

ASP.NET Web Forms Syllabus

Overview: ASP.NET is the simplest way to develop dynamic websites and web applications using MS.NET Framework. What many don't know is that ASP.NET is a Framework by itself and not a programming language. C# is the best choice of programming language used for writing code in ASP.NET websites.

Course Objectives:

- ❖ Know the benefits of ASP.NET over the traditional ASP technology for web development.
- ❖ Understand the in-depth the architecture and internals of ASP.NET functioning.
- ❖ Use ASP.NET Controls and build the dynamic web page.
- ❖ Implement client side validations using validation controls framework.
- ❖ Change the Look and Feel of the site by applying themes dynamically.
- ❖ Learn various navigation techniques for integrating web pages within the site.
- ❖ Reuse UI for dynamic content using Master Pages and User Controls.
- ❖ Overcome a limitation of HTML – Retaining State between pages.
- ❖ Use cookies and sessions as state management techniques and know merits of each of them.
- ❖ Learn about various configuration options for dynamic changes to site without rebuilding and publishing.
- ❖ Develop secure modules within the site and provide User based and Roles based limited access to them.
- ❖ Take the advantage of built-in providers for membership, roles and profiles management.
- ❖ Perform CRUD operations and handle dynamic data from SQL Server.
- ❖ Develop AJAX enabled websites for high level of interactivity.
- ❖ Build and Publish Web Applications to production server.

Pre-requisite / Target Audience:

- ❖ Through knowledge of C# programming language.
- ❖ Ability to create tables and perform CRUD operations in SQL Server database.
- ❖ Basic knowledge of HTML and CSS. Though knowledge of JavaScript is not essential, knowing this will surely help.
- ❖ Anyone who is interested in learning Web Development.

Module 1: Web Programming Introduction

In this module you will learn about how the browser and Server gets communicating with each other, life cycle of http, about the http protocol and also the importance of get and post methods.

- ❖ Communication between server and browser
- ❖ Http Request life Cycle

- ❖ HTTP Protocol
- ❖ Request and Response Structure 5. Difference between Get and Post

Module 2: HTML and JavaScript

In this module you will learn about HTML and JavaScript and also you will know how to handle JavaScript Events like mouse Events, how to change styles and the debugging techniques and also you will know how to perform client side validations and the importance of timer and windows DOM objects.

- ❖ HTML Overview
- ❖ HTML Tags Reference
- ❖ HTML Example
- ❖ Introduction to JavaScript
- ❖ JavaScript Examples
- ❖ Debugging JavaScript in VS.NET

Module 3: Traditional ASP Basics

In this module you will learn about the difference between ASP and ASP.NET and you will know what are the ASP objects, how ASP works and you will get the idea how IIS will install on window operating system.

- ❖ Introduction to ASP
- ❖ How ASP works
- ❖ ASP Objects
- ❖ Installing IIS on Windows 7 or Windows 8
- ❖ Sample Programs
- ❖ Importance of Form tag and how it works.

Module 4: ASP.NET Introduction & Controls

In this module you will learn about ASP.NET server side controls, how to handle Events of controls and the importance about IsPostBack property.

- ❖ ASP.NET Introduction
- ❖ First ASP.NET Application
- ❖ AutoPostBack Property
- ❖ Event Handler Parameters
- ❖ Dynamically initializing Controls
- ❖ IsPostBack property of Page class
- ❖ ListControls
- ❖ Comparison between HtmlControls and WebControls

- ❖ Control Properties and Methods
- ❖ FileUpload Control

Module 5: ASP.NET Architecture

In this module you will learn about Life cycle of web form, Life cycle of page and also how ViewState manages state of the page.

- ❖ What is AppDomain?
- ❖ Life Cycle of ASP.NET Page
- ❖ How Control Manages its State
- ❖ What is EnableViewState
- ❖ How control raises events
- ❖ Event handling in Web Forms
- ❖ Writing Custom Classes in WebApplication

Module 6: CSS & Themes

In this module you will learn about how to use themes and also you learn here how the css styles can be added to the controls.

- ❖ Working with CSS
- ❖ Working with Themes

Module 7: Redirecting User to another Page

In this module you will learn about how user can able to redirect to other pages as part of your Web application. Here you will get clear idea about how ASP.NET provides the ways to you to get redirection into multiple Web pages.

- ❖ Redirecting Options
- ❖ Response.Redirect
- ❖ Server.Transfer
- ❖ Cross Page Postback
- ❖ Determine how the Page was Invoked
- ❖ Passing Values between Pages

Module 8: Master Pages

In this module you will learn about how ASP.NET master pages allow us to create a consistent layout for the pages in our application.

- ❖ Introduction to MasterPage
- ❖ ContentPlaceHolder and Content tags

- ❖ Accessing controls of MasterPage in ContentPage
- ❖ URL's in MasterPages
- ❖ UniqueID and ClientID

Module 9: Working with User Control

In this module you will learn about how to create a user control and use of it. You will get to know how user controls can be reused for both User Interface and Code at different places.

- ❖ Overview of User Controls
- ❖ Creating a User Control
- ❖ Adding Properties to User Control
- ❖ Adding Events to User Control
- ❖ Using User Control in Web Form
- ❖ Rendering Client Scripts using Page.ClientScript methods

Module 10: Validation Controls

In this module you will learn about the validation controls available in ASP.NET and why they are frequently used in every web form.

