

This course introduces the participants to the Java Design Principles and patterns.

Audience

- This course is designed for developers, designers and architects.

Prerequisites

- A basic knowledge of Object-Oriented Programming and Java is needed.

Course Length

- Two Days

Learning Objectives

- Solve common design problems using existing solutions
- Use patterns at various stages of Software Development Life Cycle (SDLC)
- Understand the constituents of a patterns

Teaching Methods

- Lectures
- Hands-on workshops

Course Outline

WTJ9

Introduction to Patterns

- Importance of Patterns
- Origin
- Design Patterns Diagrams/UML
- When to apply Patterns

Overview of Object-Oriented Concepts and Responsibilities

- Encapsulation
- Inheritance
- Polymorphism
- Abstraction
- Cohesion
- Coupling

Design Principles

- Open Closed Principle
- Interface Segregation
- Dependency Inversion
- Favoring Composition
- Common Closure

Creational Patterns

- Singleton
- Factory Method
- Abstract Factory

Behavioral Patterns

- Template Method
- Strategy
- Iterator
- Observer
- Command
- Visitor
- Memento

Structural Patterns

- Adapter
- Façade
- Composite
- Decorator
- Proxy
- Flyweight
- Bridge