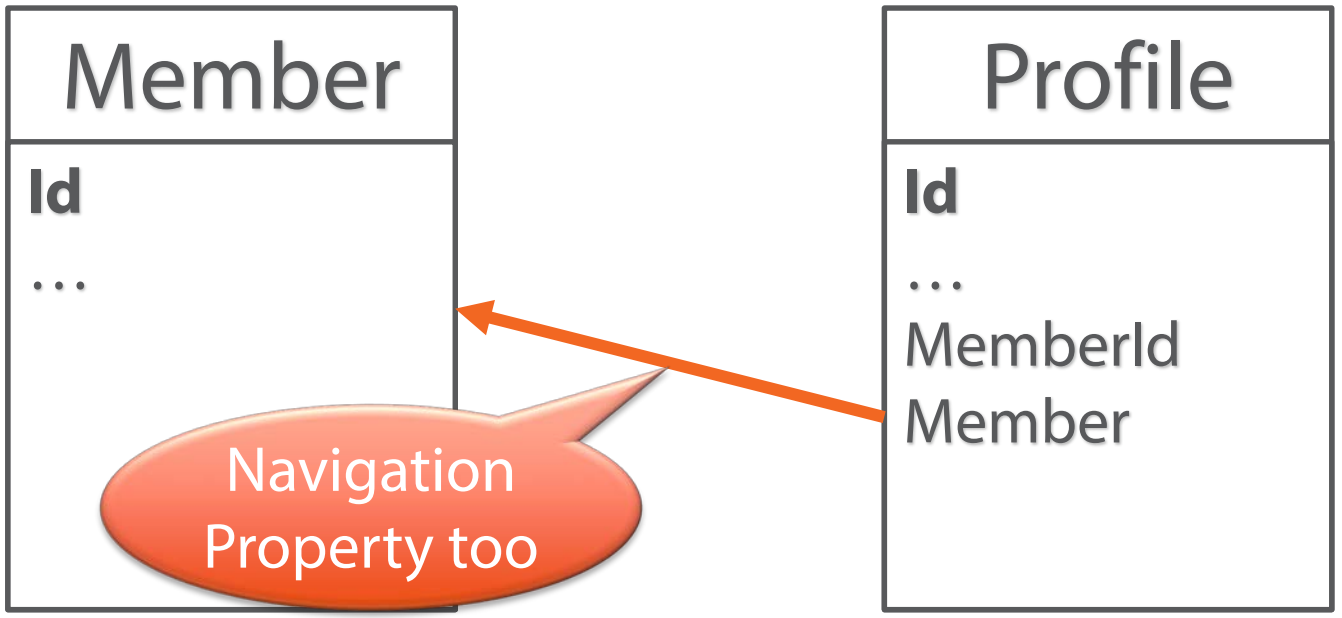
pluralsight

Foreign Keys and Relations



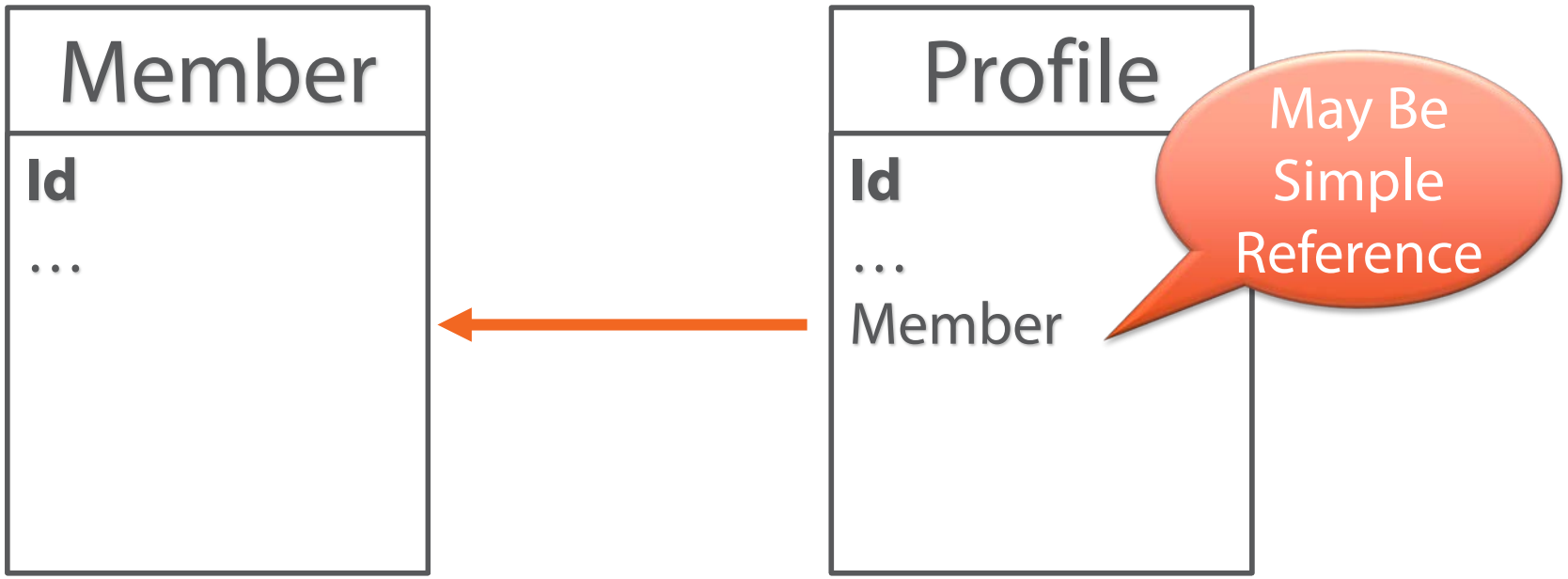
pluralsight

