JAVA DESIGN PATTERNS (4 Days)

By Dr. Vishwanath Rao

Pre-requisites

- Good knowledge of Java (above JDK1.8).
- Knowledge on JavaScript is an added advantage.

Lab Requirement

- Windows 10 / Linux / Mac with 8 GB RAM
- STS bundle 4.6 or equivalent editor
- JDK 1.8 and above to be installed.

COURSE CONTENTS

Day 1

1. Start

Introduction
Types of Design Patterns
Describe how OO concepts apply to Jav
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Describe how OO principles apply to Java
List the goals of an OO language
Interpret Unified Modeling Language (UML) notation and create UML
Reviewing Gang of Four Patterns
List key behavioral, creational and structural patterns

Problem statement why we required design patterns in initial coding
Implementing basic core Design pattern
Constructor Pattern
Inheritance Pattern
Interface Pattern
Immutable Pattern

Prototypes

NOTE : Each design pattern comes with problem statement before applying respected pattern)

2. Creational Patterns
- Builder Pattern
- Singleton Pattern
- Prototype Pattern

Day 2

- Factory Method Pattern
- Abstract Factory Pattern

3. Structural Patterns
- Adapter Pattern
- Bridge Pattern
- Composite Pattern
- Decorator Pattern
- Facade Pattern

Day 3

- Flyweight
- Proxy Pattern

4. Behavioral Patterns
- Chain of Responsibility Pattern
- Observer Pattern
- Interpreter Pattern
- Command Pattern
- Iterator Pattern

Day 4

- Mediator Pattern
- Memento Pattern
- State Pattern
- Template Method
- Strategy Pattern
- Visitor Pattern

Coding Best Practices
Choosing right pattern at different situation
Case study discussion