

Java Framework

Course Highlights :

Struts Framework (version 2.x)

1. Basics of MVC

- What is MVC?
- MVC Type1 and Type2 architecture
- Why Struts framework?
- Struts 1 overview
- Struts 1 and Struts 2 comparison

2. Struts 2 Architecture

- Architecture Diagram explanation of following components:
- Components of Model, Views and Controller in Struts Framework
- Interceptors
- Model/Action classes
- Value Stack
- OGNL
- Introduction to configurations; framework and application architecture
- Declarative and Annotations configuration approaches

3. Struts 2 set up and first Action class

- Download JAR files
- Struts 2 project build up and Configuration files
- To build Action class
- To intercept an HTTP request via Struts2 framework using Action class
- Defining data and business logic in Action class

- Preparing and Forwarding control to Views

4. Struts 2 Interceptors

- What are Interceptors
- Responsibilities of an Interceptor
- Mechanism of Interceptor calling in Struts 2
- Defining Interceptors
- Defining Interceptor stacks
- Defining Custom Interceptors

5. Struts 2 Tag Library

- Introduction to tag library of Struts 2 and it's usage

6. Struts 2 Validations

- Validations using Validateable interface
- Workflow interceptor mechanism for validations
- Validations using Validateable interface
- Validation Framework introduction and architecture
- Validating user input with above two mechanisms

7. Struts 2 Tiles Frameworks

- Introduction to Tiles in a page
- Struts2 Tiles framework introduction
- Defining tiles.xml file
- Configuring pages for tiles
- A complete Tiles example with Struts2

Hibernate Framework (version 3.x)

1. Introduction

- What is ORM principle?
- Why ORM?

- ORM implementations

2. Hibernate Architecture

- Introduction to Hibernate
- Hibernate Architecture
- What are Persistent classes?

3. Hibernate CRUD

- Setting up Hibernate project
- Configuring all JARs and XML files
- Setting up connection to DB using Hibernate
- Performing basic CRUD operations using Hibernate API
- Object Identity; Generator type classes
- Using SQL with Hibernate
- Using HQL
- Using Criteria queries

4. Mapping Collections and Associations

- To define sets, mas, lists in Hibernate
- Association Mappings:
 1. One to one
 2. One to many
 3. Many to one
 4. Many to many
- Hibernate Caching
- What is caching?
- What are the types of caching in Hibernate?
- Explanation of various caching mechanisms in Hibernate

5. Using Hibernate Annotations

- Sample example of using Hibernate Annotations

Spring Framework (version 3.x)

1. Introduction to spring

- What is Spring?
- Spring Architecture explanation and all it's components

2. Introduction to all modules of Spring

- Spring Bean Factory
- Spring Application Context
- Spring DI
- Spring Integration; Spring messaging, Spring JMS
- Spring MVC
- Spring DAO

3. Setting up spring

- Setting up of Spring framework
- Download JARs
- Configure XML files

4. Dependency Injection

- What is Dependency Injection?
- How is it implemented using Spring Framework?
- Bean Wiring mechanisms in Spring

5. Spring AOP

- What is Spring AOP?
- Implementation of Spring AOP

Spring Boot Framework (Version 2.x)

1. Introduction

- Spring Boot Introduction
- Spring Boot Version
- Spring vs Spring Boot vs Spring MVC
- Spring Boot Architecture

2. Creating Project

- Spring Initializr
- Download & Install STS IDE
- Spring Boot Example
- Spring Boot CLI
- Spring Boot Example-STs

3. Project Components

- Annotations
- Dependency Management
- Application Properties
- Starters
- Starter Parent
- Starter Web
- Starter Data JPA
- Starter Actuator
- Starter Test
- Devtools
- Multi Module Project
- Packaging
- Auto-Configuration

4. Tool Suite

- Hello World Example
- Project Deployment Using Tomcat

5. Spring Boot AOP

- What is AOP?
- AOP Before Advice
- AOP After Advice
- AOP Around Advice
- After Returning Advice
- After Throwing Advice

6. Spring Boot Database

- JPA
- JDBC
- H2 Database
- Crud Operations

7. Spring Boot View

- Thymeleaf View

8. Spring Boot Caching

- What is Caching?
- Cache Provider
- EhCaching

9. Spring Boot Misc

- Run Spring Boot Application
- Changing Port
- Spring Boot Rest Example

Web Services: REST and SOAP

- Logging Framework: Splunk, Log4J, SLF4j

Project Work

Exit Profile : Java Developer

Certificate & Placement assistance will be provided after completion of the course & clearing exams.

Course Objective :

This Instructor-led live online training or classroom training is based on advanced features of Java Framework. This Java training will enable you to become an expert in real world web applications with Spring, Hibernate and Struts.