Foreign Keys and Relations



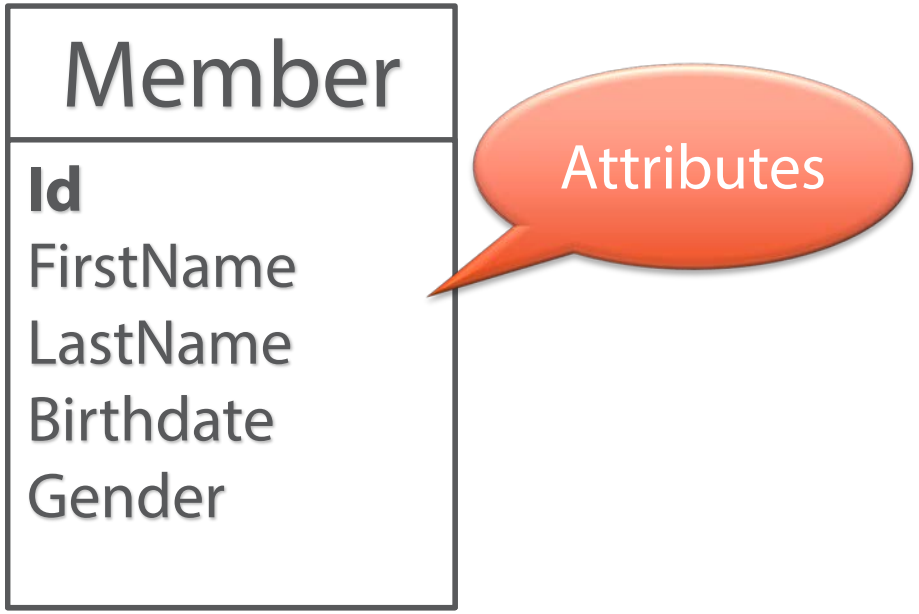
pluralsight

Foreign Key or Containing Relationship?



