Dot Net – Product Catalogue

C# Programming

Duration - 12 Days / 96 Hours

Program Description

This program introduces learners to the foundational concepts of C# programming, specifically tailored for beginners. It covers essential areas such as syntax, object-oriented programming principles, data structures, exception handling, and file I/O.
The course also dives into the .NET Collections Framework, basic database connectivity using ADO.NET, and key C# 8.0 features like asynchronous programming and LINQ, equipping learners with the knowledge to develop robust and efficient C# applications.

Learning Goals

- Understand the fundamentals of C# programming, including syntax, structure, and key language features.
- Learn Object-Oriented Programming (OOP) principles and their practical application in software development.
- Explore core data structures such as arrays, lists, and strings for effective data management.
- Handle errors efficiently with Exception Handling and perform File I/O operations.
- Gain a deeper understanding of the .NET Collections Framework and generics for advanced data manipulation.
- Connect C# applications with databases using ADO.NET for data-driven development.
- Learn and implement unit testing using MSTest or NUnit for robust, testable code.
- Explore asynchronous programming with async/await, as well as LINQ for functional programming.

Course Topics

- Introduction to C# and .NET Framework
- Object-Oriented Programming in C#
- Exception Handling in C#
- File I/O in C#
- Data Structures in C#
- .NET Collections Framework
- Asynchronous Programming in C#
- Unit Testing in C# with MSTest and NUnit

Advanced C#

Duration - 5 Days / 40 Hours

Program Description

This Advanced C# course is designed for developers who already have a basic understanding of C# and want to delve deeper into advanced topics such as LINQ, Entity Framework, Dependency Injection, Delegates, Attributes, and Lambda Expressions.
The course will also cover the latest features introduced in C# 8. By the end of this program, participants will have a strong understanding of advanced C# concepts and will be able to develop efficient, maintainable, and scalable applications.

Learning Goals

- Understand and utilize advanced C# features like Delegates, Lambda Expressions, and Attributes.
- Master LINQ for querying data with C#.
- Implement Dependency Injection in C# for loosely coupled and maintainable code.
- Use Entity Framework Core for database operations and data persistence.
- Learn and apply the latest features of C# 8 in real-world applications.

Course Topics

- Advanced C# Concepts (Delegates, Lambda Expressions, and Attributes)
- Language Integrated Query (LINQ)
- Entity Framework Core for Data Access
- Dependency Injection in C#
- C# 8 New Features
  - Nullable Reference Types:
  - Asynchronous Streams:
  - Ranges and Indices:
  - Switch Expressions:
  - Default Interface Methods

Full Stack ASP.NET Core 8

Duration - 12 Days / 96 Hours

Program Description

This Full Stack ASP.NET Core 8 training course is designed for learners who want to build modern web applications using ASP.NET Core 8. It covers backend development with ASP.NET Core Web API, creating MVC web applications, integrating databases, implementing Microservices, using an API Gateway, and deploying applications to the cloud.
Learners will develop hands-on skills in building scalable, secure, and high-performance applications using the latest features in ASP.NET Core 8 and relevant tools for a complete development lifecycle.

Learning Goals

- Develop full-stack applications using ASP.NET Core 8 for backend services and MVC for frontend.
- Build RESTful APIs using ASP.NET Core Web API.
- Implement Microservices architecture and API Gateway for managing service communication.
- Manage databases using Entity Framework Core and integrate with SQL Server and NoSQL.
- Secure applications with OAuth 2.0 and JWT-based authentication.
- Deploy ASP.NET Core applications to cloud environments like Azure and AWS.
- Use DevOps practices such as continuous integration (CI) and continuous delivery (CD) for automation.

Course Topics

- Introduction to ASP.NET Core 8 & MVC Architecture
- Handling Forms and Data Validation in MVC
- RESTful Web API Development
- Security and Authentication in ASP.NET Core
- Working with Entity Framework Core
- Microservices Architecture with ASP.NET Core
- API Gateway Implementation
- Caching and Messaging with ASP.NET Core
- Deploying ASP.NET Core Applications to the Cloud
- Hands-On Projects
  - Build a Full-Stack ASP.NET Core 8 Web Application:
  - Create a Microservices-Based Application:
  - Deploy a Web API to Cloud (Azure/AWS):