

Duration – 2 Months

INTRODUCTION

- Java Language & Java Platform
- Java Technologies
- History of Java
- Execution Model Of Java
- First Java Program
- The JDK Directory Structure
- IDE
- Similarities between C & Java
- Differences between C & Java

STANDARD EDITION OF JAVA

- JDK
- PATH
- CLASSPATH

DATA TYPES

- What are data types?
- Int
- Float
- Char
- Double
- Boolean
- Short
- Long
- Byte

METHODS

- What are Methods?
- Method Structure
- Declaration Of Methods
- Calling Of Methods
- Defining Methods
- Method Parameters Scope
- Why static methods?

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CONTROL FLOW STATEMENT

- What are Control Flow Statements?
- If - Statement
- Else if Statement
- Conditional (Switch) Statements

OPERATORS

- Arithmetic Operators
- Relational Operators
- Logical Operators
- Conditional Operators

LOOPS

- For Loop
- While Loop
- Do While Loop
- Break Statement

OBJECT ORIENTED PROGRAMMING(OOPS)

- Class & Object
- Encapsulation
- Attributes (Properties)
- Operations (Methods)Reference Vs Object
- Real-time Object Oriented Examples

CONSTRUCTOR

- No Argument Constructor
- Parameterized Constructor
- Constructor Overloading
- Explicit Vs Implicit Default Constructor

WRAPPER CLASSES ACCESSIBILITY MODE

- Private?
- Protected
- Default
- Public

INTER OBJECT COMMUNICATION

- Message
- Message Passing
- Message Sender
- Message Receiver

ARRAYS

- What is an array?
- Declaring an array
- Initializing an array
- One Dimensional array
- Two Dimensional arrays
- Multi Dimensional arrays

STATIC MODIFIER

- Static Variables
- Static Methods
- Static Blocks
- Static Classes

INHERITANCE

- Inheritance in Java
- Use of Inheritance
- Single Inheritance
- Multi-level Inheritance
- Hierarchical Inheritance
- Hybrid Inheritance
- Method Overloading
- Method Overriding
- Super Class-Sub Class
- Abstract Classes
- Abstract Methods

POLYMORPHISM

- Static Polymorphism
- Dynamic Polymorphism

Static Vs Dynamic Binding

INTERFACE

- Interfaces Vs Abstract Class
- Role of Interfaces in Real time
- Interfaces Inheriting from other Interfaces
- Declarative Multiple Inheritance using Interfaces

PACKAGES

- What is a Package?
- Advantages of Packages
- Types Of Packages

- Naming Convention
- Steps For Creating Packages
- The import Statement
- Static Imports
- CLASSPATH and Import
- Defining Packages
- Scope of Packages

STRING HANDLING

- String
- String Buffer
- String Handler

EXCEPTION HANDLING

- Types of errors
- Need of Exception Handling
- Try, Catch, throws, Finally
- Try with resources
- Exception Hierarchy
- User Defined Exceptions

IOSTREAMS

- Byte-Oriented Streams
- Character Oriented Streams
- Java.io.File Class
- Object Serialization

MULTITHREADING

- Multi-tasking Vs Multithreading
- Life Cycle of Thread
- Java.lang.thread Vs Java.lang.runnable
- Developing Multithreaded Applications
- Synchronization
- Dead-Lock
- Inter-thread communication

JDBC

- Introduction To JDBC
- JDBC Architecture
- Types Of JDBC Drivers
- Creating a Database & Table
- Getting Information from Database
- Obtaining Result Set Information

- Connecting a Java Program to DB
- Prepared Statement & Statement classes in java
- Inserting, Updating & Deleting data

Java Servlets

- what is a web application
- Java servlets
- Servlet lifecycle
- Servlet Context
- Session Management
- Building the first servlet
- Deploying the servlet

SPRING BOOT

- Rest Api & Web Service Creation
- Integration with JDBC Template
- Integration with Hibernate

JSP

- What is a JSP page
- Basic HTML tags
- JSP Tag Library
- JSP Page Lifecycle
- Creating first dynamic web page

MVC ARCHITECTURE

- Introduction to MVC
- MVC Architecture
- Advantages of MVC
- Three-tier architecture

HIBERNATE FRAMEWORK

- Technologies for Persistency
- Introduction to ORM
- Hibernate Architecture
- Hibernate API
- Configuration Properties
- Inheritance in Hibernate
- Component Mapping
- Collection Mapping
- One-to-many, Many-to-many Relations
- HQL (Aggregate Function ,clauses ,Criteria)

SKILL ENHANCEMENT –

- Project Guiding Session
- Interview Preparation Skills
- Resume Building
- Mock Up Interviews
- Logical Reasoning and Analytical Ability
- Decision Making Skills
- Problem Solving Techniques
- Includes 1
Mini
Project +
1
Capstone
Project