pluralsight

Attributes



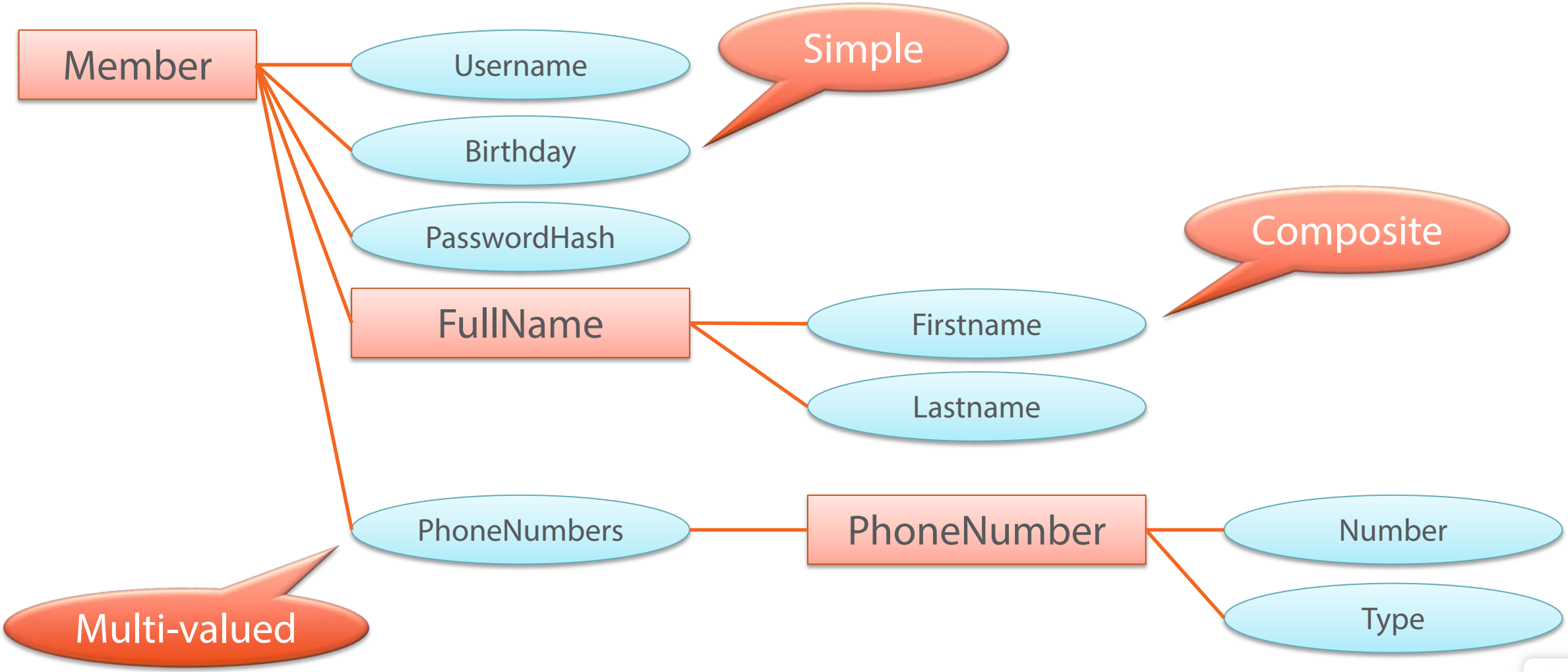
pluralsight

Attribute Types

- Attributes can be modeled in different ways
  - Simple (e.g. birthday, last logged in)
  - Composite (e.g. address)
  - Multi-valued (e.g. phone numbers)

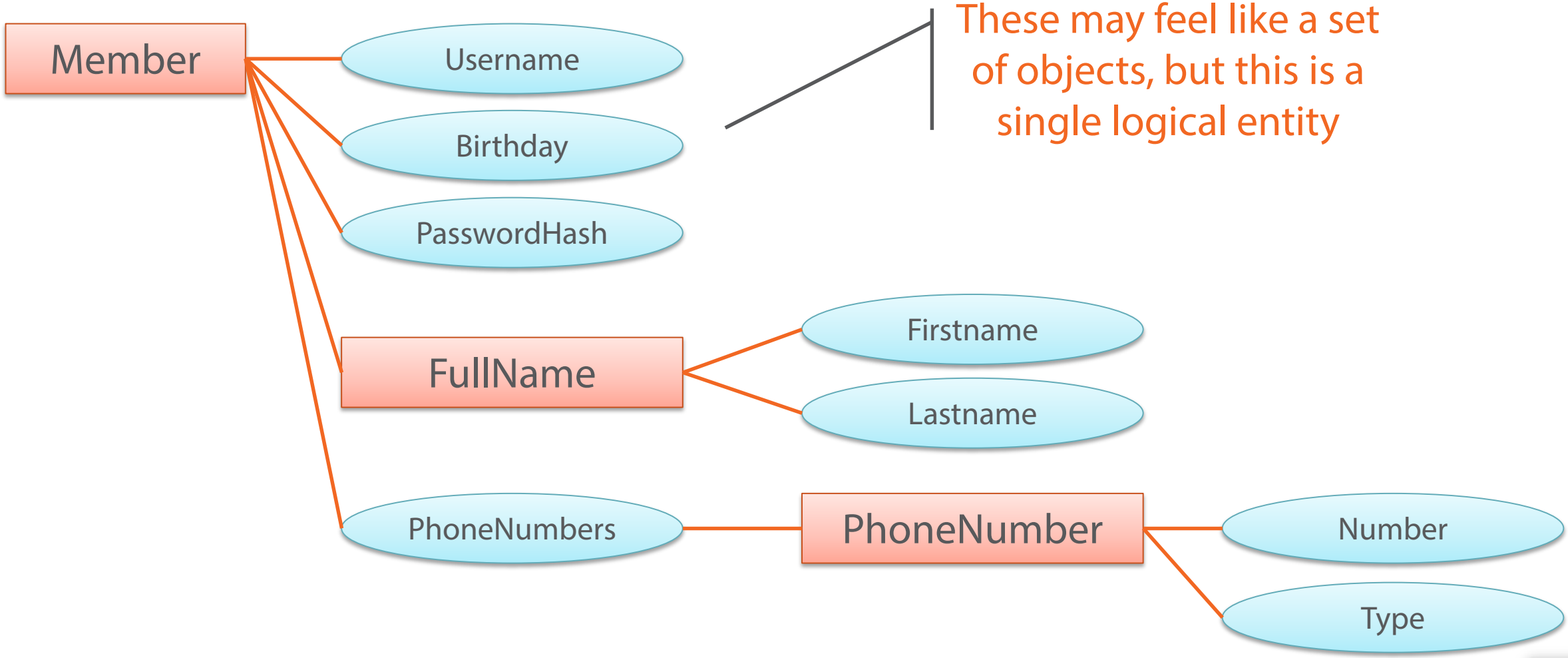
pluralsight

Attribute Types



pluralsight

Attribute Types



pluralsight

Demo

Modeling

pluralsight

By Entities, we are not talking about Entity Framework.

