

KOENIG SOLUTIONS · COURSE OUTLINE

Design Patterns in .NET for End User

Learn to apply object-oriented design principles and creational, structural and behavioural patterns in .NET.

4

MODULES

26

TOPICS

COURSE OVERVIEW

This course covers object-oriented design thinking, including composition, aggregation, inheritance, encapsulation, interface-versus-implementation and dependency inversion, alongside the classification of design patterns into creational, structural and behavioural categories. It then examines creational patterns such as Abstract Factory, Builder, Factory and Singleton through hands-on exercises. Structural patterns are covered next, including Adapter, Composite, Decorator, Delegation, Façade, Flyweight, Interface and Proxy, along with design for testability. Finally, it addresses behavioural patterns such as Chain of Responsibility, Iterator, Mediator, Memento, Observer, State, Template Method and Visitor.

WHO THIS COURSE IS FOR

.NET Developers

Software Engineers

Application Architects

Software Designers

LEARNING OBJECTIVES

- Explain core object-oriented concepts such as composition and encapsulation
- Compare interface and implementation in design scenarios
- Apply dependency inversion in a design exercise
- Classify design patterns into creational, structural and behavioural types
- Implement creational patterns such as Factory, Builder and Singleton
- Implement structural patterns such as Adapter, Composite and Decorator
- Design for testability using structural patterns
- Implement behavioural patterns such as Observer, State and Visitor

4 Modules, 26 Topics

01

Introduction to OO Design Thinking

TOPICS

- Design Patterns makes use of OOPs concepts - Composition, Aggregation, Inheritance, Encapsulation
- Design Exercise
- Interface-vs-Implementation
- Design Exercise for “uses” scenario, Dependency Inversion
- Patterns Classification - Creational, Structural, Behavioural

02

Creational Pattern with Hands-on Exercise

TOPICS

Abstract Factory · Builder · Factory · Singleton

03

Structural Pattern with Hands-on Exercise

TOPICS

- | | |
|--------------------------|-------------|
| ■ Adapter | ■ Façade |
| ■ Composite | ■ Flyweight |
| ■ Decorator | ■ Interface |
| ■ Delegation | ■ Proxy |
| ■ Design for Testability | |

04

Behavioural Pattern with Hands-on Exercise

TOPICS

Chain of Responsibility · Iterator · Mediator · Memento · Observer · State · Template Method · Visitor

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

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