

# .NET Training: WPF, WCF, ADO .NET Entity Model, MEL & Unity (MASTONET, 10 jours)

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## Description

The course WPF, WCF, ADO .NET Entity Model, MEL & Unity (.NET Training) covers the development of MVVM based WPF applications that use MEL, the Unity Application Block and the Prism Library. The training includes the ADO .NET Entity Framework, LINQ for SQL & XML and WCF. If you want to build enterprise Windows applications using C#, this is the .NET course for you.

## Tarifs

- Tarification: \$6,600/person
- Rabais de 10% lorsque vous inscrivez 3 personnes.

## Plan de cours

### Review of Key Object Oriented Concepts for .NET Programmers

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About Assemblies, Namespaces and Assembly Dependencies

Object Oriented Analysis and Design: From Objects to Classes

Creating Classes in C#

Working with Partial Classes

Implementing Inheritance

Mastering Polymorphism in a Production Environment

Using Abstract Classes and Functions

About Interfaces: Creation and Use

Creating and Using Class Attributes

Creating and Using Generics

Creating and Using Custom Events

Leveraging Multi-Threading

Introducing the Model-View-Controller Design Pattern

### ADO .NET Entity Model

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Overview of the ADO .NET Entity Model

Creating an Entity Model in a Dedicated Assembly

Generating a Data Model from a Database

Retrieving Data using an ADO .NET Entity Model Diagram

Updating, Inserting and Deleting Data using an ADO .NET Entity Model

Adding Custom Properties to a Data Model

Adding Custom Helper Functions to a Data Model

Creating Metadata Classes to Expose Entity Model Types to other Assemblies

Mastering Data Validation in an Entity Model

Using ADO .NET Entity Models in Presentation Layer Assemblies

### Mastering LINQ

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Overview of LINQ: The Base Language

Understanding LINQ Syntax and Return Types

Using LINQ for Arrays and Collections

Sorting and Filtering in LINQ

Introducing LINQ for SQL

Using LINQ to Query a Database

Using LINQ with the ADO .NET Entity Model

A Few Advanced LINQ Examples

## Introducing MEL

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What is MEL?

Overview of the MEL Application Blocks

Using the Configuration Block

Using the Data Access Validation Block

Using the Exception Handling Block

Using the Validation Block

About MEL Integration into a Production Application

## Introduction to the Unity Application Block

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What is the Unity Application Block?

An Introduction to Inversion of Control (IoC): Uses and Purpose

Invoking Constructors and Methods using IoC

Using the Unity Application Block with MEL Classes

Using the Unity Application Block with Custom Business Objects

An Overview of Key Scenarios

## Using the Unity Application Block

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Design and Architecture of a Unity Based Application

The Role and Design of the Container

Configuring the Unity Application Block

Setting up the Unity Container

Creating and Registering Objects

Resolving Objects: By Type and By Registration Name

Making use of Build-Up and Wire-Up

Annotating Objects for Constructor Injection

Annotating Objects for Property Injection

Annotating Objects for Method Injection

Working with Matching Rules

Deploying the Application

## Professional WCF

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Introduction to WCF

Getting started with WCF

Using a WCF Service

What We Have Learned and the Real World

Contract Types

Service, Data and Message Contracts

The Role of Channels

Exploring Channel Shapes

Channel Listeners and Factories

## Bindings and Behaviours

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Exploring Bindings

Remote Communications in .NET Applications

Local Communications in .NET Applications

Implementing Web Service Communications

Creating Custom Bindings

Session Binding Overview

Implementing Multi-Threading

Counting Instances

Counting Calls

## Delving into Payloads and Transactions

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Overview of WCF Serialization Options

Choosing a Serializer

XmlSerializer

DataContractSerializer

NetDataContractSerializer

Advanced Serialization

Working with Encoding

Transaction Properties

Implementing Transactional Behaviours

Implementing Transactions inside a Method Call

Implementing Multi-Method Transactions

A Complete Transactional Example

## Creating the Presentation Layer: WPF Basics

Introduction to WPF: Assemblies, Forms and Reference Assemblies

Introduction to XAML: Use and Practice

Introduction to XPATH in XAML

Laying out Controls the Wrong Way: Absolute Positioning

Laying out Controls the Right Way: Grid, StackPanel, WrapPanel and More

Working with Controls in a Layout: Ensuring Resize-Ability

## WPF Essential Topics Part I: Styling and Resources

Creating Styles in XAML: Element, Page and Application Scoped

Best Practices for Styling WPF Applications

## WPF Essential Topics Part II: Data Binding

Introduction to Data Binding in WPF

Understanding the Data Context and its Scope

Using Data Binding in XAML

Using Data Binding in Code

Creating a Custom Data Binding Object

About Routed Events

Creating and Working with Routed Events

Implementing a Complete Data Binding Example

## WPF Essential Topics Part III: Data Validation

Introduction to Data Validation Options

Performing Validation in a WPF Form: Architecture

Performing Validation in a WPF Form: Supporting Classes

Performing Validation in a WPF Form: Formatting the Error Message

About Validation and Custom Controls

Creating a Custom Control that Supports Routed Events and Custom Validation

## WPF Essential Topics Part IV: Routed Commands

The Architecture of Routed Commands

Creating Routed Commands

Implementing Routed Commands

Implementing Menus and Toolbars

Finishing the Interface

## WPF Essential Topics Part V: Globalization

Implementing a Multilingual Application: The Options

Introduction to Resource Files and Globalization Classes

Using Resources in the Presentation Assembly

Creating a Dedicated Resource Assembly

Using Resources in a WPF Form

Using Resources in a Support Assembly

Introduction to Prism 4.0

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What is Prism? What is MVVM?

Understanding the MVVM Pattern: Model – View Model – Model

Developing with Prism: Setup and Configuration

About the Model and the use of the ADO .NET Entity Model

Developing View Model Classes

Creating Actions in an MVVM Environment

Working with Controls

Packaging and Deploying the Application

Comprehensive Review

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Building an Application based on WPF, WCF, MEL, ADO .NET Entity and Prism