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Java is most widely used programming language in all domains of software development. It was designed in 1995 by James at Sun Microsystems. The training program helps the delegates to become a successful Java Developer. The course provides a comprehensive knowledge of Java Language. Our training program will be delivered by industry leading experts who will make you understand the basic and advanced Java concepts in most efficient manner. The delegates will also be introduced to the various Java frameworks like Spring and Hibernate.

During the course, the delegates will learn how to develop the code with various Java data types, implement multi-threading and exception handling, develop web applications and JSP pages and write code with spring framework components. The course enables the delegates to master core and advanced Java and Java EE concepts along with popular frameworks like SOA, Hibernate and Spring. The delegates will also learn how to communicate with Database using JDBC and implement SOA using web services. By the completion of the course, the delegates will gain expertise in the concepts like Java Function, Java Thread, Java Design Patterns, Java Array and Java Loops using industry use-cases.

Prerequisites

The Java, Java EE & SOA Certification course has no specific pre-requisites. However, basic knowledge of object-oriented programming concepts would be beneficial.

Course Objectives

- Comprehensive knowledge of Java data types and a database using hibernate framework
- Implement arrays, functions and string handling techniques
- Knowledge of best practices and industry standards
- Thorough understanding of object-oriented programming through Java
- Describe conditional statements and loops
- Understand various Java concepts like Abstract, Final and parse XML files using DOM and SAX
- Exposure to many real life industry based projects covering different domains like banking, social media, e-commerce, telecommunication and insurance

Introduction to Java

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- Introduction to Java
- Bytecode
- Class Files
- Compilation Process
- Data types, and Operations
- if conditions
- Loops – for
- while and do while

Data Handling and Functions

- Arrays - Single Dimensional and Multidimensional arrays
- Functions
- Function with Arguments
- Function Overloading
- The concept of Static Polymorphism
- String Handling - String
- StringBuffer Classes

Object Oriented Programming in Java

- OOPS in Java: Object Orientation Concepts
- Attributes and Methods
- Classes and Objects
- Methods and Constructors – Default Constructors and Constructors with Arguments
- Inheritance
- Abstract
- Final
- Static

Packages and Multi-Threading

- Packages and Interfaces
- Access Specifiers: Public, Private, Protected and Package
- Exception Handling: Try, Catch, Finally, Throw and Throws
- Multi-Threading: Runnable Interface, Extending a Thread Class, Synchronization in Threads

Java Collections

- Wrapper Classes and Inner Classes: Integer, Character, Boolean, Float etc
- Applet Programs: How to write UI programs with Applet, Java.lang, Java.io, Java.util
- Collections:
  - ArrayList
  - Vector
  - HashSet
  - TreeSet
  - HashMap
  - HashTable

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XML

- Introduction to XML
- Writing XML files
- DOM Parser – Writing into an XML file and Parsing an XML file
- SAX Parser, XSL

JDBC

- Introduction to SQL
    - Connect
    - Insert
    - Update
    - Delete
    - Select
- Introduction to JDBC
- JDBC Architecture
- Types of Drivers
- Insert/Update/Delete/Select Operations using JDBC
- Batch Processing Transaction
- Management
    - Commit

- Rollback

Servlets

- Introduction to Web Technologies
- Type of Servlets: Generic and Http Servlet
- Request Dispatchers: Forward and Include
- Session Tracking and Filters - 4 types

JSP

- Introduction to JSP
- Architecture of JSP
- tags (Scripts, declarative, expression)
- Implicit objects
- JSP Directives
- JSP and JDBC

Hibernate

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- Introduction to Hibernate
- Architecture of Hibernate
- Database Operations: Insert/Update/Delete/Select
- Inheritance
- Collections
- HQL and Restrictions
- Caching in Hibernate

Spring

- Introduction to Spring Framework
- Architecture
- Display a Sample Message
- IoC Containers
- Bean Definition
- Bean Scopes
- Bean Post Processors
- Dependency Injection Auto-Wiring

Spring, Aja and Design Patterns

- Aspect Oriented Programming
- Integrating Spring framework with Hibernate
- Transaction Management
- Ajax Framework and Design Patterns: DAO, DTO, MVC
- Intercepting filters
- Front Controller
- Business Delegate

SOA

- Introduction to SOA
- SOA Architecture
- Business layer of SOA
- Advantages of SOA
- What is Contract?
- Address, and Binding in SOA
- Composition of Service
- Relation between SOA and Web Services

Web Services

- Introduction to Web Services

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- WSDL file
- WSDL and UDDI
- SOAP, RESTfulWeb Service
- JAX-WS Implementation

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