



Duration:- 4-6 month

VIVEK IT SOLUTION

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Core java

Introduction Session

- ✓ What is Java
- ✓ Java History, Introduction & Java Scope
- ✓ Type of Application Created by Java
- ✓ Comparison of Java with C, CPP & Java
- ✓ Why Java is Most Popular Programming Language in IT World

• Java Installation and Software Tools

- ✓ Java Installation
- ✓ What is IDE, About Eclipse and Netbeans, VS Code, IntelliJ
- ✓ Interpreters vs Compilers
- ✓ How to Set Path in Java (Temp Path & Permanent Path)
- ✓ How to Compile and Execute Java Code under Command Prompt
- ✓ Working with Eclipse
- ✓ What is JDK & JRE & JVM & JIT & JNI
- ✓ JVM Architecture
- ✓ How to Write Comment in Java
- ✓ Create First Hello World of Program in Java & provide complete explanation

• Variable, Constant, Literals & Data Types

- ✓ What is Variables, Constant and Literals
- ✓ Type of Variables (Static & Non Static)
- ✓ Memory Management according to variable
- ✓ Assigning Values to Variables, Constant
- ✓ Data types
- ✓ Primitive Data type & Non Primitive Data type
- ✓ Implicit & Explicit Type Conversion
- ✓ Wrapper Classes Concept in Java
- ✓ What is Object Class in Java
- ✓ Conversion Method and Type Casting
- ✓ Up casting and Down casting
- ✓ Naming Convention in Java according to different cases

- **Operator in Java**

- ✓ What is Operators
- ✓ Types of Operator
- ✓ Java Assignment Operators
- ✓ JAVA Arithmetic Operators
- ✓ JAVA Arithmetic Assignment Operators
- ✓ Bitwise Operators
- ✓ Increment/decrement operators
- ✓ Relational operators
- ✓ Logical operators
- ✓ Ternary operators
- ✓ Instanceof operator
- ✓ Operator precedence

- **Loops and Conditional Statements**

- ✓ if statements
- ✓ ..else statements
- ✓ nested if statements, Ladder if else, Multiple If
- ✓ Switch Statements and Nested Switch Statements
- ✓ while loop, while else
- ✓ for loop, for else
- ✓ nested loops
- ✓ Loop Control Statements
- ✓ break statement
- ✓ continue statement

- **Array Concept in Java**

- ✓ What is Array, Advantage of Array & Disadvantage of Array
- ✓ Type of Array (Single, Multi & Jagged Array)
- ✓ Explain Char Array and String Array
- ✓ What is Object Array in Java
- ✓ Searching and Sorting Elements in Array
- ✓ Create Stack and Queue in Array
- ✓ What is Array class in Java, Discuss Predefine methods of Array Class
- ✓ Array Iteration using foreach loop

- **OOPs Concept in Depth**

- ✓ Class and Object, Polymorphism, Encapsulation, Abstraction
- ✓ Static Block, Init Block Explanation
- ✓ Access Specifier, Access Modifier(Instance, Static,final,abstract)
- ✓ Constructor and their types
- ✓ Inheritance and their types
- ✓ Polymorphism and their types
- ✓ Object Array using class

- ✓ IS A Relationship and Has a Relationship
- ✓ Interface and Abstract class in Java
- ✓ Super keyword and this keyword in Java

- **String, String Builder and String Buffer Class in Java**
 - ✓ What is String
 - ✓ What is String pool memory and Heap Memory
 - ✓ What is String instance and String Object
 - ✓ Discuss 10 predefined functions of String
 - ✓ What is String builder and Buffer
 - ✓ Difference between String, String Buffer and String Builder

- **Exception Handling in Java**
 - ✓ What is Exception , What is Error
 - ✓ Type of Exception and Type of Error
 - ✓ What is Checked and Unchecked Exception
 - ✓ What is Try—catch and finally
 - ✓ What is throw, throws and Throwable
 - ✓ What is User define Exception

- **File Handling Concept in Java**
 - ✓ What is File, Directory, Package
 - ✓ Create, Write and Read Text file
 - ✓ Create, Write and Read Binary file
 - ✓ What is InputStreamReader Class
 - ✓ What is BufferedReader and BufferedWriter class
 - ✓ Write Object and Read Object
 - ✓ What is Serialization and Deserialization Concept in Java
 - ✓ How to delete content from file
 - ✓ How to create folder and put file under folder

- **Threading Concept in Java**
 - ✓ What is Thread
 - ✓ Thread Life Cycle
 - ✓ Thread implementation using Thread Class and Runnable Interface
 - ✓ What is Thread Synchronization
 - ✓ What is Join(), Wait(), Yield(), run(), start(), notify(), notify all() in Java
 - ✓ Difference between sleep() and wait() in Java
 - ✓ Create Game using Thread

- **Collection Concept in Java**
 - ✓ What is Collection, Explain hierarchy of Collection

- ✓ What is difference between Collection and Collections
- ✓ What is List, Set, Queue and DeQueue
- ✓ Discuss Classes of List , Set, Queue and Dequeue
- ✓ What is Generic Class
- ✓ What is Iterator and ListIterator
- ✓ What is Comparable and Comparator Interface
- ✓ What is Map Interface, discuss classes of Map Interface
- ✓ How to Define ArrayList Inside Map
- ✓ Difference between Vector and ArrayList, HashMap and HashTable
- ✓ How to Create Synchronized ArrayList
- ✓ Which is Faster to Access

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Advanced java

- **Web Introduction**

- ✓ What is Web application
- ✓ What is Static & Dynamic Website
- ✓ What is Client Server Architecture
- ✓ What is Http, Http Request and Http Response
- ✓ Java Web Server & Application Server
- ✓ How to create Web project in Eclipse

