

**ASP.NET Web Forms using Visual C# 2019**

**Course Number:** NET-320  
**Duration:** 5 days

**Overview**

Accelebrate's ASP.NET Web Forms using Visual C# 2019 training teaches attendees how to build Web applications using ASP.NET and Visual Studio 2019. This course includes an introduction to ASP.NET MVC, a framework that incorporates the use of the Model-View-Controller (MVC) pattern. Students learn how to use ASP.NET AJAX to build rich client applications and Web API to create HTTP services. In addition, participants are introduced to ASP.NET on Microsoft’s Azure cloud.

**Prerequisites**

Students should have a good working knowledge of C# and the .NET Framework. Some familiarity with JavaScript is recommended for the AJAX module.

**Materials**

All students receive comprehensive courseware.

**Software Needed on Each Student PC**

* Visual Studio 2019 or later (any edition)
* Windows 10 or later with at least 8 GB RAM
* The free Postman tool
* Internet connection and a Windows Azure account (a free trial account is available from Microsoft)

**Objectives**

* 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 2019
* 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

**Outline**

* Introduction to ASP.NET
  + Web Application Fundamentals
  + Using Internet Information Services
  + Web Forms
  + ASP.NET MVC
  + Web Services
  + ASP.NET Features
* Web Forms Architecture
  + Page Class
  + Web Forms Life Cycle
  + Web Forms Event Model
  + Code-Behind
* ASP.NET and HTTP
  + Request/Response Programming
  + HttpRequest Class
  + HTTP Collections
  + HttpResponse Class
  + Redirection
  + HttpUtility Class
* Web Applications Using Visual Studio
  + Using Visual Web Developer
  + Visual Studio Forms Designer
  + Using Components
  + Shadow Copying
  + Using the Global.asax File
  + Data Binding
* State Management and Web Applications
  + Session State
  + Application State
  + Multithreading Issues
  + Cookies
* Server Controls
  + HTML Server Controls
  + Web Forms Server Controls
  + Rich Controls
  + Validation Controls
  + User Controls
* Caching in ASP.NET
  + What Is Caching?
  + Page-Level Caching
  + Page Fragment Caching
  + Optimizing Your ASP.NET Application
  + Application Caching
* ASP.NET Configuration and Security Fundamentals
  + Configuration Overview
  + Authentication and Authorization
  + Forms Authentication
  + Windows Authentication
  + Security and ASP.NET
* Debugging, Diagnostics and Error Handling
  + Debugging
  + Application Tracing
  + Page Tracing
  + Error Handling
* More Server Controls
  + Newer ASP.NET Controls
  + Menus
  + Master Pages
* ADO.NET and LINQ
  + ADO.NET Overview
  + .NET Data Providers
  + Connections
  + Commands
  + DataReaders and Connected Access
  + Data Sets and Disconnected Access
  + Language Integrated Query
* Data Controls and Data Binding
  + Data Source Controls
  + Connection String Storage
  + GridView
  + DetailsView
  + FormView
  + Object Data Sources
  + ListView
  + DataPager
  + Entity Data Model
  + EntityDataSource
* ASP.NET AJAX
  + Rich Client Applications
  + AJAX
  + ScriptManager
  + UpdatePanel
  + AJAX Client Library
  + Remote Method Calls
* ASP.NET MVC
  + Model-View-Controller Pattern
  + What is ASP.NET MVC?
  + ASP.NET MVC versus Web Forms
  + ASP.NET MVC Projects in Visual Studio
  + Controllers
  + Action Methods and Routing
  + Views
  + Strongly-Typed Views
  + Model Binding
  + Validation
* ASP.NET Web API
  + Web API
  + Representational State Transfer
  + REST and Web API
  + HTTP Services Using Web API
  + Using Fiddler
  + Web API Clients
* ASP.NET and Azure
  + What Is Windows Azure?
  + A Windows Azure Testbed
  + Deploying an Application to Azure
  + Updating an Application on Azure
* Conclusion