



Curriculum Of Full Stack With C# .Net

WEB DESIGNING (HTML)

MODULE 1: WEB PROGRAMMING INTRODUCTION

- Architecture of a website
- Different technologies in making the website
- Web Development Introduction

MODULE 2: HTML-INTRODUCTION

- History of HTML
- What you need to do to get going and make your first HTML page
- What are HTML Tags and Attributes?
- HTML Tag vs. Element
- HTML Attributes

MODULE 3: HTML-HEADERS

- Title
- Base
- Link
- Styles
- Script
- Meta

MODULE 4: HTML-BASIC FORMATTING TAGS

- HTML Basic Tags
- HTML Formatting Tags
- HTML Color Coding

MODULE 5: HTML-GROUPING USING DIV SPAN

- Div Tag
- Span Tags

MODULE 6: HTML SEMANTIC ELEMENTS

- <article>
- <aside>

- <details>
- <figure>
- • header>, <footer>
- <main>
- <mark>
- <nav>
- <section>
- <summary>
- <time>

MODULE 7: HTML-LISTS

- Unordered Lists
- Ordered Lists
- Definition list

MODULE 8: HTML-IMAGES

- Image and Image Mapping
- Background Images

MODULE 9: HTML-HYPERLINK

- Anchor Tag.
- URL - Uniform Resource Locator
- Relative and Absolute Address

MODULE 10: HTML-TABLE

- < table >
- < th >
- < tr >
- < td >
- < caption >
- < the ad >
- < t body >
- < toot >
- < cogroup >
- < col >

MODULE 11: HTML-I FRAME

- Using I frame as the Target



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MODULE 12: HTML-FORM

- HTML Forms
- HTML Form Attributes
- HTML Form Elements
- HTML Input Types
- HTML Input Attributes
- HTML Input form Attributes
- < text area >
- < button >
- < select >
- < label >

MODULE 13: HTML GRAPHICS

- HTML Canvas Graphics
- HTML SVG Graphics

MODULE 14: HTML MEDIA

- HTML Media
- HTML Video
- HTML Audio
- HTML Plug-in
- HTML You Tube

MODULE 15: HTML APIS

- HTML Geolocation
- HTML Drag/Drop
- HTML Web Storage
- HTML Web Workers
- HTML SSE

CSS

MODULE 1: CSS INTRODUCTION

- What is CSS?
- Why Use CSS?
- CSS Syntax

MODULE 2: CSS CORE PROPERTIES

- CSS Color

- CSS Backgrounds
- CSS Box Model
- CSS Borders
- CSS Margins
- CSS Paddings
- CSS Box Sizing

MODULE 3: CSS UNITS

- Absolute Units
- Relative Units
- Max-Width
- Min-Width

MODULE 4: CSS STYLING

- CSS Text
- CSS Fonts
- CSS Outline
- CSS Alignment
- Important

MODULE 5: STYLING ELEMENTS

- Links
- Lists
- Dropdowns
- Tables
- Images
- Image-Sprite
- Image-Filters
- Clip-Path
- Forms

MODULE 6: NAVBAR

- Vertical-Navbar
- Horizontal-Navbar

MODULE 7: CSS SELECTORS

- Simple Selectors
- Combinator selectors



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- Pseudo-class selectors
- Pseudo-elements selectors
- Attribute selectors

MODULE 8: CSS POSITIONS

- Position
- Z-Index
- Float
- Clear
- Overflow

MODULE 9: CSS LAYOUTS

- Display
- Block
- Inline, Inline-Block
- Grid
- Flex-Box

MODULE 10: CSS TRANSFORMATION

- CSS 2D & 3D Transforms
- CSS Transition, CSS Animations

MODULE 11: CSS RESPONSIVE

- Responsive Introduction
- Responsive Viewport & Breakpoint
- Media Queries

JAVASCRIPT

MODULE 1: INTRODUCTION

- What is JavaScript?
- Why Use JavaScript?
- Syntax
- Statements
- Comments

MODULE 2: LANGUAGE SYNTAX

- Data Types
- Variable Declarations

- Var vs. Let
- Constant
- Dynamic Type
- Type of
- Type Conversion
- Objects
- Arrays

MODULE 3: OPERATORS

- JavaScript Operators.
- Arithmetic Operators
- Assignment Operators
- Comparison Operators
- Equality Operators
- Ternary Operators
- Logical Operators
- Bitwise Operators

