Training: Microsoft
MS-55339 Programming in C#

Microsoft Partner

TRAINING GOALS:

This training course teaches developers the programming skills that are required for developers to create Windows applications using the C# language. During their five days in the classroom students review the basics of 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 6.0. The course aims to follow the spirit of the Microsoft Official Curriculum course 20483, while bringing it completely up-to-date with the latest features of Visual Studio 2022, and the cross-platform capabilities of .NET 6.0.

Audience profile:

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. This course is not designed for students who are new to programming; it is targeted at professional developers with at least one month of experience programming in an object-oriented environment. Those new to programming should consider course 55337AC - Introduction to Programming. The 55337AC course uses C# as the language to facilitate an introduction to programming generally, whereas this course focuses on the C# language itself, making it an excellent follow-on course. If you want to learn to take full advantage of the C# language, then this is the course for you.

At Course Completion:

- Explain how to use Visual Studio 2022 to create and run a Web application.
- Describe the new features of HTML5, and create and style HTML5 pages.
- Add interactivity to an HTML5 page by using JavaScript.
- Create HTML5 forms by using different input types, and validate user input by using HTML5 attributes and JavaScript code.
- Send and receive data to and from a remote data source by using XMLHTTP Request objects and Fetch API.
- Style HTML5 pages by using CSS.
- Create well-structured and easily-maintainable JavaScript code.
- Write modern JavaScript code and use babel to make it compatible to all browsers.
- Use common HTML5 APIs in interactive Web applications.
- Create Web applications that support offline operations.
- Create HTML5 Web pages that can adapt to different devices and form factors.

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- Add advanced graphics to an HTML5 page by using Canvas elements, and by using and Scalable Vector Graphics.
- Enhance the user experience by adding animations to an HTML5 page.
- Use Web Sockets to send and receive data between a Web application and a server.
- Improve the responsiveness of a Web application that performs long-running operations by using Web Worker processes.
- Use WebPack to package web applications for production.

CONSPECT:

- Module 1: C# Syntax
  - Writing Applications in C# and .NET
  - Types of Data and Expressions
  - C# Language Constructs
  - Lab 1: C# Syntax
- Module 2: C# Language Concepts
  - Methods
  - Method Overloading
  - Exception Handling
  - Monitoring
  - Lab 1: C# Language Concepts
- Module 3: C# Structures, Collections and Events
  - Structs
  - Enums
  - Built-in Collections
  - Events
  - Lab 1: C# Structures, Collections and Events
- Module 4: C# Classes
  - Creating Classes
  - Interfaces
  - Understanding Generics in C#
  - Lab 1: C# Classes
- Module 5: C# Inheritance
  - Hierarchies of Classes
  - Polymorphism
  - Extending Classes
  - Lab 1: C# Inheritance

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- Module 6: Input and Output
  - File I/O
  - Serialization and Deserialization
  - Streams
  - Lab 1: Input and Output
- Module 7: Database Access
  - Entity Framework
  - LINQ
  - Lab 1: Database Access
- Module 8: Using the Network
  - Web Services
  - REST and OData
  - NET Core MVC
  - Lab 1: Using the Network
- Module 9: Graphical User Interfaces
  - Using UI Frameworks
  - Data binding
  - Styling the UI
  - Lab 1: Graphical User Interfaces
- Module 10: Application Performance
  - Multitasking
  - Asynchronous Calls
  - Dealing with Conflicts
  - Lab 1: Installing and Configuring Windows 7
- Module 11: C# Interop
  - Dynamic Objects
  - Managing Resources
  - Lab 1: C# Interop
- Module 12: Designing for Reuse
  - Metadata
  - Attributes
  - Generating Code
  - Assemblies
  - Lab 1: Designing for Reuse

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REQUIREMENTS:

- The 55337AC course uses C# as the language to facilitate an introduction to programming.
- Course 55339AC focuses on the C# language itself, making it an excellent follow-on course.

Difficulty level



CERTIFICATE:

Certificate of completing an authorized Microsoft training

TRAINER:

Microsoft Certified Trainer

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