Best Practices in Java

Duration: 1 day

Format:

Live coding examples, discussion, and lecture. Some practical exercises will be included time permitting.

What's Covered?

- Best practices in object creation
- Working with dynamic Java
- Java's exception mechanism
- Managing object reclamation
- Techniques for protecting data.

Prerequisites:

Solid, practical, programming skills in Java.

Outline:

Creating Objects

- Constructors
- Static factory and singleton
- String.intern(), the flyweight pattern, and enum types
- The builder pattern
- Dependency injection

Dynamic Java

- Creating an annotation
- Targeting annotations
- Annotations with fields
- Finding annotations with reflection
- Accessing fields through reflection
- Invoking methods through reflection

Java's Exception Mechanism

- Reviewing try, catch

- Design goals of checked exceptions
- Using finally to release resources
- try-with-resources
- multi-catch
- Designing for effective use of exceptions

Object Death

- When memory is reclaimed
- Cost models of garbage collection
- Finalization consequences
- References API

Protecting Data

- Immutability
  - Relationship with concurrency
- Immutable proxies
- Defensive copies
- Using the SecurityManager