**Advanced JAVA**

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# Program Name

Advanced Java

# Program Summary

New age web development has blurred lines between front-end, back-end and data-base areas. As a Full stack web developer you need to develop a complete web application by taking end-to-end responsibility of all areas, thereby becoming ‘Full stack Developer’.

Java still remains #1 sought after programming language among developers, irrespective of many new languages came into existence. This web development course from WSA institute will give you an immersive learning experience by having Java as the backend programming language

# Duration

24 HRS (3days)

# Prerequisite

The participants of this program is expected to know the basics of JAVA like basic java, j2EE etc

# Target Audience

Software engineers, Systems analysts, ETL professionals and user support personnel who wish to learn the JAVA programming language.

# Terminal Objectives – what will the learner be able to ‘do’ at the end of the program?

The learning objectives are:

1. Understand ORM like Hibernate
2. Understand the Java EE web components
3. Understand IOC in Spring framework
4. Integrate ORM with Spring
5. Develop a Spring MVC application
6. Develop a RESTful service using Spring framework
7. Understand the MVVM architecture
8. Using Angularjs to build a web client for a RESTful service

# Day wise content outline

* **Understand ORM like Hibernate**
  + Introduction to ORM
  + Hibernate architecture
  + Setting up a basic Hibernate application
  + Developing entity classes for the case study
  + Writing HQL
* **Understand the Java EE web components**
  + Introduction to JEE
  + Servlet architecture
  + Java ServerPages
  + Lifecycle of a JSP
* **Understand IOC in Spring framework**
  + Introduction to Spring framework
  + Inversion of control and dependency injection
  + Property and constructor injection
  + Using annotations for Spring configuration
  + Aspect oriented programming
* **Integrate ORM with Spring**
  + Spring data access
  + Spring HibernateTemplate
  + Spring Transactions
  + Building DAO layer for the case study
* **Develop a Spring MVC application**
  + Model View Controller
  + Setting up a Spring MVC application
  + Various components involved
  + Building the Web layer of the case study
* **Develop a RESTful service using Spring framework**
  + Understanding REST
  + Using a REST client to test REST services
  + Using Spring MVC to develop a RESTful service for the case study
* **Using Angularjs to build a web client for a RESTful service**
  + MVVM architecture explained
  + Introduction to Angularjs
  + Understanding the two way binding
  + Dependency injection
  + Custom Directives, Filters and Services
  + Building an SPA for case study
* **Case Sturdy**

# Assessment approach

For technical programs, it is mandatory to have an assessment: Can be objective, case study, code based.

# Lab / Software requirements

* Hardware Requirements (Minimum) - 4 GB RAM, 500 meg disk space.
* Hardware Requirements (Recommended) – 8GB RAM, 500 meg disk space.
* Operating System - Tested on Windows 7/8, Mac OS 10.8.5.
* Software Requirements - All free downloadable tools