

Certificate Course in ASP.NET

Course Duration: 3 Months

Course Overview

The Certificate Course in ASP.NET introduces learners to **modern web application development using Microsoft's ASP.NET framework**. It covers building dynamic, data-driven, and secure web applications. The course integrates **C# programming with ASP.NET, database connectivity, and deployment practices**, preparing students for entry-level roles in web and enterprise application development.

Course Objectives

By the end of this course, learners will:

- Understand the **fundamentals of ASP.NET framework** and web forms.
 - Learn to develop **dynamic and interactive web pages** using C#.
 - Gain knowledge of **server controls, state management, and validation techniques**.
 - Work with **ADO.NET** for database connectivity and CRUD operations.
 - Develop **user authentication and security features** in web applications.
 - Learn **debugging, deployment, and hosting** of ASP.NET applications.
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Course Outcomes

Upon successful completion, learners will be able to:

- Design and build **ASP.NET web applications** with front-end and back-end integration.
 - Use **C# with ASP.NET** to create scalable applications.
 - Implement **database-driven features** with ADO.NET and SQL Server.
 - Apply **state management and security techniques** in real-world projects.
 - Deploy ASP.NET applications on a server or cloud platform.
 - Undertake **mini projects** such as online registration systems, feedback forms, or shopping carts.
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Course Syllabus

Module 1: Introduction to ASP.NET & C#

- Overview of Web Technologies & .NET Framework
- Introduction to ASP.NET Web Forms & MVC architecture basics
- Setting up Visual Studio & creating first ASP.NET project
- Introduction to C# syntax, data types, and control structures

Module 2: ASP.NET Basics

- Web forms and page life cycle
- ASP.NET server controls (TextBox, Label, Button, etc.)
- HTML controls vs. ASP.NET controls
- Event handling in ASP.NET

Module 3: State Management & Validation

- ViewState, Session, Application, and Cookies
- QueryString and hidden fields
- Client-side vs. server-side validation
- Validation controls in ASP.NET (RequiredFieldValidator, RangeValidator, etc.)

Module 4: Database Connectivity (ADO.NET)

- Introduction to ADO.NET
- Connecting to SQL Server database
- Executing SQL queries (SELECT, INSERT, UPDATE, DELETE)
- DataReader and DataSet objects
- Displaying data using GridView, Repeater, and DataList controls

Module 5: Advanced ASP.NET Features

- Master Pages and Themes
- User Controls and Custom Controls
- File upload & download in ASP.NET
- Sending Emails with ASP.NET
- Exception handling and debugging

Module 6: Security & Authentication

- Forms Authentication and Membership
- Role-based security
- Preventing SQL injection and securing ASP.NET applications

Module 7: Deployment & Project Development

- Application configuration (web.config)
- Debugging and performance optimization
- Deploying ASP.NET applications (IIS, Azure/Cloud basics)
- Mini Project Development & Final Presentation

☒ End of Course Deliverable:

Students will complete a **mini-project** such as an **Online Registration System, Student Management System, or Shopping Cart Application**.