JAVA

Core Java
1. Introduction to Java
  - ➤ History of Java
  - ➤ Features of Java

2. Overview of Java
  - ➤ OOP's Concept
  - ➤ Data types and Variables
  - ➤ Control Structures
  - ➤ Strings,Arrays

3. Objects and Classes
  - ➤ Object, Classes and Methods
  - ➤ Method Overloading
  - ➤ Constructors
  - ➤ Object class

4. Inheritance
  - ➤ Types of Inheritance
  - ➤ Method Overriding
  - ➤ Dynamic method dispatch

5. Packages and Interfaces
  - ➤ Defining Packages
  - ➤ Extending Interfaces

6. Exception Handling
  - ➤ Fundamentals of Exception Handling
  - ➤ Exception types
  - ➤ Try and Catch and finally
  - ➤ Throw ,throws
  - ➤ Custom Exception

7. Inner Class and Wrapper classes
  - ➤ Inner Classes
  - ➤ Static Nested Classes
  - ➤ Wrapper Classes
  - ➤ Anonymous Inner Classes

8. String Handling
  - ➤ Creating Strings
  - ➤ String handling methods
  - ➤ String Buffer and String Builder

9. Input and Output in Java
  - ➤ Byte streams&Character streams
  - ➤ File
  - ➤ Serialization

10. Collections Framework
  - ➤ Collection Interfaces and Classes
  - ➤ Iterators
  - ➤ Comparators

11. Multithreading
  - ➤ Basics of java thread
  - ➤ The Thread Scheduler
  - ➤ Naming a thread ,Daemon thread
  - ➤ Perform single /multiple task by multiple threads
  - ➤ Major Thread Concepts
  - ➤ Garbage Collection

12. Reflection API
  - ➤ Overview of Reflection
  - ➤ Use of newIntance() method and determining the class Object
  - ➤ Accessing private method or member from outside the class

13. Lambda Built-in Functional Interfaces
  - ➤ Use primitive versions of functional Interface
  - ➤ java.util.function package
  - ➤ Use binary versions of functional Interface
  - ➤ Use the Unary Operator Interface

Advance Java

1. Java Swing

- ➢ Swing Introduction,
- ➢ Swing Controls,
- ➢ Swing Event classes,
- ➢ Event Listeners,
- ➢ Event Adapters,
- ➢ Layouts Managers

2. JDBC
- ➢ Common JDBC components
- ➢ Steps to connect to the database using MySQL and oracle database
- ➢ Types of JDBC statements - statements, preparedStatement and callableStatement
- ➢ Transactions management in JDBC
- ➢ CRUD operation using preparedStatement
- ➢ Calling Stored procedure using callableStatement
- ➢ How Result Set Works in JDBC

3. SERVLET
- ➢ Servlet - environment setup
- ➢ ServletConfig and ServletContext parameters
- ➢ Servlet life cycle
- ➢ Servlet Attribute And Servlet Parameters
- ➢ Exploring Deployment Descriptor (web.xml)
- ➢ Session Tracking In Servlet
- ➢ Servlet Filter
- ➢ Types Of Filter
- ➢ Servlet Filter Mapping inWeb.Xml,
- ➢ Servlet-listener
- ➢ Various Servlet Listener

- ➢ Servlet Listener Configuration
- ➢ servlet-security
- ➢ Details about MVC architecture
- ➢ Practical exposure on MVC using JSP and Servlet.

4. JSP 2.X
- ➢ JSP - Overview
- ➢ JSP - Life Cycle
- ➢ JSP API
- ➢ JSP-Scripting Elements
- ➢ JSP- Directive Elements
- ➢ Types Of JSP Scopes
- ➢ JSP - Custom Tags
- ➢ JSP-Implicit Objects
- ➢ JSP - Standard Tag Library (JSTL)
- ➢ JSP - Expression Language (EL)
- ➢ JSP - Exception Handling

Hibernate
1. Introduction to hibernate
2. Hibernate Architecture
3. Object relational mapping (ORM)
4. Features of hibernate
5. Hibernate configuration file
6. Using JPA and Hibernate annotations
7. Hibernate object states(Transient, Persistent and Detached Objects)
8. CRUD operation in Hibernate
9. Annotation
10. Hibernate Mapping XML Configuration
11. Hibernate Catching
12. Transactions management in Hibernate
13. BLOB Object

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Spring

1. Introduction to spring framework
- Spring Bean lifecycle
- Understanding IOC and Dependency Injection
- Working with Bean Factory and Application Context.
- Working with multiple configuration files
- Advanced XML Dependency Injection
- Dependency Injection
- Injecting Inner Beans
- Injecting Collection Type
- Annotation-Based Dependency Injection
- Spring Autowiring by Type, By Name

2. Aspect-Oriented Programming (AOP) with Spring
- Introduction on Spring AOP
- Aspect-oriented programming concepts
- Integration with Spring IoC
- AspectJ APIs and annotations

3. Data Access and JDBC with Spring
- Introduction to Spring JDBC
- How Spring integrates with existing data access technologies
- Spring JDBC APIs
- DataAccessException hierarchy
- Result Transformations
- Implementing RowMapper
- Parameter mapping
- Named Parameter JDBC Template

4. Transactions management in spring.
- Spring Declarative Transactions Management
- Spring Programmatic transaction management

5. Hibernate with Spring

6. Working with Spring MVC
- Introduction to Spring MVC framework Creating many Spring MVC Web Applications
- Writing an annotation based controller class -@Controller, @RequestMapping
- @PathVariable annotation
- Handling an HTML form using @RequestParam annotation
- Understanding @ModelAttribute Annotation
- Data Binding with Date, Collection
- Data Binding with a User-Defined Type, BindingResult
- @InitBinder annotation, WebDataBinder, CustomDateEditor
- Writing your own custom property editor class
- Form Validations

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