

ASP.NET Using C#

Description

This ASP.NET course provides a comprehensive and practical hands-on introduction to developing Web applications using ASP.NET and Visual Studio 2017. It includes an introduction to ASP.NET MVC, a newer Web programming framework that incorporates use of the Model-View-Controller (MVC) pattern. It also includes coverage of using ASP.NET AJAX to build rich client applications and the use of Web API to create HTTP services. A final lesson introduces ASP.NET on Microsoft's Azure cloud.

The fundamentals of Web applications are reviewed, and a testbed is established for ASP.NET and Internet Information Services. The architecture of ASP.NET is outlined, including the role of compilation, the Page class and code-behind. Web Forms are introduced, including server controls, view state, life cycle, and the event model. Request/response HTTP programming using ASP.NET is covered.

Visual Studio 2017 is used to greatly simplify the development of ASP.NET Web applications, including facilitating UI design. ASP.NET Web applications are covered, including issues of application and session state and the use of cookies. Server controls represent an important innovation in ASP.NET and are covered in detail, including validation, rich controls, and user controls. There is an introduction to caching in ASP.NET, which provides an effective mechanism for optimizing the performance of your ASP.NET application. The fundamentals of configuration and security are introduced. Diagnostics and debugging are covered, including the use of tracing.

Additional server controls are introduced, including menus and master pages. Data access is covered in some detail in two lessons, including an introduction to ADO.NET, Language Integrated Query (LINQ), the Entity Data Model (EDM) and the powerful data access controls provided by ASP.NET. The LocalDB version of SQL Server 2016 Express is used as the database. This section of the course is tied together by a progressive case study illustrating a Web site for a publishing company.

The final section of the course introduces four important ASP.NET technologies: ASP.NET AJAX, ASP.NET MVC, ASP.NET Web API, and ASP.NET on Azure.

Delegates will learn how to

- Gain a thorough understanding of the philosophy and architecture of Web applications using ASP.NET
- Acquire a working knowledge of Web application development using Web Forms and Visual Studio 2017
- Optimize an ASP.NET Web application using configuration, security, and caching
- Access databases using ADO.NET, LINQ and the Entity Data Model
- Use newer features in ASP.NET
- Implement rich client applications using ASP.NET AJAX
- Create Web applications using the Model-View-Controller design pattern
- Create HTTP services using ASP.NET Web API
- Deploy an ASP.NET Web application to the Azure cloud

Audience

This course is designed for experienced application developers and architects responsible for Web applications in a Microsoft environment.

Outline

Introduction to ASP.NET

Web Forms Architecture

ASP.NET and HTTP

Web Applications Using Visual Studio

State Management and Web Applications

Server Controls

Caching in ASP.NET

ASP.NET Configuration and Security Fundamentals

Debugging, Diagnostics and Error Handling

More Server Controls

ADO.NET and LINQ

Data Controls and Data Binding

ASP.NET AJAX

ASP.NET MVC

ASP.NET Web API

ASP.NET and Azure

Prerequisites

There is no prerequisite