

Java Full Stack

Course Duration: 280 Hours

1: CORE JAVA

- 1.1. Introduction to Java
- 1.2. Java History
- 1.3. Why Java
- 1.4. Features of Java
- 1.5. Environment Setup
- 1.6. Hello World Application
- 1.7. Java Program Internal
- 1.8. JDK, JRE, JVM
- 1.9. JVM- Java Virtual Machine
- 1.10. Class, Objects, Data Types
- 1.11. Variables
- 1.12. Type Casting
- 1.13. Operators
- 1.14. Java Comments
- 1.15. Object Oriented Programming Concepts
 - Abstraction
 - Encapsulation
 - Polymorphism
 - Inheritance
- 1.16. Java Coding Standards
- 1.17. Package – Creating package, naming package
- 1.18. Java Keywords
- 1.19. Access Specifiers – Public, Private, Protected, Default
- 1.20. Static Concept – Block, Variable, Method, Class
- 1.21. Scanner Class
- 1.22. Control Statement If, If...else, Nested if...else and SwitchCase
- 1.23. Java Break Statement
- 1.24. Java Continue Statement
- 1.25. Flow Statement- for, while, do..while
- 1.26. Constructor- Default, Parameterized
- 1.27. Inheritance
- 1.28. Extends, super and this keyword
- 1.29. Method Overloading, Method Overriding
- 1.30. Interface
- 1.31. Abstract Class
- 1.32. Abstract Class vs Interface
- 1.33. Garbage Collection
- 1.34. Marker Interface
- 1.35. Serialization
- 1.36. Transient
- 1.37. Java instanceof
- 1.38. Instance initializer block
- 1.39. Volatile Keyword in Java
- 1.40. Exception Handling
- 1.41. Exception Handling- try, catch, throw, throws, finally
- 1.42. String Concept
 - String Basics
 - String Methods
- 1.43. String Buffer
- 1.44. String Builder
- 1.45. Custom Immutable Class
- 1.46. Java - Arrays
- 1.47. Collection Framework
 - Collection Basics
 - Iterator Interface
 - Methods of Collection Interface

1: LIST

- Array List
- Linked List
- Vector

2: SET

- Hash Set
- Tree Set

3: MAP

- Hash Map
- Tree Map
- Hashtable



1.48. Collection Framework Advance Concepts

- Comparable Interface
- Comparator Interface
- Collections class
- Differentiate Comparable and Comparator

1.49. Java Enum

1.50. Date Concept

1.52. Thread

- Concept, Lifecycle
- Extends Thread
- Implement Runnable Interface
- Thread Priorities
- Thread Methods

1.53. Multithreading

1.55. JDK 1.8.0 New Features with Hands-on

- Lambda Expression
- Functional Interface
- Default Method in Interface
- Static Method in Interface
- Method References
- Date Time API
- Stream API
- Collectors
- For each Loop
- String Joiner Class
- Parallel Sort
- Optional Class

1.56. Java Mail API- Realtime Live Implementation
Programming practices, Concepts & Interview

2. J2EE

2.1 JDBC

1. JDBC Introduction
2. JDBC Architecture
3. Database Overview
4. JDBC Basics
5. MySQL
6. Create Database
7. Create Table
8. Insert, Update, Delete
9. Truncate
10. SQLJoin
 - Inner Join
 - Left Outer Join
 - Right Outer Join
 - Full Outer Join
11. Aggregate Function
 - MIN
 - MAX
 - AVG
 - SUM
 - COUNT
12. SQL HAVING Clause
13. GROUP BY
14. ORDER BY

1.51. File Handling Concept

- File Handling Basics
- Create Folder
- Create File- .txt. .pdf, .xlsx, .docs, etc
- Write File
- Read File
- Delete File

