



Programming with the Microsoft .NET Framework using Microsoft Visual Studio 2008 (MS6368)

Duration: 5 days

Description

This five-day instructor-led course provides students with an introduction to developing n-tier applications for the Microsoft .NET 3.5 environment using Microsoft Visual Studio 2008 SP1. Both this course and the 6367 course prepare the student for the 646x series of Technology Specialist courses.

Audience

This course is intended for software development professionals that have a minimum of six months experience developing applications in an object-oriented environment using C#, Visual Basic, or Java (or delegates should have completed course 6367). Delegates attending this course are planning to use the .NET Framework for future business application development.

This course is intended for developers who wish to expand their understanding of application development in the .NET Framework. It provides an initial foundation in .NET that can be built upon with the more advanced .NET training. Programmers attending this course should ensure that they are familiar with the Visual Studio IDE.

Object-oriented programming and the .NET Framework are the basic building blocks that all professional developers need to acquire before moving on to the more advanced courses and TS Certification.

Prerequisites

- An understanding of problem-solving techniques that apply to software development
- A basic understanding of Web, Macro and Windows scripting techniques and some experience writing scripts
- A general understanding of the purpose, function, and features of the .NET Framework
- Experience using Visual Studio 2008 Experience in object oriented design and development

Topics

SOFTWARE DESIGN AND DEVELOPMENT IN VISUAL STUDIO 2008

This module helps students to design and develop software using Visual Studio 2008.

Lessons

- Introduction to Software Design and Development

- Introduction to Software Development Frameworks and Methodologies
- Introduction to the Microsoft .NET Framework Applications N-Tier Application Development

Lab: Software Design and Development



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- Managing a Software Development Process
- Recommend an Architecture Discussion
- Adding data validation to the ASP.NET application
- Adding data validation to the sales interface

OBJECT-ORIENTED PROGRAMMING WITH MICROSOFT VISUAL STUDIO 2008

This module helps students to design and develop software using Visual Studio 2008.

Lessons

- Object-Oriented Programming Concepts
- Defining a Class
- Creating a Class Instance
- Introduction to Inheritance
- Defining and Implementing Interfaces
- Creating and Using Delegates and Events
- Generics

Lab: Creating Classes in Visual Studio 2008

- Create a Customer and Person Class Using the Class Designer
- Create a BasicProduct and FullProduct in the Code Editor Window
- Extend the DAL to use the a class to pass data

DATA VALIDATION

This module introduces data validation and explains how to validate Windows Forms and ASP.NET applications.

Lessons

- Introduction to Data Validation?
- Validating Windows Forms Applications
- Validating ASP.NET Applications

Lab: Data Validation

DEBUGGING AND PROFILING .NET APPLICATIONS

This module helps students debug and profile applications using Visual Studio 2008.

Lessons

- Code Tracing and Debugging
- Application Profiling

Lab: Code Tracing

- Add Tracing to a Windows Forms Application

MONITORING AND LOGGING .NET FRAMEWORK APPLICATIONS

This module introduces the concept of instrumentation, as well as one of the instrumentation methods.

Lessons

- Introduction to Instrumentation
- Event Logs

Lab: Monitoring and Logging .NET Framework Applications

- Writing to a Custom Event Log

TESTING MICROSOFT .NET FRAMEWORK APPLICATIONS

This module helps students to implement software testing using Visual Studio 2008.

Lessons

- Introduction to Software Testing
- Using Visual Studio 2008 Testing Tools



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Lab: Software Testing

- Using the object test bench
- Creating and running a unit test

INTRODUCTION TO LINQ

This module introduces new language features and LINQ concepts

Lessons

- What Is New in VB.NET and C#
- Introduction to LINQ
- LINQ Data Providers

Lab: Using New Language Features

- Define variables using local type inference
- Define objects using the new object initializers
- Define an anonymous type
- Create an extension method for a string
- Use a Lambda expression

Lab: Simple LINQ-to-Object Queries

- Extract a subset of objects from a collection
- Order the objects according to a specific field

Lab: Using LINQ to Datasets and LINQ to Objects

- Filter the rows of a dataset according to a specific customer code

DATA ACCESS WITH LINQ

This module introduces new language features and LINQ concepts

Lessons

- LINQ to XML
- LINQ to Entities

- LINQ to SQL

Lab: Data Access with LINQ

- Replace a XSLT solution with LINQ to XML
- Build a Data Access Layer around a new Entity Framework model of the AdventureWorksLT database
- Build a tool to update Product information in the AdventureWorks database

IMPLEMENTING SECURITY IN .NET APPLICATIONS

This module explains important security concepts and how to apply them in .NET Framework applications.

Lessons

- Security Overview
- Implementing Code Access Security
- Implementing Role-Based Security
- Using Cryptography Services

Lab: Security in the .NET Framework

- Use Code Access Security to lock down file permissions
- Use role-based security to implement security requirements
- Encrypting data

NETWORK PROGRAMMING

This module explains how to extend our applications onto the network to access resources and send email.

Lessons

- Introduction to Network Programming
- Setting Credentials
- Sending Mail



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Lab: Network Programming

- Use Code Access Security to Lock Down File Permissions
- Sending Email on Receipt of an Order

CREATING DISTRIBUTED APPLICATIONS

This module introduces the concept of distributed applications and shows you how to create and consume XML Web services by using the Microsoft .NET Framework and Microsoft Visual Studio 2008. It also covers the key features of Windows Communication Foundation (WCF) and explains how to build WCF services and clients.

Lessons

- Introduction to Distributed Applications
- Creating and Consuming XML Webservices
- Building Windows Communication Foundation Services and Clients

Lab: Creating a Windows Communication Foundation Service

- Expose the DAL by Means of Web Services
- Adding Windows Communication Foundation to the Solution

CONFIGURING .NET FRAMEWORK APPLICATIONS

This module helps students to configure applications using Visual Studio 2008.

Lessons

- Introduction to Configuring Applications
- Using .NET Configuration Files

Lab: Application Configuration

- Set the connectionstring in the web.config File
- Reading an Application Setting from a Configuration File

DEPLOYING .NET FRAMEWORK APPLICATIONS

This module introduces many of the features and options that Visual Studio 2008 and the Microsoft .NET Framework provide to help you build, test, and deploy applications.

Lessons

- Introduction to Assemblies
- Overview of MSBuild
- Deploying .NET Framework Applications by Using ClickOnce
- Deploying .NET Framework Applications by Using Windows Installer

Lab: Deploying a .NET Framework Application

- Publish the MiddleTierWS Web Service and Secure It
- Create a Windows Installer Package for the SalesInterface Application
- Deploy the SalesInterface Application Using Click-Once Deployment Technologies

WINDOWS PRESENTATION FOUNDATION APPLICATIONS

This module introduces the concepts of using the Windows Presentation Foundation (WPF) applications to extend the range and flexibility of the applications that can be developed using the .NET Framework 3.5 and Visual Studio 2008.



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Lessons

- Introduction to Windows Presentation Foundation
- Introduction to XAML Programming
Windows Presentation Foundation Applications

Lab: Building Windows Presentation Foundation Applications

- Creating a Windows Presentation Foundation Application