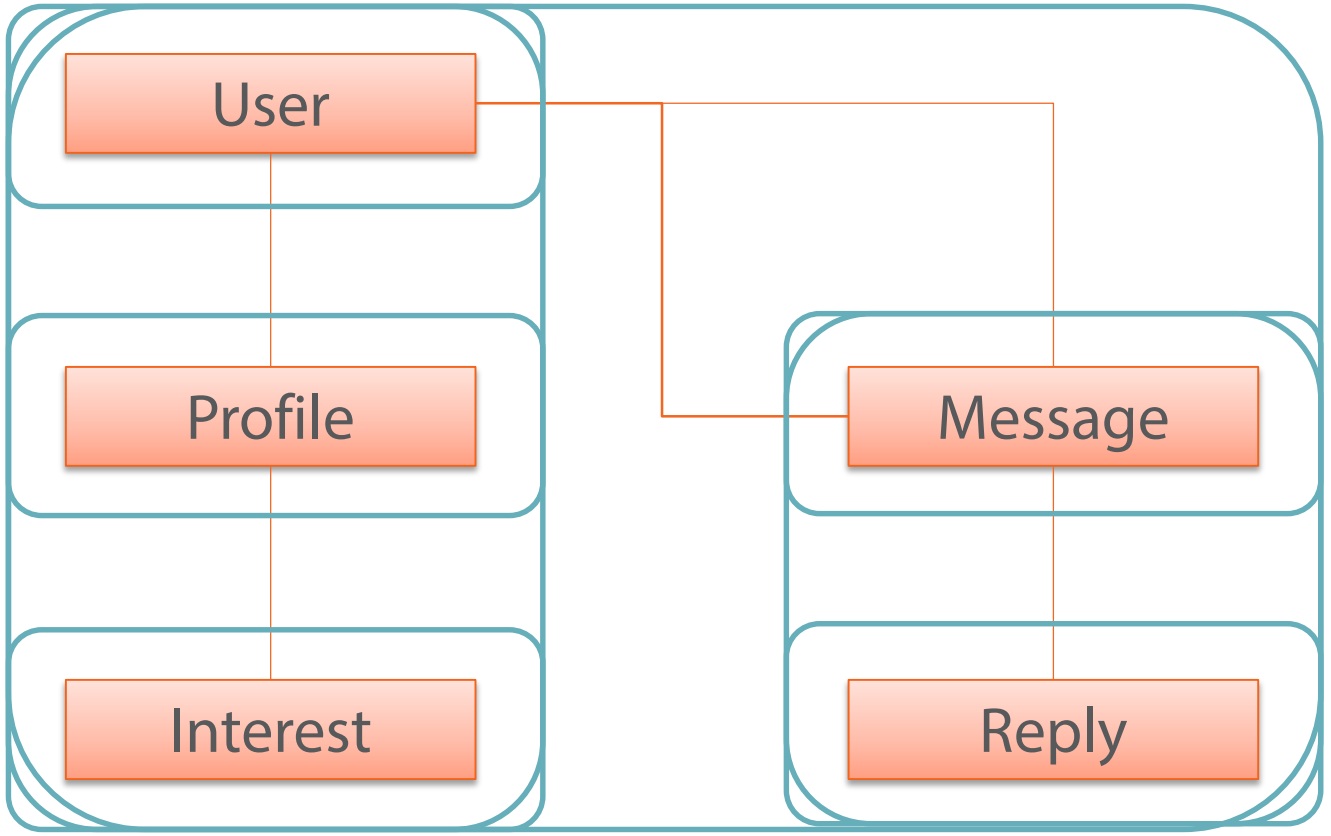
pluralsight

Persistence

- Out of the box, SQL Server and Entity Framework are used for persistence
  - But the design of your entities does not limit where you store them:
    - SQL Server
    - MongoDB (or other NoSQL Choices)
    - Flat Files
    - Non-Microsoft RDBMS (e.g. Postgres)

pluralsight

Choices of Persistence



pluralsight

What We've Learned

Entities

The cornerstone of your website's data

Model these to fully implement the domain

Not limited to Microsoft's data storage platform

pluralsight