

.NET Full Stack Development Course

Course Duration: 3 Months

This course is designed to help learners become proficient in full-stack web development using Microsoft's .NET platform. The curriculum covers front-end, back-end, database, and deployment technologies to build dynamic, enterprise-level web applications.

Module 1: Introduction to .NET & C#

- Overview of .NET Framework and .NET Core
- Setting up the development environment (Visual Studio, SDKs)
- C# Programming Basics – Syntax, Variables, Data Types, Control Statements
- Object-Oriented Programming in C# – Classes, Inheritance, Interfaces, Polymorphism

Module 2: Front-End Development

- HTML5, CSS3, and JavaScript Fundamentals
- Bootstrap for Responsive Design
- Introduction to TypeScript
- Building Single Page Applications with Angular or React

Module 3: Back-End Development with ASP.NET Core

- Introduction to ASP.NET Core MVC and Web API
- Routing, Controllers, and Views
- Entity Framework Core – ORM and LINQ
- Dependency Injection and Middleware
- Authentication & Authorization using Identity Framework

Module 4: Database Management

- Introduction to Relational Databases
- Microsoft SQL Server Basics
- Writing Queries – SELECT, INSERT, UPDATE, DELETE
- Stored Procedures, Views, and Joins
- Database Connectivity with Entity Framework Core

Module 5: Web API Development & Integration

- Creating RESTful APIs with ASP.NET Core
- Consuming APIs using HttpClient and JavaScript Fetch API
- Error Handling and Logging in APIs

Module 6: Version Control & Deployment

- Introduction to Git and GitHub
- Continuous Integration/Continuous Deployment (CI/CD) Overview
- Hosting .NET Applications on Azure and IIS
- Basic Docker Concepts for .NET

Module 7: Real-Time Project

- Developing an End-to-End Web Application
- Integrating Front-End, Back-End, and Database
- Testing and Debugging
- Project Deployment and Presentation