1.54. Thread Synchronization

- Synchronization
- Object Locking
- Inter Thread Communication



15. SQL Aliases
16. SQL LIKE Operator
17. SQL IN
18. SQL NOT IN
19. SQL Between
20. SQL Null Values
21. SQL TOP
22. SQL LIMIT
23. SQL Stored Procedures
24. Java Application Using JDBC Connectivity
25. Handling SQL Exceptions
26. Driver Manager
27. Result Set
28. Connection
29. Statement
30. Prepared Statement
31. Callable Statement
32. DB Connectivity Steps
33. Store Image in SQL
34. Read Image in SQL
35. SQL Queries using SQL Yog
36. JDBC CRUD Application

2.2 Servlet

2.2.1 Servlet Basics

2.2.2 Need of Server Side Programming

2.2.3 Servlet Life Cycle

1 Init()

2 Service()

• 2.1 doGet()

• 2.2 doPost()

3 Destroy()

2.2.4 Servlet Hello World Application

2.2.5 Web.xml Structure

2.2.6 Servlet Directives- include(), forward(), sendRedirective()

2.2.7 HttpServletRequest, HttpServletResponse in Servlet

2.2.8 Servlet and JDBC Integration

2.2.9 Servlet, HTML 5, MySQL-JDBC, Apache Tomcat using Real Time Login Application

2.2.10 Servlet, JSP, MySQL- JDBC, Apache Tomcat using Custom CRUD Application

2.2.11 Servlet, JSP, MySQL- JDBC, Apache Tomcat using Custom Sign Up | Sign In Application

2.1 JSP

2.1.1 JSP Basics

2.1.2 Creating dynamic Web content with JSP

2.1.3 Scriptlet

2.1.4 Declaration

2.1.5 Servlet, JSP, MySQL- JDBC, Apache Tomcat Login Application

2.1.6 Servlet, JSP, MySQL- JDBC, Apache Tomcat using User Sign Up | Sign In Application

2.1.7 Servlet, JSP, MySQL- JDBC, Apache Tomcat Using Advanced Custom

Project implementation

Programming Practices, Concept & Interview Preparation.

3. FRAMEWORK

3.1. Hibernate

1. Hibernate Introduction

2. Hibernate Basics

3. Hibernate Architecture

4. Hibernate Session

5. Hibernate Session Factory

6. Hibernate Configuration

7. Hibernate Configuration Offline

8. Hibernate with HBM

9. Hibernate with Annotation

10. Hibernate Validator

11. Hibernate CRUD

12. Hibernate Association Mapping

- One to One Mapping
- One to Many Mapping
- Many to One Mapping
- Many to Many Mapping

13. Hibernate Aggregation

14. Hibernate Named Queries

15. Hibernate Native SQL

16. HQL- Hibernate Query Language



17. Hibernate HCQL- Criteria Query Language
18. Hibernate Application with Mysql DB- CRUD
19. Diff. save(), saveOrUpdate(), update(), persist() and merge()
20. Diff. get() and load()
21. Hibernate vs. JPA
22. Hibernate Application with Mysql DB, Servlet, JSP-User Interface-CRUD
23. Hibernate, MySQL, Servlet, JSP, Apache Tomcat Login Application
24. Hibernate, MySQL, Servlet, JSP, Apache Tomcat Sign Up | Sign In Application
25. Hibernate, MySQL, Servlet, JSP, Apache Tomcat Advanced Custom Project Implementation
Programming practices, Concept & Interview Preparation.

3.2. Spring Framework

1. Spring Framework Introduction
2. Spring Basics
3. Inversion of Control
4. Dependency Injection
5. Beans Scope
 - 5.1 Singleton
 - 5.2 Prototype
 - 5.3 Request
 - 5.4 Session
 - 5.5 Global-Session
6. Auto wiring
7. Spring Annotations

3.3. Spring MVC

1. Spring MVC Basics
2. Spring MVC Annotations
3. Spring MVC Hello World Application
4. Spring MVC Restful Web Services Basics
5. Spring MVC without Maven
6. Apache Maven Basics 7
7. Spring MVC with Maven
8. Spring MVC Application Deployment
9. Spring MVC Application Deployment with Loggers
10. Spring MVC WAR File Creation and Deployment Steps
11. Spring MVC, Hibernate, Mysql, Apache Maven, Apache Tomcat - CRUDOperation
12. Java, Spring MVC, Spring Security, Algorithm, Hibernate, Maven,

