



MCTS .NET Framework 2.0 Web Applications (VB/C#)

Carga Horária: 104

Público Alvo: Profissionais da área de TI ou em início de carreira que queiram aprender ou se especializar em desenvolvimento Web, Windows ou desenvolvimento de aplicativos corporativos. Também podem ser desenvolvedores de bancos de dados ou administradores de sistemas que podem não trabalhar diariamente com o .NET Framework 2.0 mas desejam mostrar sua experiência e conhecimento na tecnologia.

Grade do curso:

2956	Core Foundations of Microsoft .NET 2.0 Development http://www.microsoft.com/learning/en/us/syllabi/2956afinal.mspix	24 HS
2541	Core Data Access with Microsoft Visual Studio 2005 http://www.microsoft.com/learning/en/us/syllabi/2541bfinal.mspix	24 HS
2542	Advanced Data Access with Microsoft Visual Studio 2005 http://www.microsoft.com/learning/en/us/syllabi/2542afinal.mspix	16 HS
2543	Core Web Application Technologies with Ms Visual Studio 2005 http://www.microsoft.com/learning/en/us/syllabi/2543bfinal.mspix	24 HS
2544	3Advanced Web Application Technologies with Ms Visual Studio 2005 http://www.microsoft.com/learning/en/us/syllabi/2544afinal.mspix	16 HS

Módulo 1:

2596: Core Foundations of Microsoft .NET 2.0 Development

- Apostila em Inglês.
- Aula Ministrada em Português.

Carga Horária: 24hs

Module 1: Implementing System Types and Interfaces

In this module, students learn about the purpose of system types in the .NET Framework and implementation of special system types introduced in the .NET Framework 2.0. Students also learn about the purpose of interfaces in developing .NET Framework applications. Finally, students learn how to implement system types and interfaces.

- Examining Primary System Types
- Working with Special System Types
- Working with Interfaces
- Lab: Implementing System Types and Interfaces

Module 2: Implementing Collections and Generics

In this module, students learn the basic information on how to work with primary collections, generic collections, specialized collections, and collection base classes.

- Examining Collections and Collection Interfaces
- Working with Primary Collection Types
- Working with Generic Collections
- Working with Specialized Collections
- Working with Collection Base Classes
- Lab: Implementing Collections and Generics

Module 3: Configuring and Installing Assemblies

In this module, students learn how to create, share, install, and configure assemblies in the .NET Framework. Students also learn how to perform installation tasks related to assembly installation.

- Working with an Assembly
- Sharing an Assembly by Using the Global Assembly Cache
- Installing an Assembly by Using Installation Types
- Configuring an Assembly by Using Configuration Type
- Performing Installation Tasks
- Lab: Configuring and Installing Assemblies

Module 4: Monitoring and Debugging Applications



In this module, students learn how to manage event logs and application processes. Students also learn how to monitor application performance, debug and trace applications, and embed management information and events in the .NET Framework applications.

- Managing an Event Log
- Working with Application Processes
- Managing Application Performance
- Debugging Applications
- Tracing Applications
- Embedding Management Information and Events
- Lab: Monitoring and Debugging Applications

Module 5: Reading and Writing Files

In this module, students learn how to manage drives, directories, and files. Students also learn how to work with streams, text, and strings. Finally, students learn how to compress, decompress, and search for patterns within file contents.

- Managing the File System
- Working with Byte Streams
- Compressing and Protecting Stream Information
- Managing Application Data
- Manipulating Strings Efficiently
- Working with Regular Expressions
- Lab: Reading and Writing Files

Module 6: Serializing Data

In this module, students learn how to serialize objects into binary and Simple Object Access Protocol (SOAP) formats. The students also learn how to serialize objects into custom XML and how to create custom serialization classes.

- Generating Serialized Binary and Soap Formats
- Generating Serialized XML Formats
- Creating Custom Serialization Classes
- Lab: Serializing Data

Module 7: Implementing Delegates and Events

In this module, students learn the concepts of delegates and events and their uses in the .NET framework.

