

# Java Framework



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# Spring

## 1. Spring Basics

- A. What is Spring Framework
- B. Inversion of Control (IoC)
- C. Dependency Injection (DI)
- D. Bean Factory
- E. Developing First Spring Application

## 2. Spring Container

- A. Built-in Bean Factories
- B. Application Context
- C. Wiring Beans
- D. Bean Lifecycle in Container
- E. Spring Events

## 3. Spring AOP

- A. Introduction AOP
- B. Role of AOP in Spring
- C. AOP Advice
- D. AOP Pointcuts
- E. Spring AOP Introductions
- F. ProxyFactoryBean

## 4. Spring Data Access

- A. JDBC Abstraction Layer
- B. Data Access Exceptions
- C. DA Support

## 5. Spring O-R /mapping

- A. What is O-R Mapping
- B. O-R Mapping support in Spring
- C. Hibernate Support / Mapping



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## 6. Spring Web MVC Framework

- A. What is Spring Framework
- B. Inversion of Control (IoC)
- C. Dependency Injection (DI)
- D. Bean Factory
- E. Developing First Spring Application

## 7. Role of DispatcherServlet

- A. Controller
- B. Handler
- C. View Resolving
- D. Data Binding
- E. File Upload Support



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# Hibernate

## 1. Introduction Hibernate

- A. Drawbacks of direct JDBC
- B. Plain Old Java Object (POJO)
- C. What is O-R Mapping
- D. Simple Database Application

## 2. Hibernate Configuration

- A. Required JAR Files
- B. Hibernate configuration File
- C. Hibernate properties File
- D. Hibernate XML File
- E. SQL Dialects

## 3. Hibernate Concepts

- A. Id and Primary Key
- B. Id Generation Methods
- C. Session Factory
- D. Session
- E. Transaction
- F. Developing CRUD Application

## 4. Hibernate O-R Mapping

- A. Mapping Declarations
- B. Modeling Composition with
- C. Relationship
- D. Modeling Composition with
- E. Components
- F. One-to-One Association
- G. One-to-Many Association
- H. Many-to-Many Association
- I. Hibernate Value Types
- J. Custom Types



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## 5. Manipulating and Querying

- A. Persistent Objects
- B. Object Loading
- C. Executing Queries
- D. Iterating Results
- E. Scalar Results
- F. Bind Parameters Pagination

## 6. Hibernate Query Language

- A. Select clause
- B. From clause
- C. Where clause
- D. Aggregate functions
- E. Expressions
- F. Sorting
- G. Grouping
- H. Sub queries

## 7. Criteria Queries

- A. Creating Criteria
- B. Narrowing the Result
- C. Ordering the Result
- D. Native SQL
- E. Using SQL Query
- F. Named SQL Query
- G. Using Stored Procedure for Querying
- H. Creating Custom SQL for CRUD



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