



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

## Angular Framework

- ✓ Explain Angular, Angular Short History, Comparison of Angular JS and Angular Framework
- ✓ Angular JS 1.0 Overview
- ✓ Angular architecture, Angular application flow
- ✓ Comparison of Different Version of Angular
- ✓ Angular CLI to create project ,component and module
- ✓ Angular Architecture,MVC Design pattern
- ✓ What is Type Script, Data type in Angular Typescript
- ✓ Operator and Conditional Statements
- ✓ Control Structure or Loop, Array ,String Concept
- ✓ Angular Routing
- ✓ Create multiple Components and develop single page application
- ✓ Data binding in Angular
- ✓ Directives in Angular ,Pipe in Angular
- ✓ Dependency Injection and services in Angular
- ✓ File System in Angular,Read,Write.Open other operation
- ✓ Forms in angular, Template driven, reactive
- ✓ Http Request using GET,POST,PUT,DELETE
- ✓ Authentication, Create Login Form
- ✓ Modules, Predefine modules, Custom Module
- ✓ Animation, HTML Template Integration, query integration
- ✓ Validation using Angular Directive
- ✓ Web API implementation in Angular ,Create Login,Registration,CRUD
- ✓ State management in Angular
- ✓ Create Admin dashboard using Angular

### • 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**











