**JAVA**

(Core + Advance)

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| **TECH VISION**  **IT TRAINING AND PLACEMENT SERVICES**  [**www.techvisionit.com**](http://www.techvisionit.com) |

**Course Duration:** 70 hours

**Sessions:** Weekdays; Weekends; Crash Course

**Course Content:**

**Introduction**

* Training overview
* Benefit of the training
* Introduction to Software Testing

**CORE JAVA**

**Fundamentals of the Java Programming Language**

* Overview of Java
* Installation
* Object-Oriented concepts
* Syntax (Data Type, Variables, Array, Casting)
* Operators (Arithmetic, bitwise, relational, logical, assignment)
* Selection Statements (If, Switch)
* Control Statement (while, do while, for)
* Conditional Statements
* Arrays

**Java Programming Language**

* What is class and Objects
* Class and Methods
* Inheritance Basics and Inheritance with packages
* Polymorphism
* Abstract class
* Packages and Interfaces
* Exception Handling
* Threads

**Java Programming Language Workshop**

* Multi-tier applications
* JDBC
* SQL Language
* JDBC and its drivers
* JDBC API: connections, statements, result sets, metadata o Using JDBC: updates, queries

**J2EE**

**JSP and HTML**

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| * Introduction to JSP |
| * JSP Tutorials - Introducing Java Server Pages Technology |
| * Introduction to the JSP tags |
| * Detail introduction to JSP Declaratives |
| * Accessing database from JSP |
| * Implement JavaScript with JSP |
| * Working with JSP Sessions |
| * Connect JSP with mysql |
| * Create a Table in Mysql database through SQL Query in JSP |
| * Create dynamic page through JSP |
| * Retrieve image from mysql database through jsp |
| * Calendar In JSP Using JavaScript |
| * Popup Window using Ajax In JSP |
| * Record user login and logout timing In JSP |

**Java Servlets**

* What are Servlets ?
* What is a web application?
* Role of a web application server.
* What does a Web server do?
* What are Servlet Containers?
* How does it Handles the HTTP Requests?
* Tomcat web server: Understanding Servlet Containers
* Architecture of servlet package
* Advantages the Servlet API

**The Servlet model**

* + Sending requests
* Web browsers and HTTP methods.
* Comparing HTTP methods.
  + Servlet life cycle
* Loading and instantiating a servlet.
* Initializing a servlet.
* Servicing client requests.
* Destroying a servlet .
* Unloading a servlet.
* Servlet state transition from the servlet container's perspective.
  + ServletConfig
* Define Servlet Config
* ServletConfig methods
  + ServletContext:
* Sharing the data (attribute scopes)
* Coordinating servlets using RequestDispatcher
* Redirect VsRequestDispatcher.

**Session management**

* + About Session
* Understanding state and sessions
  + About HTTP
  + Session Tracking methods:
* Hidden Form Fields
  + Cookies
* About cookie
* Creating Cookie
* Add Cookie to the response
* Get Cookie from the request
* More methods of cookie object
* Understanding the benefits and drawbacks of cookies

**URL Rewriting**

* + About URL rewriting.
  + Understanding the benefits of URL rewriting

**Session Tracking API**

* + Obtaining a session object
  + Setting information to the session
  + Getting information from session
  + Deleting information from session
  + Invalidating session

**Accessing Databases with JDBC**

* + Overview of JDBC technology
  + JDBC drivers
  + Basic steps in using JDBC
  + Retrieving data from a ResultSet
  + Using prepared and callable statements
  + Handling SQL exceptions

**EJB Training Course Contents:**

* Overview EJB
* EJB architecture
* JNDI
* RMI
* Entity
* Session bean
* Message driven

**Hibernate Training Course Contents:**

* Introduction to Hibernate
* Benefits of Hibernate as ORM Framework o Architecture of Hibernate Framework
* Understanding Persistence lifecycle
* Getting started with Hibernate ORM quickly o Mapping tables to beans
* Mapping propertied to columns o Setting up the user POJO object
* Create a simple CRUD Application using Hibernate ORM
* Relationships
* Simple Association (one to one)
* Basic Collection mapping (one-to-many)
* Simple unidirectional mapping (many-to-one)
* Collection (many to many)
* Examples: Setting up one to one, one-to-many, many-to-one and many-to-one relationship

Basic Queries

* Working with queries
* Named queries
* Examples: Using queries and named queries
* Transaction Support
* Local transaction, global transaction
* Transaction API
* Isolation levels
* Examples: Using Transaction API
* Locking Examples
* Examples: Implementing optimistic locking with versioning
* Advanced Queries
* Working with the Query API
* Working with Binding Parameters
* Grouping
* Sub-queries
* Optimizing queries
* Native SQL queries
* Examples: Using advanced query support
* Examples: Using native SQL query support

**Struts**

* Overview Struts
* Struts architecture
* MVC concept
* Implementation
* Action filtering

**XML**

* XML File
* XML Configuration
* Data transaction using XML

**Spring**

* Introduction to Spring Framework Architecture
* Bean Definition, Bean Scopes & Bean Definition Inheritance
* Spring IoC Containers, Understanding inversion of control (IoC) – Dependency Injection (DI)
* Spring Setter Injection, Spring Constructor Injection
* Ioc in Action
* Architecture of Spring Web MVC Framework
* Spring MVC Getting Started – constructing web MVC application using Spring Framework, AbstractController in Spring MVC
* Spring MVC Controllers hierarchy
* SimpleFormController, Spring DAO design pattern

**Introduction to Developing Rich-Client Applications**

* Application using GUI design
* Application using J2EE