MCTS Syllabus

Web Applications Development with Microsoft .NET Framework 4

Duration : 60 Days

Microsoft ASP.NET Web Applications in Microsoft Visual Studio

• Introduction to the .NET Framework
• Overview of ASP.NET
• Overview of IIS 7.0
• Overview of ASP.NET 4.0
• Introduction to the MVC Framework
• Overview of the Request Life Cycle

Creating Web Applications by Using Microsoft Visual Studio 2010 and Microsoft .NET-Based Languages

• Choosing a Programming Language
• Overview of Visual Studio 2010
• Creating a Simple Web Application

Creating a Microsoft ASP.NET Web Form

• Creating Web Forms
• Adding and Configuring Server Controls in a Web Form

Adding Functionality to a Microsoft ASP.NET Web Form

• Working with Code-Behind Files
• Handling Server Control Events
• Creating Classes and Components by Using Visual Studio 2010
• Handling Page Events
Implementing Master Pages and User Controls
• Creating Master Pages
• Applying CSS, Skins, and Themes
• Adding User Controls to an ASP.NET Web Form

Validating User Input
• Overview of User Input Validation
• ASP.NET Validation Controls
• Validating Web Forms

Troubleshooting Microsoft ASP.NET Web Applications
• Debugging in ASP.NET
• Tracing in ASP.NET

Managing Data in an Microsoft ASP.NET 4.0 Web Application
• Overview of ADO.NET
• Connecting to a Database
• Managing Data

Managing Data Access Tasks by Using LINQ
• Overview of LINQ
• Managing XML Data by Using LINQ to XML
• Managing SQL Data by Using LINQ to SQL and LINQ to Entities

Managing Data by Using Microsoft ASP.NET Dynamic Data
• Overview of ASP.NET Dynamic Data
• Applying ASP.NET Dynamic Data
• Customizing ASP.NET Dynamic Data Applications

Creating a Microsoft ASP.NET Ajax-enabled Web Forms Application
• Introduction to Ajax
• Creating an ASP.NET Ajax Application by Using the Ajax Features for ASP.NET
• Extending an ASP.NET Web Forms Application by Using the Ajax Control Toolkit

**Consuming Microsoft Windows Communication Foundation Services**

• Overview of Windows Communication Foundation Services
• Calling Windows Communication Foundation Services
• Working with WCF Data Services

**Managing State in Web Applications**

• State Management
• ASP.NET Profiles
• ASP.NET Caching

**Configuring and Deploying a Microsoft ASP.NET Web Application**

• Configuring an ASP.NET Web Application
• Deploying an ASP.NET Web Application

**Securing a Microsoft ASP.NET Web Application**

• Overview of Web Application Security
• Declaratively Configuring Authentication and Authorization
• Working Programatically with Authentication and Authorization

**Implementing Advanced Technologies Supported by Microsoft Visual Studio 2010 for Web Development**

• Working with the ASP.NET MVC 2 Framework
• Working with Silverlight 4

**Developing MVC Models**

• Exploring Ways to Create MVC Models
• Creating a Data Repository

**Developing MVC Controllers**
• Implementing MVC Controllers
• Creating Action Methods

**Developing MVC Views**
• Implementing MVC Views
• Implementing Strongly-Typed MVC Views
• Implementing Partial MVC Views

**Designing for Discoverability**
• Overview of Search Engine Optimization
• Creating the Robots and Sitemap Files
• Using ASP.NET Routing

**Writing Server-Side Code for Web Forms**
• Overview of the Structure of a Web Application
• Controlling ViewState
• Localizing a Web Application
• Persisting Data on a Web Forms Page
• Validating User Input

**Ensuring Quality by Debugging, Unit Testing, and Refactoring**
• Debugging and Refactoring Code
• Unit Testing Code
• Processing Unhandled Exceptions
• Test Driven Development