- Controlling Interaction Between Components by Using Delegates
- Controlling Interaction Between Components by Using Events
- Lab: Implementing Delegates and Events



Módulo 2:

2541: Core Data Access with Microsoft Visual Studio 2005

- Apostila em Inglês.
- Aula Ministrada em Português.

Carga Horária: 24hs

Objetivos do módulo:

Este curso tem como objetivo proporcionar aos participantes o conhecimento e as habilidades necessárias para desenvolver aplicações que utilizem acesso à dados utilizando o Visual Studio 2005. O curso descreve como localizar e atualizar dados usando ADO.NET e também descreve como criar, ler e escrever dados de XML.

Ao final do treinamento o participante estara apto à:

- Conectar à um banco de dados e fazer a leitura dos dados.
- Consultar e atualizar banco de dados utilizando comandos.
- Efetuar operações transacionais.
- Efetuar operações programaveis desconectado.
- Perform disconnected operations programmatically utilizando o Visual Studio 2005 Wizard.
- Efetuar operações XML em dados desconectados.
- Ler e escrever dados em XML.
- Processar dados XML utilizando Document Object Model DOM.

Certificação:

Este curso ajudará o aluno a se preparar para o seguinte exame do Microsoft Certified Professional:

- Exame 70-528, Microsoft .NET Framework 2.0 – Web-Based Client Development

Conteúdo:

Módulo 1: Connecting to Databases and Reading Data

This unit introduces the fundamental skills required to connect to a database and read data from the database. It describes how to use ADO.NET data providers to connect to various different kinds of databases, and how to execute a query that returns a scalar value from the database. It also describes



how to use connection pooling to achieve scalability, and how to handle connection events and exceptions.

- What Is ADO.NET?
- The Process for Connecting to a Database and Reading Data
- What Is Connection Pooling?

Módulo 2: Querying and Updating Databases by Using Commands

This unit describes how to create and run commands that return a scalar value, return a result set, update data in the database, or update the schema of the database. It also describes how to create and run parameterized commands.

- ADO.NET Commands
- The Process for Passing Parameters into Commands

Módulo 3: Performing Transactional Operations

This unit describes how to manage transactions in a .NET application at the middle tier. It describes how to write ADO.NET code to start, commit, and rollback local transactions. It also describes how to specify an appropriate isolation level for a transaction, and how to enlist in distributed transactions.

- What Is a Transaction?
- The Process for Managing Local Transactions
- The Process for Managing Distributed Transactions
- Isolation Levels

Módulo 4: Performing Disconnected Operations Programmatically

This unit describes how to create and use DataSets programmatically. It describes how to create DataSet, DataTable, and DataColumn objects, how to populate a DataSet manually, and how to load and save data by using a DataAdapter. It also describes how to create in-memory views on data by using a DataView.

- What Is the ADO.NET Disconnected Model?
- The Process for Loading and Saving Data in a DataSet
- What Are DataViews?

Módulo 5: Performing Disconnected Operations by Using Visual Studio 2005 Wizards

This unit describes how to create typed DataSets, DataAdapters, and TableAdapters by using the TableAdapter Configuration Wizard and the Data Source Configuration Wizard in Visual Studio 2005. It also describes how to write type-safe code to access data in a typed DataSet.



- Comparing Untyped DataSets with Typed DataSets
- What Are Table Adapters?
- Demonstration: Creating a Typed DataSet by Using Visual Studio 2005 Wizards

Módulo 6: Performing XML Operations on Disconnected Data

This unit describes how to read and write DataSets in XML format. It describes how to read and write data only, schema only, or a combination of the two. It also describes how to read and write a DataSet as a DiffGram, so that modifications to the data can be retained when the DataSet is serialized to XML format.

- XML Representations of DataSets
- What Are DiffGrams?

Módulo 7: Reading and Writing XML Data

This unit describes how to use the XmlReader and XmlWriter classes to serially read and write XML data. It describes how to read elements, attributes, and text content in an XML document, and perform validation against an XML schema. It also describes how to create an XML document and write elements, attributes, namespace declarations, and text content.