MODULE 4: CONTROL STATEMENT

- if
- else
- if/else
- switch/case

MODULE 5: LOOP STATEMENT

- for
- for/in
- for/off
- while
- do/while
- Infinite loop
- Break
- continue

MODULE 6: JAVASCRIPT HTML DOM

- HTML Document object Model
- DOM Methods
- DOM Documents



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- DOM Elements
- DOM HTML
- DOM Forms
- DOM CSS
- DOM Events
- DOM Event Listener
- DOM Navigation
- DOM Nodes
- DOM Collections
- DOM Node Lists

MODULE 7: JAVASCRIPT HTML BOM

- TML Browser object Model
- JS Window
- JS Screen
- JS Location
- JS History
- JS Navigator
- JS Popup Alert
- JS Timing
- JS Cookies

MODULE 8: ARRAY

- Array Introduction
- Adding, Deleting Modifying, Searching & Emptying Element
- Combining and Slicing Array
- Spread Operator
- Looping with Array
- Filtering with Array
- Mapping with Array
- Reducing an Array

MODULE 9: FUNCTIONS

- Function Declarations.
- Hoisting
- Arguments
- The Rest Operators

- Default Parameters
- Getter and Setters
- Try and Catch
- Local vs. Global Scope
- this keyword

MODULE 10: OBJECTS

- Basics
- Factory Functions
- Constructor
- Dynamic Nature of Object
- Functions are Objects
- Value vs. Reference Type
- Enumerating Properties of an Object
- Cloning an Object
- String
- Date

MODULE 11: BUILT-IN OBJECTS

- Number
- Math
- String
- Array
- Date
- Boolean
- Regex

MODULE 12: EVENTS

- Introduction
- Mouse & Keyboard Events
- Form Events
- Document/Window Event

MODULE 13: INTRODUCTION TO OOP CONCEPT

- Prototype, Module pattern
- Augmenting type
- Closures



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- ES6 Introduction
- Let & Const
- Arrow Functions
- Class and Inheritance
- Rest and Map Operators
- Export and Import
- Modules

MODULE 14: JAVASCRIPT WEB API

- API Introduction
- Forms API
- History API
- Storage API
- Worker API
- Fetch API
- Geolocation API

MODULE 15: JAVASCRIPT AJAX

- AJAX Introduction
- AJAX XMLHttpRequest
- AJAX Request
- AJAX Response

MODULE 16: JAVASCRIPT JSON

- JSON Introduction
- JSON Syntax
- JSON Data Types
- JSON Parse
- JSON Stringify
- JSON Objects
- JSON Arrays

JQUERY

- Getting started with jQuery
- Selecting elements
- Manipulating the page
- Traversing the DOM and chaining

- jQuery Utility Methods
- Handling events and event delegation
- AJAX, JSON and Deferred
- Enhancing with Animation effects
- Grids, Tables with AJAX, Pagination, jQuery UI
- jQuery Best Practices

BOOTSTRAP 5

MODULE 1: INTRODUCTION

- Introduction
- Quick Styles After Dark
- Our First Web Page
- What's inside?
- Scripts & Styles
- Core concepts
- Summary

MODULE 2: LAYOUT WITH BOOTSTRAP

- Introduction
- Grid Layouts
- Simple Layout
- Fixed Grids
- Fluid Grids
- Responsive Design
- Responsive Utilities
- Inspiration
- Summary

MODULE 3: EVERYDAY BOOTSTRAP

- Introduction
- Typography
- Tables
- Forms
- Buttons
- Images & Icons
- Summary



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MODULE 4: BOOTSTRAP COMPONENT

- Introductions
- Drop Down Menu
- Buttons with Menus
- Tabs & Pill
- The Navbars
- Heros, Badgets, Labels and media
- Summary

MODULE 5: BOOTSTRAP AND JAVASCRIPT

- Introduction
- More Buttons
- Modals
- Tooltips And Popovers
- Carousel
- Summary

GITHUB

- Real-Time environmental setup with GitHub

ANGULAR

MODULE 1: INTRODUCTION TO ANGULAR

- What is Angular?
- Advantages of Angular
- Disadvantages of Angular
- Key Features of Angular
- Comparison between Angular & other frameworks

MODULE 2: INTRODUCTION TO TYPESCRIPT

- Why Use Typescript
- Basic Types
- Classes
- Interfaces
- Type Definitions
- Compiling Typescript

