Core Java Training Syllabus

Java Language Environment

1. Object Oriented
2. Platform Independent
3. Automatic Memory Management
4. Compiled / Interpreted approach
5. Robust
6. Secure
7. Dynamic Linking
8. MultiThreaded
9. Built-in Networking

Java Fundamentalsr

1. Data types
2. Operators
3. Control Statements
4. Arrays
5. Enhanced for-loop
6. Enumerated types
7. Static import
8. Auto boxing
9. C-style formatted I/O
10. Variable arguments

Essentials of Object-Oriented Programming

1. Object and Class Definition
2. Using encapsulation to combine methods and data in a single class
3. Inheritance and Polymorphism

Writing Java Classes

1. Encapsulation
2. Polymorphism
3. Inheritance
4. OOP in Java
5. Class Fundamentals
6. Using Objects
7. Constructor
8. Garbage Collection
9. Method Overloading
10. Method Overriding
11. Static Members
12. Understanding Interface
13. Using Interfaces class

Spring O-R /mapping

1. What is O-R Mapping
2. O-R Mapping support in Spring
3. Hibernate Support / Mapping

Spring Transaction Management

1. Transaction Abstraction in Spring
2. Transaction Strategies
3. Programmatic Transaction
4. >Declarative Transaction

Spring Remoting and Enterprise Services

1. Introduction to Spring Remoting
2. Java RMI in Spring
3. Accessing JNDI
4. Invoking EJB from Spring
5. Web Service in Spring using JAX-RPC Support
6. Messaging Support in Spring using JMS
7. Sending Mail with Spring Mail
8. Scheduling using Timer Support

Spring Web MVC Framework

1. Web MVC Architecture
2. Role of DispatcherServlet
3. Controller
4. Handler
5. View Resolving
6. Data Binding
7. File Upload Support

Securing Spring Application

1. Acegi Security System for Spring
2. Authentication
3. Access Control
4. Web Application Security
5. Method Invocation Security

Introduction to Hibernate

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

Hibernate Configuration

1. Required JAR Files
2. Hibernate configuration File
3. Hibernate properties File
4. Hibernate XML File
5. SQL Dialects

Hibernate Concepts

1. Id and Primary Key
2. Id Generation Methods
3. SessionFactory
4. Session
5. Transaction
6. Developing CRUD Application

Hibernate O-R Mapping

1. Mapping Declarations
2. Modeling Composition with Relationship
3. Modeling Composition with Components
4. One-to-One Association
5. One-to-Many Association
6. Many-to-Many Association
7. Uni and Bidirectional Associations
8. Hibernate Value Types
9. Custom Types

Manipulating and Querying

1. Persistent Objects
2. Object Loading
3. Executing Queries
4. Iterating Results
5. Scalar Results
6. Bind Parameters Pagination

Hibernate Query Language

1. Select clause
2. From clause
3. Where clause
4. Aggregate functions
5. Expressions
6. Sorting
7. Grouping
8. Sub queries

Criteria Queries

1. Creating Criteria
2. Narrowing the Result
3. Ordering the Result

Native SQL

1. Using SQL Query
2. Named SQL Query
3. Using Stored Procedure for Querying
4. Creating Custom SQL for CRUD

Transaction and Concurrency

1. Session and Transaction Scopes
2. Database Transaction Demarcation
3. Optimistic Concurrency Control
4. Pessimistic Concurrency Control
5. Connection Release Modes