

# IT Certification Guru PVT.LTD

## Spring and Hibernate



### 1. Spring Basics

- What is Spring Framework
- Inversion of Control
- Dependency Injection
- Bean Factory
- Developing First Spring Application

### 2. Spring Container

- Built-in Bean Factories
- Application Context
- Wiring Beans
- Bean Lifecycle in Container
- Spring Events

### 3. Spring AOP

- Introduction to AOP
- Role of AOP in Spring
- AOP Advice
- AOP Pointcuts
- Spring AOP Introductions
- ProxyFactoryBean

### 4. Spring Data Access

- JDBC Abstraction Layer
- Data Access Exceptions
- DAsupport
- Spring O-R /mapping
- What is O-R Mapping
- O-R Mapping support in Spring
- Hibernate Support / Mapping



## 5. Spring Transaction Management

- Transaction Abstraction in Spring
- Transaction Strategies
- Programmatic Transaction
- Declarative Transaction

## 6. Spring Remoting and Enterprise Services

- Introduction Spring Remoting
- Java RMI in Spring
- Accessing JNDI
- Invoking EJB from Spring
- Web Service in Spring using JAX-RPC
- Support
- Messaging Support in Spring using
- JMS
- Sending Mail with Spring Mail
- Scheduling using Timer Support

## 7. Spring Web MVC Framework

- Web MVC Architecture
- Role of DispatcherServlet
- Controller
- Handler
- View Resolving
- Data Binding
- File Upload Support

## 8. Securing Spring Application

- Acegi Security System for Spring
- Authentication
- Access Control
- Web Application Security

## Relational Persistence Using Hibernate

### 1. Introduction Hibernate

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

### 2. Hibernate Configuration

- Required JAR Files
- Hibernate configuration File
- Hibernate properties File
- Hibernate XML File
- SQL Dialects

### 3. Hibernate Concepts

- Id and Primary Key
- Id Generation Methods
- Session Factory
- Session
- Transaction
- Developing CRUD Application

### 4. Hibernate O-R Mapping

- Mapping Declarations
- Modeling Composition with
- Relationship
- Modeling Composition with
- Components
- One-to-One Association
- One-to-Many Association
- Many-to-Many Association
- Uni and Bidirectional Associations

- Hibernate Value Types
- Custom Types

## 5. Manipulating and Querying

- Persistent Objects
- Object Loading
- Executing Queries
- Iterating Results
- Scalar Results
- Bind Parameters Pagination

## 6. Hibernate Query Language

- Select clause
- From clause
- Where clause
- Aggregate functions
- Expressions
- Sorting
- Grouping
- Sub queries

## 7. Criteria Queries

- Creating Criteria
- Narrowing the Result
- Ordering the Result

## 8. Native SQL

- Using SQL Query
- Named SQL Query
- Using Stored Procedure for Querying
- Creating Custom SQL for CRUD

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## 9. Transaction and Concurrency

- Session and Transaction Scopes
- Database Transaction Demarcation
- Optimistic Concurrency Control
- Pessimistic Concurrency Control
- Connection Release Modes