MODULE 3: ENVIRONMENT SETUP

- Node
- NPM
- Angular CLI
- Application File Structure
- Code Editors

MODULE 4: MODULES

- Why use Modules
- Ng Module
- Declarations
- Providers
- Imports
- Bootstrapping
- The Core Module
- Shared Modules

MODULE 5: COMPONENTS

- Introduction to Components
- Components Architecture Pattern
- Decorator Metadata
- State & Behavior

MODULE 6: TEMPLATES

- Inline vs External
- Template Expressions
- Data Bindings
- *ngIf else, *ngFor and *ngSwitch
- Built-in Structural Directives
- Built-in Attribute Directives

MODULE 7: CUSTOM DIRECTIVES

- Create your own Structural Directives
- Create your own Attribute Directives

MODULE 8: PIPES

- Built-in Pipes
- Custom Pipes



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MODULE 9: SERVICES

- Introduction to services
- Building a Service

MODULE 10: DEPENDENCY INJECTION

- Introduction to dependency Injection
- Injectors & Providers
- Registering Providers

MODULE 11: LIFECYCLE HOOKS

- Component Lifecycle
- All Lifecycle hooks

MODULE 12: ROUTING

- The component router
- Defining Router
- Navigation
- Route Params
- Child Routes

MODULE 13: ADVANCED ROUTING

- Route Guard

MODULE 14: TEMPLATE-DRIVEN FORMS

- Introduction to forms
- Template-driven forms
- Validation

MODULE 15: MODEL-DRIVEN FORMS

- Introduction to Reactive Forms
- Form group & form control
- Validators, Custom Validation

MODULE 16: ASYNCHRONOUS OPERATIONS

- Introduction to Async
- Observables
- Observables vs. Promise

- HTTP Request / Response

MODULE 17: COMMUNICATION BETWEEN COMPONENTS

- @Input()
- @Output()
- @ViewChild()
- Shared Service

MODULE 18: SERVER-SIDE RENDERING

- Introduction to server-side Rendering
- Angular Universal

MODULE 19: ANGULAR TESTING

- Introduction to testing
- Unit Testing
- Lazy Loading
- Angular Material
- Prime NG Implementation

MODULE 20: THIRD-PARTY NPM PACKAGE

- Social Login Authentication
- Cookies, Local Storage, Session Storage
- Angular File Upload
- Angular Pagination
- JWT Token

IMPLEMENTATION OF MINI APPLICATION

DEPLOYMENT OF ANGULAR APPLICATION

C# AND .NET CORE

MODULE 1: INTRODUCTION TO .NET FRAMEWORK

- What is a .Net Framework and its components?
- Different .Net Framework versions and their Dependency.



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- The core of the .Net Framework and the Types of .Net Applications.
- What are Base class Libraries and What is a Namespace.
- How the Compilation process and Execution Process is done.
- What is Portable Executable and its extensions?
- What is MSIL and Why MSIL instructions are Platform Independent Instructions
- What is Metadata and which type of Information does the Metadata Stores
- What is CLR and what are the Components in CLR.

MODULE 2: C# LANGUAGE

- Data Types and declaring a Variable
- Value Type and Reference Type
- What is Implicit Casting and Explicit Casting?
- Arrays.
- Difference between string and string Builder.
- What is Boxing
- What is Unboxing
- What are constants and Enums
- Operators in C#
- If, while, do while, switch
- For & Foreach
- Single dimension
- Multi dimension Array
- What is method overloading?
- Optional parameters
- What are Named Arguments?
- What is params Parameter?
- How to Pass argument by value, ref and out.
- Enums **MODULE 3: COLLECTIONS &**

GENERIC

- What are the Types of collections
- What is I Enumerable, I Collection, IList, IDictionary?
- What is Array List, Hash Table, Sorted List, Queue, and Stack?
- How to iterate using I Enumerable
- How sort using I Comparer and I Comparable
- What are the advantages of Generics and how they work at runtime?
- What are Generic methods and Generic collection classes?
- What is List and Dictionary?

MODULE 4: ASSEMBLIES AND GAC

- What is difference between DLL and EXE
- How to build a class library
- How to use a Class Library in another Application
- What is Namespace?
- Types of Assemblies
- Global Assembly Cache

MODULE 5: IO STREAMS

- What is a Stream and Types of Streams?
- How Files can be handled using File Mode, File Access, File Share
- What is Reader & Writer?
- How to work with File System
- What is Serialization and Deserialization?

