

# Java Frameworks

From Yes-M Systems LLC

Length: Approx 3 weeks/30 hours

Audience: Students with experience in Java EE programming

Student Location – To students from around the world

**Delivery Method:** Instructor-Led – Live online Training



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## A. Course Summary

#### **About this Course:**

This 30+ hour/3 week course is designed to give students a solid knowledge in the architecture and concepts of Java frameworks such as Struts 2, Hibernate and Spring for developing enterprise grade Java business applications. Each concept will be discussed using interactive class notes along with relevant examples/applications. This course is taught by experienced instructors with 10+ years of development and training experience.

This course will allow the students to understand various Java Frameworks including:

- Struts 2 framework, Hibernate & Spring for building Java EE applications (i)
- Building Data Driven applications with Struts2, Hibernate & Spring (ii)
- Struts 2Integaration with Hibernate (iii)
- (iv) Spring Integration with Hibernate
- (v) Learn how to use IDE for Java EE application development
- (vi) Use Eclipse Indigo 3.7.1 for Java EE Developers
- Exposure to lots and lots of working examples/applications (vii)
- (viii) Learn how to build and deploy Java Enterprise Applications through handson work

#### AT COURSE COMPLETION

You would be able to develop data driven, distributed, multi tiered Java enterprise business application using using Object Component Technologies and popular framework technologies.

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### **B.** Contact us for more details:

Company name: Yes-M Systems

Website: <a href="http://myyesm.com">http://myyesm.com</a>,

Phone numbers (USA): 678-643-7777, 678-248-0302

Phone number (India): 91-8220006968

Kudzu Reviews: http://www.kudzu.com/m/Yes-M-Systems-

30363491/reviews/

Facebook: http://www.facebook.com/yesmsystems

Youtube: <a href="http://www.youtube.com/yesmsystems">http://www.youtube.com/yesmsystems</a>



### C. Java Frameworks Course Details

#### **Struts 2 Training**

#### 1. NTRODUCTION TO STRUTS 2 FRAMEWORK

- 1.1 Struts 2 Overview
- 1.2 Why use Struts framework for web applications
- 1.3 Struts 2 declarative architecture and Implementation of MVC
- 1.4 Processing Request
- 1.5 Model Action
- 1.6 View Result
- 1.7 Interceptors
- 1.8 Exception Handling
- 1.9 The ValueStack and ONGL

#### 2. WORKING WITH STRUTS 2 APPLICATION

- 2.1 Struts 2 Configurations
- 2.2 Introducing Struts 2 Actions, Struts 2 Results
- 2.3 Packaging your actions
- 2.4 Implementing actions
- 2.5 Transferring data onto objects

#### 3. OGNL

- 3.1 What is OGNL?
- 3.2 OGNL in Struts and Where OGNL is Used
- 3.3 The common tasks in a web application
- 3.4 Data transfer and type conversion
- 3.5 Built-in type converters
- 3.6 Customizing type conversion

#### 4. ADDING WORKFLOW WITH INTERCEPTORS

- 4.1 Why intercept requests?
- 4.2 Interceptors in action
- 4.3 Surveying the built-in Struts 2 interceptors
- 4.4 Declaring interceptors
- 4.5 Building your own interceptor

#### 5. STRUTS 2 VALIDATION FRAMEWORK

- 5.1 Getting familiar with the validation framework
- 5.2 Wiring your actions for validation
- 5.3 Validation framework advanced topics

#### 6. STRUST 2 TAGS

- 6.1 An overview of Struts tags
- 6.2 Types of Tags

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- 6.3 Data Tags
- 6.4 Control tags
- 6.5 Why we need UI component tags

#### 7. STRUST 2 INTEGRATION & PERSISTENCE LAYER

- 7.1 Overview of JDBC
- 7.2 Connecting to the DataBase
- 7.3 Submitting the SQL statements
- 7.4 Retrieving and processing data
- 7.5 DB Action Class
- 7.6 Data Access Object
- 7.7 Integrating Struts2 with Hibernate
- 7.8 Internationalization
- 7.9 Java i18n and Struts2 framework
- 7.10 How to use Struts2 i18n
- 7.11 The default local determination

#### **Hibernate Training**

- 1. Hibernate Architecture Overview
  - 1.1 Introduction to Hibernate
  - 1.2 ORM Overview
  - 1.3 Hibernate Architecture and API
  - 1.4 Hibernate Environment/Setup
  - 1.5 Hibernate Configuration
    - 1.5.1 hibernate.cfg.xml file
    - 1.5.3 SessionFactory, Configuration class, Session Interface
    - 1.5.4 Mapping Files
- 2. Hibernate Annotations
  - 2.1 Hibernate with Annotations
- 3. Querying
  - 3.1 HQL Hibernate Query Language Overview
  - 3.2 HQL Basics, HQL Expressions, HQL Functions
  - 3.3 Using queries: HQL, criteria API, native (SQL)
- 4. Association Mappings
  - 4.1. Unidirectional associations with join tables
    - 4.1.1. One-to-many
    - 4.1.2 Many-to-one
    - 4.1.3 One-to-one
    - 4.1.4. Many-to-many



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- 4.2 Bidirectional associations with join tables
  - 4.2.1 one-to-many / many-to-one
  - 4.2.2. one to one
  - 4.2.3. Many-to-many
- 4.3 Collection Mapping

