BOOST
THE LEADING TRAINING PROVIDER

Information Technology

Programming in C#

Course Introduction

This training course is designed to help participants gain programming skills that are required for developers to create Windows applications using the Visual C# language. The course will cover topics such as basics of Visual C# program structure, language syntax, and implementation details, and then consolidate their knowledge throughout the week as they build an application that incorporates several features of the .NET Framework 4.7. This course uses Visual Studio 2017 running on Windows 10.

Target Audience

- Cloud Computing Engineer
- Computer Network Specialist
- Computer Support Specialist
- Database Administrator
- Information Technology Analyst
- Information Technology Leadership
- Information Security Specialist
- Software/Application Developer
- Web Developer
- Technology sales consultant

Learning Objectives

- Gain a comprehensive understanding of the Core syntax and features of Visual C#
- Create methods handle exceptions, and describe the monitoring requirements of large-scale applications
- Implement the basic structure and essential elements of a typical desktop application

- Create classes, define and implement interfaces, and create and use generic collections
- Use inheritance to create a class hierarchyand to extend a .NET Framework class.
- Read and write data by using file input/output and streams and serialize/deserialize data in different formats
- Create and use an entity data model for accessing a database and use LINQ to querydata
- Access and query remote data by using the types in the System.Net namespace and WCF Data Services.
- Build a graphical user interface by using XAML
- Improve the throughput and response time of applications by using tasks and asynchronous operations
- Integrate unmanaged libraries and dynamic components into a C# application
- Exam the metadata of types using reflection, create and use custom attributes, generate code at runtime, and manage assembly versions
- Encrypt and decrypt data by using symmetric and asymmetric encryption

Course Outline

- **Day 01**

  VISUAL C# SYNTAX

    ◦ Writing Applications Using C#
    ◦ Datatypes, Operators, and Expressions
    ◦ C# Programming Language Constructs

  CREATING METHODS, HANDLING EXCEPTIONS, AND MONITORING APPLICATIONS

    ◦ Creating and Invoking Methods
    ◦ Creating Overloaded Methods and Using Optional and Output Parameters
    ◦ Handling Exceptions
    ◦ Monitoring Applications
- **Day 02**

BASIC TYPES AND CONSTRUCTS OF VISUAL C#

- ◦ Implementing Structs and Enums
- ◦ Organizing Data into Collections
- ◦ Handling Events

CREATING CLASSES AND IMPLEMENTING TYPE-SAFE COLLECTIONS

- ◦ Creating Classes
- ◦ Defining and Implementing Interfaces
- ◦ Implementing Type-Safe Collections

- **Day 03**

CREATING A CLASS HIERARCHY USING INHERITANCE

- ◦ Creating Class Hierarchies
- ◦ Extending .NET Framework Classes

READING AND WRITING LOCAL DATA

- ◦ Reading and Writing Files
- ◦ Serializing and Deserializing Data
- ◦ Performing I/O Using Streams

ACCESSING A DATABASE

- ◦ Creating and Using Entity Data Models
- ◦ Querying Data Using LINQ

- **Day 04**

ACCESSING REMOTE DATA

- ◦ Accessing Data Across the Web
- ◦ Accessing Data in the OData Connected Services

DESIGNING THE USER INTERFACE FOR A GRAPHICAL APPLICATION

- ◦ Using XAML to Design a User Interface
- ◦ Binding Controls to Data

IMPROVING APPLICATION PERFORMANCE AND RESPONSIVENESS

- ◦ Implementing Multitasking
- ◦ Performing Operations Asynchronously
- ◦ Synchronizing Concurrent Access to Data

- **Day 05**

INTEGRATING WITH UNMANAGED CODE

◦ Creating and Using Dynamic Objects
◦ Managing the Lifetime of Objects and Controlling Unmanaged Resources

CREATING REUSABLE TYPES AND ASSEMBLIES

◦ Examining Object Metadata
◦ Creating and Using Custom Attributes
◦ Generating Managed Code
◦ Versioning, Signing, and Deploying Assemblies

ENCRYPTING AND DECRYPTING DATA

◦ Implementing Symmetric Encryption
◦ Implementing Asymmetric Encryption

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
June 30, 2025	July 4, 2025	5 days	4250.00 $	UAE - Dubai
Sept. 22, 2025	Sept. 26, 2025	5 days	4950.00 $	Austria - Vienna
Dec. 29, 2025	Jan. 2, 2026	5 days	4250.00 $	UAE - Dubai