MODULE 6: OOPS CONCEPT

- Introduction to OOPS and its principles.
- Class and Objects.
- Introduction to Constructor
- Types of Constructors
- Constructor Overloading



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- Properties
- Static variables and Non-Static variables
- Static methods and Non-static methods
- Static Constructor
- This keyword
- Encapsulation and Data abstraction
- Garbage collector
- Introduction to Inheritance.
- Abstract class vs Interface.

MODULE 7: EXTENDED C# LANGUAGE FEATURES

- What is the partial class, partial methods.
- Delegate, Generic Class.
- Extension Methods
- Anonymous Types
- Lamda Expression
- Tuples
- String Interpolation
- Null Conditional Operator
- Auto Property Initializer
- Dictionary / Index Initializer
- Expression-bodied function members
- What is name of Expression
- Asyn & Await

MODULE 8: EXCEPTION HANDLING

- What is an Exception and types of Exceptions?
- How to handle Exception using try and catch blocks.
- How to throw an Exception using throw ex and throw
- What is finally Block
- How to define custom Exception class

MODULE 9: MULTITHREADING

- Understanding multithreading process.

- The System Threading Namespace.
- The Thread and Thread Start Class.
- Thread Life Cycle.
- Thread Safety Concept.
- Thread synchronization.
- Understanding Thread pool.
- Understanding Role of Thread Background Worker Component.

MODULE 10: SQL SERVER

- Introduction to DBMS.
- Introduction to SQL Server.
- Database Language.
- Keys in SQL server
- Top/where/and/or/in/between/like/ Group by/having/union/intersect.
- Join in SQL.
- Stored Procedure.
- Views.
- Trigger.

MODULE 11: ASP.NET CORE

- Introduction.
- What is ASP .Net Core?
- ASP .Net Core Features
- Advantages of ASP. Net Core
- MVC Pattern
- Understanding ASP .Net Core MVC
- ASP .Net Core vs. ASP .Net MVC vs. ASP.Net Web Forms

MODULE 12: ASP .NET CORE FIRST APPLICATION

- ASP .Net Core Environment Setup.
- ASP .Net Core First Application
- Project Layout
- Understanding Life Cycle of ASP .Net Core Request



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MODULE 13: CONTROLLERS & ACTION METHODS

- Controllers Overview.
- Action Methods
- Actioners object
- Passing data from Controller to View
- Understanding Action Selectors
- Action Filters
- Building Custom Action Filters
- Middleware
- Asynchronous Action Methods

MODULE 14: HELPERS

- Introduction to View.
- Html Helpers
- Built-In Html Helpers
- URL helpers
- Tag Helpers
- Custom Tag Helpers

MODULE 15: MODEL BINDING

- Model Binder Overview
- Default Model Binder
- Binding to Complex Classes
- IFormCollection Model Binding
- IFormFile Model Binder
- Bind Attribute
- Try Update Model Async

MODULE 16: VALIDATIONS & DATA ANNOTATIONS

- Data Annotation and Validations Overview
- Validations with Data Annotation
- Server Side Validation
- Client Side Validation
- Custom Server side validation
- Model level validation using

- IValidatableObject
- Remote Validation
- Anti-Forgery Tokens

MODULE 17: STATE MANAGEMENT TECHNIQUES

- View Data
- View Bag
- Temp Data
- Sessions

MODULE 18: SECURITY

- Authentication and Authorization
- Implementing Security using ASP.NET Core Identity
- Seeding Users and Roles
- OAuth implementation
- Social Sites Login

MODULE 19: ASP.NET CORE – WEB CACHING

- Cache Tag Helpers
- Memory Caching Introduction
- In-Memory Caching
- Response Cache
- Distributed Cache

MODULE 20: ROUTING

- URL Routing Overview
- Custom Routes
- Attribute Routing
- Routing Constraints

MODULE 21: MODULE DEVELOPMENT

- Understanding Areas
- Adding Areas
- Defining Area Routes
- Linking between Areas



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MODULE 22: ENTITY FRAMEWORK CORE

- Entity Framework Requirements
- What is ORM?
- Data Base First Approach
- Code First Approach
- Model First Approach
- Basic CRUD Operations using Entity Framework.
- Writing Generic Class / Repository
- Migrations
- LINQ with EF

MODULE 23: WEB API AND JQUERY AJAX

- Introduction to Web API
- Restful Convention
- Building and Testing Web API
- AJAX implementation using jQuery
- Calling the Web API with jQuery Ajax
- Data Transfer Object
- Auto Mapper
- I Action Result
- Media Types
- Creating a Web API that Supports CRUD Operations using EF