- The Process for Serially Reading XML Data
- The Process for Serially Writing XML Data

Módulo 8: Processing XML Data by Using DOM

This unit describes how to process XML data in memory by using the Document Object Model (DOM). It describes how to load an XML document into a DOM tree, and validate the XML document against an XML schema. It also describes how to read existing XML content, modify XML content, and save the DOM tree to an XML document.

- What Is DOM?
- What Are DOM Trees?
- Types of XML Nodes in a DOM Tree

Módulo 3:

2542 – Advanced Data Access with Microsoft Visual Studio 2005

- Apostila em Inglês.
- Curso ministrado em português.

Carga Horária: 16hs



Objetivos do módulo:

Este curso tem como objetivo fornecer aos alunos o conhecimento e as habilidades técnicas necessárias para utilizar as características do acesso à dados avançado e técnicas/características do Microsoft .NET Framework 2.0 e também do Microsoft Visual Studio 2005

O curso apresenta o acesso a dados e como implementar as funcionalidades utilizando o ADO.NET 2.0 e o Microsoft SQL 2005. Também é apresentado como localizar, editar e transformar XML usando XPath e a extensão Style sheet Language for Transformations (XSLT).

Ao final do treinamento o participante estara apto à:

- Minimizar e solucionar conflitos na operação com a base de dados.
- Suportar objetos grandes.
- Melhorar o desempenho da base de dados.
- Criar managed code objects para o SQL Server 2005.
- Query XML usando XPath.
- Transformar XML utilizando XSLT.

Certificação:

Este curso ajudará o aluno a se preparar para o seguinte exame do Microsoft Certified Professional:

- Exame 70-528, Microsoft .NET Framework 2.0 – Web-Based Client Development

Conteúdo:

Modulo 1: Minimizing and Handling Database Operation Conflicts

This unit describes how to minimize data access conflicts, and how to handle these conflicts when they occur. It describes how to implement optimistic concurrency in the ADO.NET disconnected model, and how to implement optimistic concurrency by using the various isolation levels available in SQL Server 2005.

- Why Do Data Conflicts Arise?
- Isolation Levels Available in SQL Server 2005
- Guidelines for Using SQL Server 2005 Isolation Levels

Modulo 2: Handling Large Objects



This unit describes how to read and write large values efficiently to a SQL Server database. It describes how to read large binary values and large text values by using `SequentialAccess` for a `SqlDataReader`. It also describes how to write large binary values and large text values, and how to conserve resources when writing large values.

- What Are Binary Large Objects and Character Large Objects?
- The Process for Reading Large Objects from a Database
- The Process for Writing Large Objects to a Database

Modulo 3: Enhancing Database Performance

This unit describes how to enhance database performance by using new features available in ADO.NET 2.0. The unit describes how to perform asynchronous data operations, create multiple active result sets, perform batch updates, and perform bulk copies.

- ADO.NET Enhancements in the .NET Framework 2.0
- SQL Server Provider Statistics

Modulo 4: Creating Managed Code Objects for SQL Server 2005

This unit describes how to create database objects for SQL Server 2005 in a .NET Framework programming language. It describes how to create stored procedures, triggers, user-defined functions, aggregates, and user-defined types in managed code. Additionally, it describes how to deploy an assembly that contains managed objects into SQL Server 2005, and how to declare database objects to reference the managed objects.

- The Benefits of Creating Managed Code Objects
- Demonstration: The Process for Importing an Existing Assembly into SQL Server 2005
- Demonstration: The Process for Implementing Managed Code Objects in SQL Server 2005

Modulo 5: Querying XML by Using XPath

This unit describes how to use XPath in a .NET Framework application. It describes how to create an `XPathNavigator` object on an XML document, and how to locate content and evaluate expressions by using the `XPathNavigator` object. Additionally, it describes how to edit XML data by using the `XPathNavigator` object.

- The XPath Data Model
- The Process for Selecting and Editing XML Data by Using `XPathNavigator`
- The Process for Evaluating XPath Expressions by Using `XPathNavigator`



Modulo 6: Transforming XML by Using XSLT Style Sheets

This unit describes how to transform XML documents in a .NET Framework application. It introduces how to load an XSLT style sheet in an application, and how to execute the style sheet to transform an XML document. The unit also describes how to pass parameters into a style sheet, and how to create and use extension objects.

