

KOENIG SOLUTIONS · COURSE OUTLINE

Introduction to .NET Programming

Learn to build object-oriented applications with C# or VB, ASP.NET web forms, and SQL Server databases using Entity Framework.

5

MODULES

48

TOPICS

COURSE OVERVIEW

This course introduces procedural and object-oriented programming principles using C# or VB syntax within Visual Studio, covering classes, data types, and control-of-execution statements. It then moves into building ASP.NET websites with Master Pages, controls, themes, and Web Forms that handle user input and events. The course also covers creating and querying a SQL Server database and accessing it through Entity Framework. It closes with further object-oriented concepts such as encapsulation, inheritance, constructors, and error handling with Try...Catch...Finally.

WHO THIS COURSE IS FOR

Software Developers

Web Developers

Application Programmers

Database Developers

Programming Students

LEARNING OBJECTIVES

- Explain procedural and object-oriented programming principles
- Apply fundamental C# or VB syntax and semantics
- Implement classes with fields, methods, and properties
- Control program execution using loops and conditional statements
- Construct ASP.NET websites with Master Pages and controls
- Process Web Forms using events and session variables
- Access SQL Server databases with Entity Framework
- Handle errors using Try...Catch...Finally exception handling

5 Modules, 48 Topics

01

.NET Programming Fundamentals

PRINCIPLES OF PROGRAMMING

- Writing a procedural program
- Transitioning to the object-oriented philosophy
- Coding using fundamental C# or VB syntax and semantics
- Reviewing, compiling, and executing a program in Visual Studio

USING VISUAL STUDIO

- Creating projects and solutions
- Editing and compiling a program
- Running a console application

02

VB and C# Language Syntax

CODING OBJECT-ORIENTED APPLICATIONS

- Dividing code into classes
- Adding fields, methods, and properties
- Defining code layout and limiting scope
- Instantiating objects

WORKING WITH DATA TYPES AND CONVERSIONS

- Strings
- Dates and time
- Integers
- Real numbers
- Booleans
- Performing calculations with mathematical operators
- Converting between data types

CONTROLLING PROGRAM EXECUTION

- IF statements
- Writing complex criteria expressions
- CASE (switch) statements
- For...Next loops
- Do While...loops

03

Programming Web Applications with ASP.NET

CONSTRUCTING ASP.NET WEBSITES WITH VISUAL STUDIO

Writing HTML pages and forms · Maintaining consistency with Master Pages · Designing pages with ASP.NET controls · Styling sites with ASP.NET themes

PROCESSING ASP.NET WEB FORMS

Displaying data and gathering user input · Activating Web Forms with events · Maintaining variables with sessions · Styling using CSS (Cascading Style Sheets)

04

Accessing Relational Databases

RELATIONAL DATABASE CONCEPTS

- Employing databases for fast, efficient storage
- Selecting, inserting, updating, and deleting query syntax

CREATING A SQL SERVER DATABASE

- Adding tables, fields, and indexes
- Defining primary and foreign key relationships

ACCESSING THE DATABASE WITH ENTITY FRAMEWORK

- Connecting to the database
- Storing user information
- Retrieving existing records
- Updating and saving user information
- Adding and deleting records

05

More Object-Oriented Programming

OBJECT-ORIENTED PROGRAM LAYOUT

- Encapsulating data
- Ensuring proper object creation using constructors
- Extending classes using inheritance
- Overriding using virtual functions

CODE QUALITY AND ERROR HANDLING

- Ensuring type safety with enums
- Throwing and handling exceptions
- Try...Catch...Finally error handling
- Commenting code

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

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✉ info@koenig-solutions.com