#### **Spring Training**

- 1. Spring Framework Introduction
  - 1.1 What is Spring & Why use Spring?
  - 1.2 Concepts of Spring & its Architecture
  - 1.3 Introduction to Spring modules
  - 1.4 Spring Environment Setup
- 2. Getting Started with Spring
  - 2.1 Spring Bean Definition
  - 2.2 Lifecycle of Bean
  - 2.3 Bean Scopes
  - 2.4 Inner Bean, Collection Bean, Bean Reference
  - 2.5 Bean Definition Inheritance
  - 2.6 Dependency Injection (DI)& Inversion of Control (IoC)
- 3. Spring IoC Dependencies Injection
  - 3.1 Dependency Injection in Spring
    - 3.1.1 Spring Setter Injection
    - 3.1.2 Spring Constructor Injection
  - 3.2 Spring Auto Wiring
    - 3.2.1 Autowiring By Type
    - 3.2.2 Autowiring By Name
    - 3.2.3 Autowiring By Constructor
    - 3.2.4 Autowiring By AutoDetect
- 4. Spring AOP
  - 4.1 Aspect Oriented Programming Overview
  - 4.2 The Real Problem and Solutions through AOP
  - 4.3 Spring AOP Terminology
  - 4.4 AOP Advice Types
    - 4.4.1 Creating Advices in Spring
- 5. Spring Annotation Tutorial



- 6. Spring 3 Web MVC
  - 6.1 Introduction to Spring 3.0 MVC framework & Configuration
  - **6.2 Spring Annotation Based Controllers**
  - 6.3 Creating an Application in Spring 3.0 MVC
  - 6.4 Handling Forms in Spring 3.0 MVC
  - 6.5 Spring Validation Framework
  - 6.6 Spring Interceptors
- 7. Accessing Relational Data using JDBC with Spring Spring JdbcTemplate
  - 7.1 Spring JDBC Complete Introduction & Advantages
  - 7.2 Centralized Classes of Spring JDBC
  - 7.3 Using Spring JDBC Template
  - 7.4 Spring JdbcTemplate Select Query
  - 7.5 About execute() Method Of Spring JdbcTemplate Class
  - 7.6 About update() Method Of Spring JdbcTemplate Class
  - 7.7 Spring MVC JDBC Example
- 8. Spring with ORM
  - 8.1 Integrating Spring with Hibernate

Disclaimer: Yes-M Systems and/or their instructors reserve the right to make any changes to the syllabus as deemed necessary to best fulfil the course objectives. Students registered for this course will be made aware of any changes in a timely fashion using reasonable means.

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## D. About Yes-M Systems:

- a. Established in 2005 (Atlanta, GA, USA), 10<sup>th</sup> year in business.
- b. A+ accreditation from US Better Business Bureau (<a href="http://www.bbb.org/atlanta/business-reviews/internet-consultants/yes-m-systems-in-duluth-ga-27431372">http://www.bbb.org/atlanta/business-reviews/internet-consultants/yes-m-systems-in-duluth-ga-27431372</a>)
- c. Received the "Best of 2012" and "Best of 2013" awards from US-based Kudzu (<a href="http://www.kudzu.com/m/Yes-M-Systems-30363491/reviews/">http://www.kudzu.com/m/Yes-M-Systems-30363491/reviews/</a>)
- d. Trained close to 3000+ students from all over the world.
- e. Experienced, passionate and committed trainers
- f. IT Training in various technologies including Java, Dot Net, SAP, Oracle, QA, BA etc (See Courses We offer section for more information)
- g. Professional guidance/help with resumes and interview preparations.
- h. Recruiter help with marketing/jobs
- i. Certification at the end of the training.

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#### E. Courses we offer:

### A. QA and BA courses:

- QA [Quality Assurance or QA Testing]
- BA [Business Analysis or Business Analyst]
- QA and BA as a single course (Integrated QA+BA) at a reduced fee.
- Advanced/specialization courses:
  - a. 60-hour Selenium course with Core Java
  - b. ETL Testing
  - c. Advanced Mobile Testing
  - d. Advanced QTP
  - e. Any combination of a, b, c, d.

### Certification QA

- a. QTP
- b. ISTQB
- c. Quality Center
- Healthcare and Finance specialization
  - a. Healthcare as a Domain Class
  - b. Healthcare BA [Business Analyst with specialization in Healthcare]
  - c. Healthcare QA [Business Analyst with specialization in Healthcare]
  - d. Healthcare QA [Quality Assurance or QA Testing]
  - e. Business analyst with Finance specialization.
  - f. Quality Assurance with Finance specialization



#### B. Java courses:

- a. Core Java
- b. Advanced Java
- C. Combination of Core Java and Advanced Java
- Healthcare and Finance specialization
  - a. Healthcare as a Domain Class
  - g. Healthcare BA [Business Analyst with specialization in Healthcare]
  - h. Healthcare QA [Business Analyst with specialization in Healthcare]
  - i. Healthcare QA [Quality Assurance or QA Testing]
  - j. Business analyst with Finance specialization.
  - k. Quality Assurance with Finance specialization

#### D. Microsoft Courses:

- a. Dot Net
- b. Microsoft Business Intelligence [MS BI]
- c. Sharepoint
- d. MS SQL Server

### E. SAP Courses:

- a. SAP FICO
- b. SAP MM
- c. SAP HR
- d. SAP BO
- e. SAP BI
- f. SAP HANA

#### F. Oracle Courses:



- a. Oracle Financial
- b. Oracle DBA
- c. PL/SQL

### G. Other Courses:

- a. Hadoop
- b. Hadoop with Java
- c. Salesforce
- d. Project Management (PMP)
- e. Maximo
- f. Tabeau
- g. Informatica
- h. Cognos



F. JAVA Instructor Profiles:

■ Instructor (Selvaraj): Bachelor of Engineering

■ IT Experience: 10+ years of experience in variety of areas that includes Training, Development.

■ Worked as Developer and Trainer in PHP, Java SE & Java EE platforms