

.NET v4 2010 Concepts for Technical Managers

Course Summary

Description

A lecture, discussion, demonstration and question-and-answer session on Microsoft's .NET software, for IT managers and supervisors:

- brief overview of Object-Oriented principles, .NET concepts, and comparison to mainframe and other technologies
- the process of going from business requirements to class design, coding, testing, deployment
- demonstration of building Windows and Web applications and services with .NET 4.0

Topics

- Overview
- The design, development and deployment of a project
- Windows desktop applications
- Web (ASP.NET) applications
- Creating your own libraries (services)
- Database techniques
- Additional project types and features

Audience

This course is designed for Technical IT managers and supervisors with experience in any development or maintenance environment, including client-server applications, database administration, web development, mainframe, etc.

Prerequisites

There are no prerequisites required for this course.

Duration

One day

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Course Outline

I. Overview

- A. Object Oriented terms and concepts
- B. Comparison to traditional mainframe concepts
- C. The .NET Framework, Visual Studio, and other tools
- D. .NET history, including origins in Visual Basic, C, Java, Active Server Pages, etc
- E. Comparison of .NET languages, including VB and C#
- F. Types of projects you can develop with .NET and Visual Studio
- G. Versions of .NET and Visual Studio to date
- H. Visual Studio editions, including Express, Professional, Team, Premium and Ultimate

II. The design, development and deployment of a project

- A. Design tools included in high-end versions of Visual Studio
- B. Overview of developing Windows and Web applications
- C. Testing and debugging tools included in Visual Studio
- D. Deployment options

III. Windows desktop applications

- A. Traditional "WinForms" vs. WPF (Windows Presentation Foundation)
- B. Deployment of desktop applications

IV. Web (ASP.NET) applications

- A. Traditional "Web Forms" vs. the MVC (Model View Controller) Framework
- B. Using Ajax techniques in .NET web applications
- C. Automated testing with the MVC Framework
- D. Developing Silverlight components in Visual Studio (or Expression Studio)
- E. Using Silverlight and other types of components in .NET web pages
- F. Deployment of web applications

V. Creating your own libraries (services)

- A. Class Libraries, compared to Web Services and WCF (Windows Communication Foundation) services
- B. Developing each of the three types of services
- C. Deploying and managing each type of service
- D. Implementing n-tier designs
- E. Using inheritance in class design

VI. Database techniques

- A. Traditional ADO.NET, using various types of DBMSs
- B. Using existing database resources, including stored procedures, functions and triggers
- C. LINQ (Language Integrated Query): querying data tables, XML and text files, collections of objects, etc
- D. Creation and management of LINQ to SQL entities the Entity Framework and Entity SQL; using LINQm with the Entity Framework
- E. Creating and using RESTful Data Services
- F. Developing SQL Server procedures, functions and triggers with Visual Studio, using VB or C
- G. Deployment and management of database projects

VII. Additional project types and features

- A. Developing console (batch) applications, Windows Services, Workflows, and add-ins for MS Office, SharePoint, and Visual Studio