

## **JUnit Course Content:35-40hours**

### Course Outline

#### **On Testing**

- Why testing?
- Test, Test, and Test Some More
- Overview of JUnit's role in testing (automated, unit, isolated, etc.)

#### **Introducing JUnit**

- JUnit 101
- JUnit 3 vs. JUnit 4 vs. TestNG
- Getting started
- Using JUnit within Eclipse
- Test methods: testMethod or @Test method
- Assertions in TestCase
- Testing for exceptions
- Testing isolations
- Creating and organizing test fixtures with setUp/tearDown and @Before/@After
- Composing Test Cases into Test Suites
- Combining Test Suites
- Organizing Tests and Test Suites
- Executing Tests
- Showing Test Results
- Integration with Ant
- Reporting (XML and HTML)

#### **Why JUnit?**

- Testing with JUnit – Advantages

- Testing with JUnit – Disadvantages
- Exercise – Testing Simple Data Structures

### JUnit Extensions

- Overview of JUnit Extensions: dbUnit, sqlUnit, httpUnit, htmlUnit, EasyMock, xmlUnit, etc.
- Testing with Stubs
- Testing with Mocks using EasyMock

### Test-Driven Development

- Best Practices with JUnit and TDD
- Designing Java code with testing in mind
- Integration and functional testing with JUnit
- Exercise – Testing Complex Data Structures