

Course Outline | Microsoft Using XML for Visual Basic Developers

4 day(s)

Overview

The Internet has brought a huge difference in the way we develop and use software applications. Applications are becoming more and more distributed, connecting heterogeneous systems. With such a radical change, the role of XML is highly significant. XML has already established itself as a standard way of data encoding and transfer. No wonder that Microsoft's .NET Framework provides such a strong support for XML. Data access, raw parsing, configuration, code documentation, and web services are some of the examples where .NET harnesses the power and flexibility of XML.

The .NET Framework comes with a plethora of classes that allow you to work with XML data. Using XML for Visual Basic Developers demystifies XML and allied technologies. Reading and writing XML data, using DOM, ADO.NET integration with XML, SQL Server XML features, applying XSLT stylesheets, SOAP, web services, and configuration systems are some of the topics that this course explores in detail. Real-world examples will help you understand the practical use of the topic under consideration.

Prerequisites

Experience with developing applications using VB.NET

Course Outline

Introducing XML and the .NET Framework

- What Is XML?
- Benefits of XML
- XML-Driven Applications
- Rules of XML Grammar
- DTDs and XML Schemas
- Parsing XML Documents
- XSLT
- XPath
- The .NET Framework
- .NET and XML
- Working with Visual Studio

Manipulating XML Documents by Using the Document Object Model

- Using the DOM Parser
- Knowing When to Use DOM
- Opening an Existing XML Document for Parsing
- Navigating Through an XML Document
- Looking for Specific Elements and Nodes
- Modifying XML Documents
- Adding New Content
- Using Helper Methods
- Understanding Events of the XmlDocument Class

Reading and Writing XML Documents

- What Are XML Readers and Writers?
- Opening XML Documents
- Reading Attributes, Elements, and Values
- Improving Performance by Using Name Tables
- Dealing with Namespaces
- Moving Between Elements
- Moving Between Attributes
- Reading Content

Course Outline | Microsoft Using XML for Visual Basic Developers

- Writing XML Documents
- Exporting Columns As Elements
- Exporting Columns As Attributes
- Formatting the Output
- Serializing Data
- Unserializing Data

Accessing XML Documents by Using the XPath Data Model

- Overview of XPath
- Location Path
- Axis
- Node Tests
- Predicates
- XPath Functions
- The XPath Data Model

Validating XML Documents

- Providing Structure for XML Documents
- Document Type Definitions (DTDs)
- XML Data Reduced Schemas (XDR Schemas)
- XML Schema Definition Language
- Schemas (XSD Schemas)
- Creating the DTD
- Creating the XSD Schema
- Creating Schemas by Using the Schema Object Model (SOM)
- The Core SOM Classes
- Creating an XSD Schema by Using the SOM
- Validating XML Documents Against DTDs and XSD Schemas

Transforming XML with XSLT

- Overview of XSLT
- Applying Templates
- Branching
- Transforming Elements and Attributes
- Performing Transformations by Using XslCompiledTransform
- Passing Arguments to a Transformation
- Using Script Blocks in an XSLT Style Sheet
- Using Extension Objects

XML in ADO.NET

- Overview of ADO.NET Architecture
- Connected Data Access
- Disconnected Data Access
- ADO.NET Data Providers
- Basic ADO.NET Classes
- XML and Connected Data Access
- XML and Disconnected Data Access
- Generating Menus Dynamically Based On an XML File
- Reading Only the Schema Information
- Creating a Typed DataSet
- The XmlDataDocument Class
- Converting Between DataRow and XmlElement

XML Serialization

- Understanding the Flavours of Serialization

Course Outline | Microsoft Using XML for Visual Basic Developers

- Classes Involved in the Serialization Process
- Serializing and Deserializing Objects by Using XML Format
- Handling Events Raised During Deserialization
- Serializing and Deserializing Complex Types
- Serialization and Inheritance
- Customizing the Serialized XML
- Serializing Data in SOAP Format
- Customizing SOAP Serialization

XML Web Services

- What Are Web Services?
- Creating and Consuming Web Services
- Creating a Proxy for a Web Service
- Creating a Form That Consumes a Web Method
- Calling a Web Method Asynchronously
- Understanding SOAP
- Using SOAP Headers
- Understanding the WSDL Document

XML in SQL Server

- Using XML Extensions to the SELECT Statement
- The FOR XML Clause
- Using OPENXML
- Using SQLXML Features
- Inserting, Modifying, and Deleting XML Data
- XML Data Modification Language (XML DML)
- XQuery Support in the XML Data Type
- Native Web Services

Use of XML in the .NET Framework

- Understanding Remoting
- Remoting Architecture
- Object Activation
- Channels and Formatters
- Flavors of Marshalling
- Remoting Assemblies and Namespaces
- Creating a Remoting-Enabled Application
- Using XML in ASP.NET
- The XML Data Source Control
- Working with Site Maps
- Using the XML Control
- Using the .NET Framework Configuration System
- Documenting XML Code
- Creating a Class Library
- Generating Documentation