

Adv. Java Training Syllabus

Java Database Connectivity (JDBC)

1. Overview of RDBMS
2. Introduction to Call Level Interface(CLI)
3. Introduction to JDBC
4. JDBC Architecture
5. Types of JDBC Drivers
6. Establishing a JDBC Connection
7. Using Statement
8. Using PreparedStatement
9. Using CallableStatement
10. Scrollable and Updatable ResultSet
11. Inserting & Fetching from BLOB Columns
12. Managing Transactions in JDBC
13. New Features introduced in JDBC 3.0
14. Auto Increment Columns

eXtensible Markup Language (XML)

1. Introduction to XML
2. Document Object Model (DOM) using JAXP
3. Understanding DOM
4. Using DOM in Java
5. StAX in Java
6. Understanding StAX
7. Programming with StAX

Common Gateway Interface

1. Introduction to CGI
2. Understanding Environment Variables
3. Disadvantages and Limitations of CGI

Java Servlets

1. Servlet as J2EE Web Component
2. Servlet as an improved CGI
3. Servlet Fundamentals / API
4. What is a Web-Container
5. Servlet Life Cycle / Architecture
6. HTTP GET and POST Request Methods
7. Processing Html Forms
8. What is Name-Value pair
9. Content Types and MIME
10. Configuration of Web Application
 1. Understanding the Deployment Descriptor (DD) / web.xml
 2. Specifying the Welcome file list

- 3. Servlet URL Pattern Mapping
- 4. Init Parameters
- 11. State Management
 - 1. Using HTTP Session
 - 2. Using Cookies
 - 3. Using Application

JavaServer Pages (JSP)

- 1. JSP Architecture
- 2. JSP Standard / Implicit Objects
 - 1. request
 - 2. response
 - 3. out
 - 4. config
 - 5. application
 - 6. session
 - 7. page
 - 8. pageContext
- 3. exception
- 4. JSP Page Implementation Class
- 5. JSP Basics & Syntax
- 6. JSP Directive Tags
 - 1. Page Directive
 - 2. Include Directive
 - 3. Taglib Directive
- 7. JSP Action Tags
 - 1. Forward Action Tag
 - 2. Include Action Tag
- 8. JSP Script related Tags
 - 1. Scriptlet Tag
 - 2. Expression Tag
 - 3. Declaration Tag
- 9. Using Java Beans from JSP
 - 1. UseBean Tag
 - 2. setProperty Tag
 - 3. getProperty Tag
- 10. JSP Custom Tag Library
 - 1. JSP 2.0 Tag Files
 - 2. JSP 2.0 Simple Tag
 - 1. Empty Tag
 - 2. Tag with Body Content
- 11. (JSP Fragment)

JavaBeans

- 1. JavaBean Architecture
- 2. JavaBean Characteristics
- 3. Providing Properties & Methods

JSP Expression Language (EL)

1. Syntax
2. Operators
3. Using different scope objects
4. Calling Functions from EL

JSP Standard Tag Library (JSTL)

1. General Purpose Actions
2. Conditional Actions
3. Iterator Actions

Filters in Web Application

1. Filter Basics
2. Filter Lifecycle
3. Filter Chaining
4. Filter Example

Web Application Security

1. Introduction
2. Declarative Security
3. Programmatic Security
4. Roles
5. Authentication
6. Basic Authentication
7. Digest Authentication
8. Form Based Authentication
9. Standard Login Form
10. Security Constraints
11. Web Resource Collection

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