



To register or for more information call our office **(208) 898-9036** or email register@leapfoxlearning.com



20483 Programming in C#

Duration: Five Days

Overview: This training course teaches developers the programming skills that are required for developers to create Windows applications using the C# language.

Who Should Attend: This course is intended for experienced developers who already have programming experience in C, C++, JavaScript, Objective-C, Microsoft Visual Basic®, or Java and understand the concepts of object-oriented programming.

Outline

Lesson 1: Review of C# Syntax

- Overview of Writing Applications using C#
- Datatypes, Operators, and Expressions
- C# Programming Language Constructs
- Lab : Developing the Class Enrolment Application

Lesson 2: Creating Methods, Handling Exceptions, and Monitoring Applications

- Creating and Invoking Methods
- Creating Overloaded Methods and Using Optional and Output Parameters
- Handling Exceptions
- Monitoring Applications
- Lab : Extending the Class Enrolment Application Functionality

Lesson 3: Developing the Code for a Graphical Application

- Implementing Structs and Enums
- Organizing Data into Collections
- Handling Events
- Lab : Writing the Code for the Grades Prototype Application

Lesson 4: Creating Classes and Implementing Type-safe Collections

- Creating Classes
- Defining and Implementing Interfaces
- Implementing Type-safe Collections
- Lab : Adding Data Validation and Type-safety to the Grades Application

Lesson 5: Creating a Class Hierarchy by Using Inheritance

- Creating Class Hierarchies
- Extending .NET Framework Classes
- Creating Generic Types
- Lab : Refactoring Common Functionality into the User Class

Lesson 6: Reading and Writing Local Data

- Reading and Writing Files
- Serializing and Deserializing Data
- Performing I/O Using Streams
- Lab : Generating the Grades Report

Lesson 7: Accessing a Database

- Creating and Using Entity Data Models

Querying Data by Using LINQ
Updating Data by Using LINQ
Lab : Retrieving and Modifying Grade Data

Lesson 8: Accessing Remote Data

Accessing Data Across the Web
Accessing Data in the Cloud
Lab : Retrieving and Modifying Grade Data in the Cloud

Lesson 9: Designing the User Interface for a Graphical Application

Using XAML to Design a User Interface
Binding Controls to Data
Styling a User Interface
Lab : Customizing Student Photographs and Styling the Application

Lesson 10: Improving Application Performance and Responsiveness

Implementing Multitasking by using Tasks and Lambda Expressions
Performing Operations Asynchronously
Synchronizing Concurrent Access to Data
Lab : Improving the Responsiveness and Performance of the Application

Lesson 11: Integrating with Unmanaged Code

Creating and Using Dynamic Objects
Managing the Lifetime of Objects and Controlling Unmanaged Resources
Lab : Upgrading the Grades Report

Lesson 12: Creating Reusable Types and Assemblies

Examining Object Metadata
Creating and Using Custom Attributes
Generating Managed Code
Versioning, Signing and Deploying Assemblies
Lab : Specifying the Data to Include in the Grades Report

Lesson 13: Encrypting and Decrypting Data

Implementing Symmetric Encryption
Implementing Asymmetric Encryption
Lab : Encrypting and Decrypting Grades Reports

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