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Object-Oriented Design Patterns

Course #: OO-100 **Duration:** 2 days

Prerequisites

Knowledge of and programming experience with an object-oriented programming language.

Details

This course provides software developers with skills to create high quality, object-oriented designs exhibiting improved flexibility, reduced maintenance costs, and increased understanding of the resulting code. Participants learn by examining and discussing the 23 patterns made famous by the "Gang of Four" book. Although this course is theoretical, examples and code snippets are provided to illustrate the patterns and the rationale for using that pattern.

This course is designed for software developers looking to improve their design choices in creating object-oriented applications.

Improve software architecture
Build design pattern vocabulary
Discuss trade-offs in applying various design patterns
Gain concepts and tools for writing better object-oriented code
Gain concepts for better documenting object-oriented code
Review relevant UML notation

Software Needed

None

Outline

Object-Oriented Design Patterns

- **Overview**
  - What are Design Patterns?
  - Principles of Patterns
  - Categorization of Patterns
  - UML Review
- **Object Creation Patterns**
  - Factory Method
  - Abstract Factory
  - Builder
  - Prototype
  - Singleton
- **Structural Patterns**
  - Adapter

    - Decorator
    - Proxy
    - Facade
    - Composite
    - Flyweight
    - Bridge

- **Behavioral Patterns**
    - Chain of Responsibility
    - Strategy
    - Iterator
    - Template Method
    - Mediator
    - Observer
    - Memento
    - Command
    - State
    - Visitor
    - Interpreter