

# Developing Applications with Entity Framework 5.0

## Course Number 5290– 16 Hours

### Overview

This course starts with an introduction to Entity Framework, where you'll learn about data access and object-relational mapping, how the Entity Framework works and the tools it provides, and you'll see how to build an entity data model. You will explore the entity data model in more detail, learn about the model designer and the raw XML that actually defines the conceptual, storage, and mapping models. You'll learn how you can use stored procedures and functions with Entity Framework, the most important ways to query data using Entity Framework objects, and the ways that you can modify and customize the entity data objects using the model designer, partial classes and methods, and events. Finally, you'll learn about code-first development, which we are confident is going to become the primary way to develop new Entity Framework applications.

In this course, you will learn:

- How object-relational mapping works to provide data access
- What the Entity Framework is and how it can provide robust data access services to applications
- How to build a database-first Entity Data Model using Visual Studio
- The various Entity Framework APIs and tools
- How to create and use an Entity Data Model
- About the raw XML behind the model as a way to understand how Entity Framework works
- How to use stored procedures within an Entity Framework model
- The querying options available in Entity Framework
- The basics of LINQ to Entities for querying a data model
- How to update entities and save changes to the database
- Ways to customize Entity Framework models and behaviors
- How to fine tune the Entity Data Model in the designer to make it as usable as possible from an application
- About the code customizations you can make with partial classes and methods
- How to hook into Entity Framework events to implement custom behaviors
- About how code-first design supports domain-centric modeling
- How to create and use a model built using code-first design
- The ways you can customize a code-first database

## Who Should Attend

---

.NET Developers

## Prerequisites

---

This course assumes you are familiar with the Entity Framework and using Visual Studio 2012.

## Course Contents

---

### Introducing the Entity Framework

- Why Entity Framework
- EF's Conceptual Model
- What's new in EF5
- Upgrading EF4 Projects
- Choosing DB First, Model First or Code First
- What's new in EF6

### Database First Modeling

- Model to Database Mappings
- Updating Your Model when the Database Changes
- Using Stored Procedures in the Model
- Using Enums with your Entity Data Model
- Using the Partial Classes and Methods to Customize Entities

### Model First Modeling

- Creating a Model and your First Entity
- Controlling Strings in Entities and Database Tables
- Many to Many Relationships
- Entity Container Properties
- Using Color and Diagrams to Visually Separate your Model

### Code First Modeling

- Why Code First?
- Creating a DbContext
- Using Migrations to Update Database Schema when the Model Changes
- Using Data Annotations to Configure Mappings

### **Interacting with Your Data Model**

- Create Query
- Loading Related Data
- Inserting, Updating and Deleting Data
- Working with Stored Procedures

### **Performance Considerations**

- Pre-generate views
- Return the correct amount of data
- Limit the scope of the ObjectContext
- Compiled Queries
- Tracking