- What Is XSLT?
 - The Process for Executing an XSLT Style Sheet
 - What Are Extension Objects?
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Módulo 4:

2543 – Core Web Application Technologies with Microsoft Visual Studio 2005

- Apostila em Inglês.
- Curso ministrado em português.

Carga Horária: 24hs

Objetivos do módulo: Este curso tem como objetivo fornecer aos alunos o conhecimento e as habilidades necessárias para desenvolver aplicações WEB utilizando com o Microsoft Visual Studio 2005 utilizando ASP.Net 2. (O curso é focado em interfaces de usuário, estrutura e funcionalidade de Web site e implementação de detalhes).

Ao final do treinamento o participante estara apto à:

- Criar uma aplicação WEB.
- Programar uma aplicação WEB.
- Adicionar e configurar servidores de controle para uma aplicação WEB.
- Utilizar Master Pages para estabelecer um layout comum para a aplicação WEB.
- Gerenciar os dados da aplicação WEB.
- Acesso e exibição de dados na aplicação WEB.
- Controle de acesso para a aplicação WEB.
- Deploy da aplicação WEB.
- Criar uma aplicação MOBILE.

Certificação:

Este curso ajudará o aluno a se preparar para o seguinte exame do Microsoft Certified Professional:

- Exame 70-528, Microsoft .NET Framework 2.0 – Web-Based Client Development

Conteúdo:

Modulo 1: Creating a Web Application

This unit describes the different types of Web sites that you can create with Visual Studio 2005. It introduces the concept of event handling, and shows how to work with default event handlers for an object. It also explains how to control a Web application through the hierarchy of configuration files.

- Visual Studio Web Site Types
- Default Event Handling in Web Applications
- Web Configuration Files

Modulo 2: Programming a Web Application

This unit introduces the advanced event-handling capabilities of ASP.NET 2.0 and describes how to work with events in Visual Studio 2005. It shows how to work with non-default event handlers and centralized event handlers. It also addresses other common Web programming concepts, including:

- Detecting the type, version, and capability of the browser being used to view a Web site.
- Accessing information in an ASP.NET Web Page header.
- Using the `HttpResponse.Write` method to provide feedback to users.
- Handling page-level errors.

Modulo 3: Adding and Configuring Server Controls

This unit explains how to use the HTML controls and Web server controls provided by Visual Studio 2005 and ASP.NET 2.0. It shows how to design and build Web-based user interfaces, and it teaches how to program Web server controls. This unit also describes how the ASP.NET 2.0 postback model works and how it can be used.

- HTML Controls and Web Server Controls
- Types of Web Server Controls
- Working with Web Server Controls
- The ASP.NET 2.0 Page Postback Model

Modulo 4: Creating a Common Layout by Using Master Pages

This unit explains how to use master pages to define common layouts for Web pages. Master pages provide developers with a new set of features for ensuring consistent page layout. Students will work with master pages and nested master pages in the lab to build a Web application that has a consistent layout and functionality across Web pages.

- What Are Master Pages?



- What Are Content Pages?
- Nested Master Pages

Modulo 5: Managing State for a Web Application

This unit describes the different state management technologies that students can use in ASP.NET 2.0 Web applications. It discusses how controls can retain state data over multiple requests, and then explains how developers can work with this state data. This unit then shows how to store state data in the Application and Session objects provided by ASP.NET 2.0. It also discusses the different session-data storage mechanisms. Finally, this unit explains how to use the Cache object to cache and retrieve state data.

- ViewState Properties and ControlState Data
- Application and Session Objects
- Strategies for Managing Session State Data
- The Cache Object

Modulo 6: Accessing and Displaying Data

This unit describes how to add database connections to the Web.Config file and the benefits that this approach adds when building manageable Web applications. This unit then describes the new data controls for accessing data in a variety of formats. It includes details about using the SqlDataSource control, the XmlDataSource control, and the ObjectDataSource control. This unit also describes how user interface data controls are bound to the data source controls, and it includes a discussion about binding data-aware standard controls to data.

