

# Deccansoft Software Services

(A Microsoft Learning Partner)

## Advance Java Syllabus

### Module 1: Java Database Connectivity (JDBC)

We know the data stored in a file can't be a permanent. So we use to store data from now onwards in database, In this module you will learn how to connect/store data of standalone/web application in database or to retrieve the data from it.

- ❖ Overview of RDBMS
- ❖ Introduction to Call Level Interface(CLI)
- ❖ Introduction to JDBC
- ❖ JDBC Architecture
- ❖ Types of JDBC Drivers
- ❖ Establishing a JDBC Connection
- ❖ Using Statement
- ❖ Using Prepared Statement
- ❖ Using Callable Statement
- ❖ Scrollable and Updatable Result Set
- ❖ Inserting & Fetching from BLOB Columns
- ❖ Managing Transactions in JDBC
- ❖ New Features introduced in JDBC 3.0
- ❖ Auto Increment Columns

### Module 2: Extensible Markup Language (XML)

In normally web applications will have so many pages server don't know where to start, that's why we use xml we define our start application in xml and all other related simultaneous pages in it, so that server will recognize how many pages are there and where to start, we can store some data in xml also by parsing the xml we can able to retrieve the data.

- ❖ Introduction to XML
- ❖ Document Object Model (DOM) using JAXP
- ❖ Understanding DOM
- ❖ Using DOM in Java
- ❖ SAX in Java
- ❖ Understanding SAX
- ❖ Programming with SAX

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**Module 3: Common Gateway Interface**

This is the first gateway interface where user programs can run on web server which will invoke the client browser to make the user interface between client and web server.

- ❖ Introduction to CGI
- ❖ Understanding Environment Variables
- ❖ Disadvantages and Limitations of CGI

**Module 4: Java Servlets**

In this module you will learn how the client request is generated and how to track the user and how to make client application more secure. Don't worry if you don't get it by learning this concept you will get it.

Servlet as J2EE Web Component

- ❖ Servlet as an improved CGI
- ❖ Servlet Fundamentals / API
- ❖ What is a Web-Container
- ❖ Servlet Life Cycle / Architecture
- ❖ HTTP GET and POST Request Methods
- ❖ Processing Html Forms
- ❖ What is Name-Value pair
- ❖ Content Types and MIME
- ❖ Configuration of Web Application
- ❖ Understanding the Deployment Descriptor (DD) / web.xml
- ❖ Specifying the Welcome file list
- ❖ Servlet URL Pattern Mapping
- ❖ Init Parameters
- ❖ State Management
- ❖ Using HTTP Session
- ❖ Using Cookies
- ❖ Using Application

**Module 5: Java Server Pages (JSP)**

In this module you can able to differentiate the model, view, server logic so that lot's of client side code processing is reduced on server which is not done in servlets concept.

- ❖ JSP Architecture
- ❖ JSP Standard / Implicit Objects
- ❖ Request

- ❖ Response
- ❖ Out
- ❖ config
- ❖ Application
- ❖ Session
- ❖ Page
- ❖ Page Context
- ❖ exception
- ❖ JSP Page Implementation Class
- ❖ JSP Basics & Syntax
- ❖ JSP Directive Tags
- ❖ Page Directive
- ❖ Include Directive
- ❖ Taglib Directive
- ❖ JSP Action Tags
- ❖ Forward Action Tag
- ❖ Include Action Tag
- ❖ JSP Script related Tags
- ❖ Scriptlet Tag
- ❖ Expression Tag
- ❖ Declaration Tag
- ❖ Using Java Beans from JSP
- ❖ UseBean Tag
- ❖ setProperty Tag
- ❖ getProperty Tag
- ❖ JSP Custom Tag Library
- ❖ JSP 2.0 Tag Files
- ❖ JSP 2.0 Simple Tag
- ❖ Empty Tag
- ❖ Tag with Body Content
- ❖ (JSP Fragment)

#### **Module 6: JavaBeans**

Each time whenever either storing or retrieveing the data from a database we need to a variable, instead of it, in here we will create a property class which will reuse so many times as we want.

- ❖ JavaBean Architecture

- ❖ JavaBean Characteristics
- ❖ Providing Properties & Methods

### **Module 7: JSP Expression Language ( EL )**

In this module you will learn to avoid the expression tag of java code from the client side.

- ❖ Syntax
- ❖ Using different scope objects
- ❖ Calling Functions from EL

### **Module 8: JSP Standard Tag Library (JSTL)**

In this module you will completely avoiding the java code from the client side, so that the processing time will be reduced.

- ❖ General Purpose Actions
- ❖ Conditional Actions
- ❖ Iterator Actions

### **Module 9: Filters in Web Application**

Filters are used to authenticate the user and navigate the user to his particular page and not only that it is also helpful to filtering the user given operations.

- ❖ Filter Basics
- ❖ Filter Lifecycle
- ❖ Filter Chaining
- ❖ Filter Example

### **Module 10: Web Application Security**

How the Client request is navigated to server, and it will check the user is valid or not from the model and how the response is generated by the server to the client. We will learn here.

- ❖ Introduction
- ❖ Declarative Security
- ❖ Programmatic Security
- ❖ Roles
- ❖ Authentication
- ❖ Basic Authentication
- ❖ Digest Authentication
- ❖ Form Based Authentication
- ❖ Standard Login Form

- ❖ Security Constraints
- ❖ Web Resource Collection
- ❖ Authorization Constraint