

Advance Java(J2EE)

Web Development Course



Advance Java(J2EE) Course Syllabus:

Advance Java Syllabus:

Collections

- ❖ Introduction to Collection framework
- ❖ hashCode() and equals() overriding
- ❖ List Interface
 - ✓ ArrayList
 - ✓ Vector
 - ✓ LinkedList
- ❖ Set Interface
 - ✓ HashSet
 - ✓ LinkedHashSet
 - ✓ TreeSet
- ❖ Map Interface
 - ✓ HashMap
 - ✓ Hashtable
 - ✓ LinkedHashMap
 - ✓ TreeMap
- ❖ Queue and Priority Queue
- ❖ Sorting Collections
- ❖ Comparable and Comparator Interface
- ❖ Binary Search in Collections
- ❖ Navigating TreeSet and TreeMap
- ❖ Backed Collections

Generics

- ❖ Introduction to Generics code
- ❖ Mixing Generics and Non Generic code
- ❖ Polymorphism in Generics
- ❖ Generics methods

Dates, Numbers and Currencies

- ❖ Date Class
- ❖ Calendar Class
- ❖ DateFormat Class
- ❖ Locale Class
- ❖ NumberFormat Class

File Navigation and IO

- ❖ Introduction to java.io package
- ❖ Character and Byte Streams
- ❖ File Class
- ❖ Character Classes – FileReader, FileWriter, BufferedReader, BufferedWriter, PrintWriter
- ❖ Byte Streams – FileInputStream, FileOutputStream, BufferedInputStream, BufferedOutputStream
- ❖ Object Serialization
- ❖ ObjectInputStream and ObjectOutputStream
- ❖ readObject() and writeObject()
- ❖ Serialization in inheritance

JDBC

- ❖ Introduction to MySql
- ❖ Creating databases and tables in MySql
- ❖ Table operations
- ❖ Joins in MySql
- ❖ Creating relationships
- ❖ Writing queries
- ❖ Types of drivers
- ❖ Connecting database to java program
- ❖ Executing queries using java commands
- ❖ Statement and prepared statement
- ❖ Stored Procedures

RMI

- ❖ Architecture
- ❖ Create RMI programs

Socket programming

- ❖ Server socket and client socket
- ❖ Create client-server socket programs

HTML & CSS

- ❖ HTML introduction
- ❖ HTML tags
- ❖ Images
- ❖ HTML tables
- ❖ HTML forms
- ❖ CSS syntax
- ❖ CSS Id and Class selectors
- ❖ How to insert CSS

Java script

- ❖ Introduction
- ❖ External and internal javascript
- ❖ Variables and Data types
- ❖ Arrays
- ❖ Functions
- ❖ Accessing HTML form controls
- ❖ Javascript pop up boxes
- ❖ Validation

AJAX

- ❖ Introduction to AJAX
- ❖ Send GET and POST data
- ❖ Read response and display it in HTML controls

Servlet

- ❖ Introduction Features of servlets
- ❖ Web Application and Web Container
- ❖ Working of servlets
- ❖ Introduction to servlet API and servlet class hierarchy
- ❖ Servlet life cycle
- ❖ Life cycle methods
- ❖ How to create and run a web application in Netbeans IDE
- ❖ Concept of deployment
- ❖ The deployment descriptor file
- ❖ The Servlet API and its interfaces
- ❖ How to set servlet initialization parameter
- ❖ How to set context initialization parameter
- ❖ Servlet Event handling
- ❖ Servlet events and interfaces
- ❖ Servlet session handling techniques

- ❖ Error and status codes in servlet responses
- ❖ Inter servlet communication
- ❖ Servlet filters

JSP

- ❖ Introduction to JSP
- ❖ Advantages
- ❖ JSP Life cycle
- ❖ Structure of JSP page
- ❖ Components of JSP page
- ❖ JSP implicit objects
- ❖ Execute JSP in Netbeans
- ❖ Create error pages in JSP
- ❖ JSP and JavaBean
- ❖ JSTL
- ❖ Custom tags

EJB

- ❖ Introduction
- ❖ Advantages
- ❖ Types of EJB Session Beans – Stateless, stateful and singleton
- ❖ Execute Session Beans in Netbeans IDE
- ❖ Entity bean
- ❖ Execute entity bean in Netbeans
- ❖ Message driven beans
- ❖ Execute entity bean in Netbeans

Struts 2

- ❖ Introduction to MVC Architecture
- ❖ Struts 2 architecture and environmental setup
- ❖ Struts 2 configuration
- ❖ Struts 2 actions
- ❖ Struts 2 interceptors
- ❖ Struts 2 result types
- ❖ Execute Struts 2 application in netbeans
- ❖ Struts 2 tags – Control tags, Form tags, Data tags and AJAX tags
- ❖ Struts 2 Value stack / OGNL
- ❖ Struts 2 Database Access
- ❖ Struts 2 validations
- ❖ Struts 2 exception handling

Hibernate

- ❖ Introduction
- ❖ Advantages
- ❖ Hibernate architecture
- ❖ Hibernate configuration
- ❖ Hibernate persistent class
- ❖ Hibernate mapping files HQL
- ❖ Using hibernate in a web application
- ❖ Struts 2 integration with Hibernate

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