- ❖ BaseValidator
- ❖ RequiredFieldValidator
- ❖ CompareValidator
- ❖ RangeValidator
- ❖ RegularExpressionValidator
- ❖ CustomValidator
- ❖ CausesValidation Property
- ❖ Grouping – ValidationGroup Property
- ❖ Page.Validators and Page.IsValid

Module 11: ASP.NET State Management

In this module you will learn about how Cookies will be used within the current session, various types of Cookies can be used and how Session object will be used within the current session and how an Application Object will be maintained in the server.

- ❖ Static Members
- ❖ View State
- ❖ Hidden Field in Form
- ❖ Query String

- ❖ HttpContext
- ❖ Cookies - HttpCookie
- ❖ Sessions - HttpSessionState
- ❖ Application – HttpApplicationState
- ❖ Summary of All Features.

Module 12: WebConfiguration File and Global.asax

In this module you will learn about how an application settings can provided in Web.Confile file and the use of each and every section in that file and also we are going to discuss in this about Global.asax which contains the event handlers of HttpApplication object.

- ❖ Introduction to Configuration files
- ❖ Page settings in web.config
- ❖ Custom Errors
- ❖ URL Re-Writing
- ❖ Tracing
- ❖ Using ConfigSource Attribute
- ❖ Using Location Section
- ❖ HttpApplication class - Global.asax

Module 13: Authentication & Authorization

In this module you will learn about how a secured Web application can be created using authentication and also you will learn how many types of authentication techniques we have in ASP.NET.

- ❖ What is Authentication and Authorization
- ❖ Types of Authentication
- ❖ Forms Authentication
- ❖ Role based Authentication
- ❖ Windows and Basic Authentication
- ❖ What is ASP.NET Impersonation
- ❖ Using location section in Web.config

Module 14: Application Service Providers

In this module you will learn about Membership and Role Provider offers individual or access at management over the internet. It is required where you need to provide services for storing state in databases and various storage media.

- ❖ ASP.NET Providers Introduction

- ❖ Membership Providers
- ❖ Role Providers
- ❖ Writing Custom Providers
- ❖ Profile Providers
- ❖ Web Parts Personalization Providers

Module 15: Data Bound Controls

In this module you will learn about how data is presented to the user using GridView, DetailView, ListView and importance of these controls.

- ❖ Databinding traditional way
- ❖ SqlDataSource
- ❖ GridView
- ❖ DetailsView
- ❖ FormView
- ❖ DataList
- ❖ Repeater
- ❖ ListView
- ❖ DataPager

Module 16: Web Caching

Here in this module you will learn about how a high-performance Web application should be designed with caching in mind and the different types of caching techniques.

- ❖ Why Caching
- ❖ Types of Caching
 - Output Caching
 - Fragment Caching
 - Substitution Caching
 - Data Caching
- ❖ SQL Cache Invalidation

Module 17: Globalization and Localization

In this module you will learn about how to create resource files for different cultures. This is required when you want to create an application that meets the needs of users from multiple cultures and also you will learn how to accommodate these cultural differences in your application.

- ❖ Definitions

- ❖ Creating Resource files for different cultures
- ❖ Designing the WebForm & linking controls to keys in Resource files
- ❖ Alternatives to initialize culture settings of the page.

Module 18: AJAX.NET

In this module you will learn about how to make asynchronous calls for a particular task. In many cases you need not to get the fresh page when requested for the particular content every time, you can be there in same page and get the required content easily this can be done by Ajax.

- ❖ What is AJAX
- ❖ What is AJAX.NET
- ❖ Script Manager
- ❖ Update Panel
- ❖ Update Progress
- ❖ Timer
- ❖ AJAX Control Toolkit

Module 19: Routing

In this module you will learn about how default URLs are mapped to user friendly URLs. You will learn how URLs will convert to meaningful and descriptive which will be easy to remember and will improve the search engine rank.

- ❖ What is Routing
- ❖ Mapping Route to Physical file
- ❖ Reading Route Parameters
- ❖ Route Expression
- ❖ Generate URL using Markup

Module 20: Understanding & Publishing Web Application

In this module you will learn about the advantages of IIS applications, how to create a web application in IIS, the use of Virtual directory and finally you will learn how to publish an ASP.NET Website.

- ❖ Introduction to ASP.NET Web Application
- ❖ Advantages of IIS Applications
- ❖ Creating web application in IIS
- ❖ Converting File System application to IIS Application
- ❖ Using Virtual Directory
- ❖ Publishing ASP.NET Websites

Real-time Project involving most of the above concepts with following will be provided

- Product Abstract Document
- Requirement Specification Document
- **Step-by-Step procedure for building the project from ground up**
- Complete Source Code
- Database Script with Sample data
- Instructions to Setup the Project on a Development box
- Instruction to Deploy the project on Production Box / Microsoft Azure

At the end of the course participants will be able to

1. Creating a project and running in web browser
2. Working with standard controls
3. Working with Data controls
4. Working with validation controls
5. Working with Master pages
6. Working with Navigation controls
7. Working with Login controls
8. Understanding session management technique.
9. Understanding web.config file and machine.config
10. Working with Datareader in Ado.Net
11. Working with Dataset in Ado.Net