- **Front end explanation**

- ✓ What is HTML
- ✓ What is CSS, Internal, External and Inline
- ✓ What is JS, JS Events, JS DOM
- ✓ What is JQuery, JQuery Events and Selector
- ✓ What is Bootstrap, How to create Responsive Design
- ✓ Create Responsive Web Template

React Library

- ✓ Introduction to ReactJS
- ✓ Comparison of Different Version of React
- ✓ How to install React on machine
- ✓ React Project Structure
- ✓ React vs Angular
- ✓ React components
- ✓ What is Function Component and Class Component
- ✓ React Props & State
- ✓ REACT JSX
- ✓ React HOOKS
- ✓ React List and Keys
- ✓ React refs
- ✓ REACT CONSTRUCTOR

- ✓ Reacts Events
- ✓ React Internals
- ✓ Component inter communication

- ✓ Component composition
- ✓ Component styling
- ✓ Add styles to your components
- ✓ Forms in react, Template driven, reactive
- ✓ React Router and Single Page Applications
- ✓ More Redux and Client-Server Communication
- ✓ How to call REST API in React
- ✓ API using FETCH
- ✓ API using AXIOX

• **JDBC**

- ✓ What is JDBC, JDBC Type
- ✓ What is SQL, Explain DML,DDL Command
- ✓ Explain Operator Between, Like, In, And and Or
- ✓ Explain Primary Key and Foreign Key
- ✓ Explain Join Concept
- ✓ Explain Procedure Concept
- ✓ Manage CRUD Operation using Statement
- ✓ Manage CRUD Operation using Prepared Statement
- ✓ Manage CRUD Operation using Callable Statement

• **JSP & Servlet**

- ✓ What is JSP, JSP Predefine Tag
 - ✓ Create HTML form and get and set data from JSP
 - ✓ Create Five web page application using JSP
 - ✓ HTML Template Integration in JSP
 - ✓ Write Program code under JSP Scriptlet
 - ✓ JSP Redirection
 - ✓ Navigate from One JSP Page to Another
 - ✓ JSP Page Life Cycle
 - ✓ What is Servlet
-
- ✓ Servlet Life Cycle
 - ✓ Custom Servlet
 - ✓ Service Method in Servlet
 - ✓ JSP to Servlet and Servlet to JSP Navigation
 - ✓ How to Design Html form using Servlet
 - ✓ Request Dispatcher in Servlet

- **Filter**

- ✓ What is Filter
- ✓ How Filter Works
- ✓ Filter Life Cycle

- **Authentication and Database Operation**

- ✓ Create Login and Registration Form
- ✓ Create Login with Multiple Role
- ✓ Create Result GRID with CRUD Operation
- ✓ Create User dashboard and display individual user data
- ✓ Create Admin Dashboard and Manage CRUD Operation

- **Session and Cookie**

- ✓ What is Session
- ✓ Create Session in JSP Web Page
- ✓ Create Session in Servlet
- ✓ How to Authenticate using Session
- ✓ Destroy Session
- ✓ Manage Session to provide Internal Page Security
- ✓ Implement Session in Login Form
- ✓ What is Cookie
- ✓ Create Cookie in JSP and Servlet
- ✓ Get Data From Cookie
- ✓ Manage Time Interval in Cookie
- ✓ Destroy Cookie

- **AJAX Operation**

- ✓ How to manage AJAX Operation using XML
- ✓ Ajax using JQuery
- ✓ Create Autosuggestion and Search Record using AJAX
- ✓ CRUD Operation using AJAX

- **File Uploading**

- ✓ How to Upload File using JSP & Servlet
- ✓ How to upload multiple file
- ✓ Save image file into database
- ✓ Upload and download profile picture into database

- **MVC Architecture**

- ✓ What is Bean Class
- ✓ How to Manage MVC Architecture
- ✓ Access BEAN Under JSP & Servlet

Hibernate Training CourseContent

- **HIBERNATE Framework**
- **Hibernate Introduction**
- **Hibernate Architecture**
- **Mapping and configuration files**
- **Add record into database using Hibernate**
- **Select, Update and Delete Record in Hibernate**
- **HQL Query, Native SQL Query**
- **Versioning Concept in Hibernate**
- **Hibernate Cache**
- **POJO Class life cycle on hibernate**
- **Hibernate Select Query, Delete Query, Update Query**
- **Mapping on Hibernate**
- **HQL in hibernate**
- **Criteria in Hibernate**
- **Projection concept in hibernate**
- **Annotation in hibernate, relationship in depth**

- **Join in Hibernate**

- **Relationship in Hibernate (One to Many, Many to One, One to One and Many to Many)**

Manage Hibernate Project using MAVEN

- **Spring Core Framework:-**

- **SPRING CORE Introduction**
- **Spring modules**
- **Core container of Spring**
- **IOC, Dependency, type of dependency**
- **Dependency Injection using Property**
- **Dependency Injection using Constructor**
- **Dependency Injection using Factory Class**
- **Dependency Injection using Auto wired**
- **AOP, SPELL**
- **SPRING JDBC**

- **Spring MVC Framework:-**

- **SPRING MVC Introduction**
- **SPRING MVC Architecture**
- **Create Controller class and View**
- **Pass Data from Controller to View**
- **Model Map and Model Attribute**
- **Spring Form Implementation using Model Object**
- **Spring MVC Database Operation using Hibernate**
- **Spring MVC with Maven**
- **Spring MVC Restfull Web Service Basics**

- **SPRING Security Basics**
- **Spring Security Authentication**

- **Spring Boot Framework:-**

- **SPRING Boot Introduction**
- **SPRING BOOT Architecture**
- **Create Project of Spring Boot and Display Hello World**
- **Create one project using Spring boot**

