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VB.Net - Advanced

Duration: 2 Days

Overview:

Aspect Training's VB.NET Advance training course examines how to utilise advanced features the .NET using the VB.NET programming language in order to build sophisticated applications.

The course begins by quickly examining object-oriented programming topics, including inheritance, partial classes and generics. Students also learn about many of the .NET interfaces and how they can take advantage of them. The course also illustrates how to use LINQ to make queries of collections, objects, and DataSets.

Students learn how to use synchronous and asynchronous delegates to call methods and manage callbacks. Students also learn how to use the Thread and ThreadPool classes within multithreaded applications.

The course examines how the .NET Framework uses reflection and how students can provide similar features within their applications. Students also learn about ADO.NET and how advanced features provide support for transaction management, connection pooling, and the management of disconnected DataSets.

The course concludes by examining the security capabilities of the .NET programming model and how to adjust the .NET security policy.

Important Note: Specific units can be selected from this course and combined with units from our other VB.NET courses to create a customized course for your group. Please contact us for details.

Prerequisites:

Visual Basic.NET programming experience or attendance of Aspect Training's VB.NET Introduction/Intermediate course.

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Course Topics:

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Object-Oriented Programming

Defining and Using Classes
Working with Partial Classes
Building Class Hierarchies
Defining Abstract Classes
Building Sealed Classes
Overriding System, Object Methods
Defining and Implementing Interfaces
Understanding .NET Interfaces
Building Forms using Visual Inheritance

Delegates

Understanding Delegates
Single-cast vs. Multi-cast Delegates
Defining Delegate Types
Using Synchronous and Asynchronous Delegates
Understanding Delegates and Events
Defining Raising & Handling Custom Events

Working with Threads

Understanding Threading
Creating Threads
Passing and Returning Data from Threads
Managing Threads
Synchronizing Threads

ADO.NET

Understanding the ADO.NET Object Model
Connected vs. Disconnected Access
Using Connections and Commands
Managing Connection Pooling
Using a DataReader to Work with Cursors
Calling Stored Procedures
Working with Transactions
Using the Provider Factory
Untyped vs. Typed DataSets
Using DataAdapters with DataSets
Using TableAdapters with Typed DataSets
Filtering Data with DataViews
Binding Data to Controls

Using XML

Understanding XML and XML Schemas
Using XML with DataSets
Using XmlReaders and XmlWriters
Working with XmlDocument

Assemblies

Understanding .NET Assemblies
Single-File vs. Multi-File Assemblies
Private vs. Shared Assemblies
Where is the Global Assembly Cache (GAC)?
Building and Using Private Assemblies

Web Services

Overview of Web Services
Creating a Web Service
Using WSDL and Proxy Classes
Making Synchronous Calls to a Web Service
Making Asynchronous Calls to a Web Service
Exposing Custom Types from Web Methods

.NET Interoperability Services

Interactions between Managed and Unmanaged Code
Marshalling Data
Using Platform Invocation Service (PInvoke)
Using COM Servers from .NET
Calling .NET Servers from Unmanaged Code

Reflection and Attribute Programming

Understanding Attributes
Using .NET Attributes
Designing Custom Attributes
Using Custom Attributes
Understanding Reflection
Extracting Type Information

Security

Overview of .NET Security
Working with Role-Based Security
Working with Code Access Security
Setting the Security Policy