

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 Programmatically 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