MysqlIntegrationApplication

1. Modules

- Customer Login
- Add Customer
- Edit Customer Information
- Delete Customer
- View Customer List
- Roles
- Admin Role
- DBA Role
- User Role
- Password Encryption by using Spring Security Algorithm
- Remember Me Functionality



3.4. Spring Security

1. Spring Security Basics
2. Spring Security Features
3. Spring Security Authentication
4. Spring Security Encryption
5. Password Encryption by using Spring Security
6. Spring Security Login Form
7. Spring Security Authentication
8. Spring Security Maven Dependency
9. Spring Security CRUD- Signup and Login Application
10. Spring Security OAuth2 RealTime Implementation
11. Spring Boot End Points Security
12. Spring Boot, Spring Security- Restful Web Services with Advanced Authentication
13. Single Sign-On with Spring Boot & Okta | OAuth 2.0

3.5. Spring Boot

1. Spring Boot Introduction
2. Spring Boot Basics
3. Why Spring Boot
4. Spring Boot Features
5. Main Goal of Spring Boot
6. Creating Project- Spring Initializer
7. Spring Boot Hello World Application
8. Spring Boot Annotations
9. Spring Boot Devtool Dependency - Without Restart application will see changes on browser
10. Spring Boot Actuator
11. Spring Boot Build Systems
12. Spring Boot Code Structure
13. Spring Boot Runners
14. Spring Boot Tomcat Custom Port Number
15. Spring Boot with RESTful Service
16. Spring Boot with Logger
17. Deploy Spring Boot Applications on External Tomcat Server
18. Spring Boot – Common Application Properties (application.properties)
19. Spring Boot, Hibernate with RESTful Web Service
20. Spring Boot, Spring Data with RESTful Web Service
21. Spring Boot, Hibernate CRUD Application
22. Spring Boot, Spring Data JPA CRUD Application
23. Spring Boot, Spring- JDBCTemplate CRUD
24. Spring Boot, Hibernate, MySQL, Project Lombok CRUD Application
25. Spring Boot with XML Payload using PostmanAPI
26. Spring Boot with JSON Payload using PostmanAPI
27. Spring Boot Global Custom Validations
28. Spring Boot Global Custom Exception Handling
29. Spring Boot Code Debug Practices
30. Spring Boot Application connectivity with Multiple Databases
31. Spring Boot CORS Support
32. Java QR Code Generator Basics
33. Spring Boot QR Code Generator Hands on Session
34. Spring Boot QR Code Reader Hands on Session
35. Spring Boot Advanced Research and Development with latest release



3.6. Spring Data - JPA

1. Spring Data JPA Basics
2. Spring Data JPA Introduction
3. Spring Data JPA Architecture
4. Spring Data JPA application.propertiesfile
5. JPA Repository
6. CRUD Repository
7. Spring Boot, Spring Data JPA CRUD using PostmanAPI
8. Spring Boot, Spring Data JPA, Project Lombok CRUD using Postman API Hands on Session

4. WEB SERVICES

4.1. SOAP Web Service

4.2. RESTful Web Service

7. WEB DESIGN

- 7.1. HTML 5
- 7.2. CSS 3
- 7.3. JavaScript
- 7.4. Bootstrap
- 7.5. Payment Gateway Integration
- 7.6. Domain and Hosting
- 7.7. Website Deployment and Go Live

8. Angular JS

- Introduction to Angular
- Environment Setup
- Installing Angular CLI
- Directory Structure of Angular
- Angular Fundamentals
- Angular Building Blocks
- Angular Data Binding
- String Interpolation
- Directives and Pipes
- Forms
- Approaches (Driven & Reactive)
- Validators
- Routing

