JAVA AND JEE DESIGN PATTERNS (5 Days)

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Day 1

1. Start

Introduction

Types of Design Patterns

Describe how OO concepts apply to Jav

- Describe how OO principles apply to Java
- List the goals of an OO language
- Interpret Unified Modeling Language (UML) notation and create UML diagrams
- Identify selected design patterns

Reviewing Gang of Four Patterns

List key behavioral, creational and structural patterns

2. Creational Patterns

- Builder Pattern
- Singleton Pattern
- Prototype Pattern
- Factory Method Pattern
- Abstract Factory Pattern

Day 2

3. Structural Patterns

- Adapter Pattern
- Bridge Pattern

- Composite Pattern
- Decorator Pattern
- Facade Pattern
- Flyweight
- Proxy Pattern

Day 3

4. Behavioral Patterns

- Chain of Responsibility Pattern
- Observer Pattern
- Interpreter Pattern
- Command Pattern
- Iterator Pattern
- Mediator Pattern
- Memento Pattern
- State Pattern
- Template Method
- Strategy Pattern
- Visitor Pattern

Day 4

5. Implementing Integration Patterns
- Describe design patterns for the integration tier
- Review Java EE integration changes that apply design patterns
- Identify use cases for applying integration tier patterns

6. Implementing Patterns in Business Components
- Describe the role of an enterprise bean
- Describe design patterns for the business tier

7. Implementing Infrastructural Patterns in Java EE
- Describe the role of infrastructural Java EE patterns
- Describe the Service Starter pattern
- Describe the Singleton pattern
- Describe the Bean Locator pattern

- Describe the Resource Binder pattern

Day 5

8. Implementing More Infrastructure Patterns
- Describe how Java EE interceptors work
- Describe the Dependency Injection Extender pattern
- Describe the Payload Extractor pattern
- Describe the Context Holder pattern
- Describe the Thread Tracker pattern

9. Exploring Anti-Patterns
- Describe the Law of Leaky Abstractions
- Define AntiPatterns
- Describe Integration Tier AntiPatterns
- Describe Business Tier AntiPatterns
- Describe Presentation Tier AntiPatterns

10. Selecting Patterns for Architecture
- Define the roles of architect, designer, and developer
- Describe the relationship between design patterns and architecture
- List guidelines for applying patterns to an architectural solution