- Database Connections and the Web.Config File
- Relational Data and Data Source Controls
- XML Data and Data Source Controls
- Object Data and Data Source Controls

Modulo 7: Controlling Access to a Web Application

This unit describes authentication and authorization for Web applications. It also shows how to develop login, sign-up, and other membership pages for Web applications based on the ASP.NET 2.0 Membership system.

- Authentication for Web Applications
- Authorization for Web Applications
- Site Membership Systems Using the Membership Class
- Web Site Security Administration Using the Roles Class

Modulo 8: Deploying a Web Application

This unit describes three different ways to deploy Web applications:

- Using the Copy Web Site utility to deploy a Web application in a non-compiled state
- Using the Publish Web Site utility to deploy a precompiled version of the Web application
- Building Microsoft Windows(Installer packages to create a redistributable application with full setup logic

Modulo 9: Making Web Applications Available to Mobile Devices

This unit explains how to enable browsers running on mobile devices, such as Pocket PCs and mobile phones, to access pages within your application.

- Device Emulators for Mobile Web Forms
- Mobile Device Detection and Redirection
- Mobile Web Forms
- Device-Specific Features in Mobile Web Forms

Módulo 5:

2544 – Advanced Web Application Technologies with Microsoft Visual Studio 2005

- Apostila em Inglês.
- Curso ministrado em português.

Carga Horária: 16hs

Objetivos do módulo:

Este curso tem como objetivo fornecer aos alunos o conhecimento e as habilidades necessárias para desenvolver aplicações WEB utilizando com o Microsoft Visual Studio 2005 utilizando ASP.Net 2. (O curso é focado em interfaces de usuário avançadas, estrutura e funcionalidade de Web site e implementação de detalhes usando características avançadas do ASP.NET 2.0 e do Visual Studio 2005).

Ao final do treinamento o participante estara apto à:

- Configurar aplicações WEB dinâmicas.
- Criar controles para aplicações WEB.
- Otimizar aplicações WEB.
- Configurar aplicações WEB customizáveis.
- Configurar WEB Part Pages e WEB Parts



Certificação:

Este curso ajudará o aluno a se preparar para o seguinte exame do Microsoft Certified Professional:

- Exame 70-528, Microsoft .NET Framework 2.0 – Web-Based Client Development

Conteúdo:

Modulo 1: Building Dynamic Web Applications

This unit introduces many different aspects of dynamic Web applications. It includes discussions on creating and configuring controls at run time. It then explains how to build dynamic globalization features into a Web application to ensure that it is localizable, including using localized resources and applying different master page layouts in response to culture and language settings. It concludes with explanations about how to enable dynamic configuration for site administrators.

- Dynamic Control Creation
- Localization and Globalization
- Dynamic Master Pages
- Dynamic Web Configuration

Modulo 2: Creating Controls for Web Applications

This unit explains how developers create different types of controls for different scenarios. The different types of controls include user controls, custom Web server controls, composite Web server controls, and templated controls.

- User Controls
- Custom Web Server Controls
- Composite Web Server Controls
- Templated Controls

Modulo 3: Optimizing Web Application Performance

This unit introduces topics that will help you improve the performance of Web applications. It describes how the Page Scripting Object Model can help reduce the number of round trips for communication between the server and the browser, and then explains how tracing and instrumentation can be used to monitor and, therefore, improve the performance of a Web application. The unit discusses how caching and asynchronous processing can help increase Web application performance; it then highlights some considerations that developers must address if the Web application is to be deployed in a Web farm environment.

- The Page Scripting Object Model



- Tracing and Instrumentation in Web Applications
- ASP.NET 2.0 Caching Techniques
- Asynchronous Processing in Web Applications
- Web Farm Development Considerations

Modulo 4: Implementing Personalization and Themes in Web Applications

This unit introduces building customizable functionality into a Web application by adding personalization support. It discusses using the personalization features of ASP.NET 2.0 to provide this functionality. In addition, it discusses applying themes to Web applications and allowing users to choose color schemes to personalize their experience in using the Web application. It concludes by explaining how to include features that enable users to personalize themes.

- ASP.NET 2.0 Personalization Features
- Theme Support in ASP.NET 2.0