**C# .NET Full Stack Training**

**Week 1-2: Frontend Basics (HTML, CSS, JavaScript, Bootstrap, jQuery, Angular)**

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| Day | Topic | Subtopics Covered |
| 1 | HTML Basics | Structure, Elements, Forms, Tables |
| 2 | HTML5 & Semantic Tags | New Elements, Forms, Audio/Video |
| 3 | CSS Basics | Selectors, Box Model, Colors, Fonts |
| 4 | CSS Advanced | Flexbox, Grid, Media Queries, Animations |
| 5 | JavaScript Basics | Variables, Data Types, Loops, Functions |
| 6 | JavaScript DOM Manipulation | Events, Query Selector, Modifying Elements |
| 7 | JavaScript ES6+ | Arrow Functions, Template Literals, Modules |
| 8 | Bootstrap Introduction | Grid System, Components, Forms |
| 9 | jQuery Basics | Selectors, Events, Effects, AJAX |
| 10 | Angular Introduction | Components, Modules, Directives |

**Week 3-4: C# Fundamentals**

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| Day | Topic | Subtopics Covered |
| 11 | Introduction to C# | Data Types, Variables, Constants |
| 12 | Control Statements | If-Else, Switch, Loops (For, While, Do-While) |
| 13 | Functions & Methods | Parameters, Return Types, Overloading |
| 14 | Object-Oriented Programming | Classes, Objects, Inheritance |
| 15 | Encapsulation & Abstraction | Access Modifiers, Interfaces, Properties |
| 16 | Polymorphism & Inheritance | Method Overriding, Abstract Classes |
| 17 | Exception Handling | Try-Catch, Custom Exceptions |
| 18 | File Handling | Reading/Writing Files, Streams |
| 19 | Collections & LINQ | Lists, Dictionaries, Queries |
| 20 | C# Advanced Features | Delegates, Events, Async/Await |

**Week 5-6: ASP.NET Core & Web API**

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| Day | Topic | Subtopics Covered |
| 21 | Introduction to .NET Core | Framework Overview, Features |
| 22 | Creating an ASP.NET Core Project | MVC Pattern, Folder Structure |
| 23 | Controllers & Routing | Action Methods, Parameter Routing |
| 24 | Models & Data Binding | ViewModel, Form Handling |
| 25 | Razor Views & Layouts | Partial Views, View Components |
| 26 | Dependency Injection | Services, IoC Container |
| 27 | Entity Framework Core | Code-First Approach, Migrations |
| 28 | CRUD Operations with EF Core | Adding, Updating, Deleting Records |
| 29 | RESTful API Development | Creating Web API, HTTP Methods |
| 30 | Consuming API in Angular | HTTP Client, Fetching Data |

**Week 7-8: Authentication & Advanced Concepts**

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| Day | Topic | Subtopics Covered |
| 31 | Authentication in ASP.NET Core | Identity, JWT Token, Middleware |
| 32 | Role-Based Authorization | User Roles, Claims, Policies |
| 33 | Middleware & Filters | Custom Middleware, Action Filters |
| 34 | Logging & Exception Handling | Serilog, Exception Filters |
| 35 | Caching & Performance Optimization | Memory Cache, Response Compression |
| 36 | Uploading Files | Handling Images, Large File Uploads |
| 37 | Email Sending | SMTP, SendGrid, Email Templates |
| 38 | Background Services | Hosted Services, Quartz.NET |
| 39 | Real-Time Communication | SignalR, WebSockets |
| 40 | Security Best Practices | Data Protection, CSRF, XSS Prevention |

**Week 9-10: Database & Cloud Deployment**

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| Day | Topic | Subtopics Covered |
| 41 | Introduction to SQL Server | Database Basics, Tables, Keys |
| 42 | SQL Queries | SELECT, INSERT, UPDATE, DELETE |
| 43 | Joins & Stored Procedures | Inner, Outer Joins, Functions |
| 44 | Integrating SQL Server with ASP.NET Core | Connection, Migrations |
| 45 | Firebase Introduction | NoSQL Database, Firestore |
| 46 | Using Firebase in Angular | Fetching & Storing Data |
| 47 | Git & Version Control | GitHub, Git Flow, Branching |
| 48 | Docker & Containerization | Creating Docker Images |
| 49 | CI/CD Pipeline | Azure DevOps, GitHub Actions |
| 50 | Deploying on Azure | App Service, Hosting API & DB |

**Week 11-12: Project Work & Final Concepts**

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| Day | Topic | Subtopics Covered |
| 51 | Project Setup | Requirement Gathering, Planning |
| 52 | Database Design | Creating Tables, Relationships |
| 53 | Backend Development | API Development, CRUD Operations |
| 54 | Frontend UI Development | Angular Components, Services |
| 55 | Connecting Frontend & Backend | API Integration |
| 56 | Authentication Implementation | Login, Registration, JWT |
| 57 | Testing & Debugging | Unit Testing, API Testing |
| 58 | Performance Optimization | Caching, Lazy Loading |
| 59 | Deployment & Hosting | Azure Deployment, Firebase Hosting |
| 60 | Final Project Submission & Review | Code Review, Q&A |