

Registered Office:

7.Way Lane,Ram Mohan Rai Marg,Lucknow-226001

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Course Content for JAVA / J2EE/MYSQL

In First Month of Project we cover	Overview of the Core Java and J2EE technology with Hibernate Framework. Parallel to Start the Project Analysis and Documentation. (In Synopsis Data Structure Design, Dfd Design, ER design is must for the students view.)	Preparation of Synopsis of the Project is essential for the students.
Second Month	First 15 Days for the Designing of Forms and Database.	SDLC Lifecycle follows.
Third Month	Coding	
Fourth Month	First 15 days for Coding. Last 15 days for Validation Checks, Testing and Implementation.	

1. Introduction
 - a. About Company
 - b. About Live Project Training
 - c. About tools/technologies used in LPT.
 - d. About Web Application etc.
 - e. Some web topics like (Modem, ISDN, Communication Software, Internet Providers, Online Services, Internet Address, Domain name, Web browsers, FTP.
 - f. Introduction of the Tools (Netbeans, Macromedia Dream weaver, Eclipse IDE, MYSQL Workbench) used in the Project.
2. Object Oriented Programming Concepts
 - a. Introduction
 - b. OOP Concepts (Basic + Fundamental of OOP).
 - c. Benefits of OOP Programming.
 - d. Comparison of OOP Programming with Structural Procedural Programming.
 - e. Application of OOP.

ASSIGNMENT 1
3. Introduction to JAVA
 - a. Features of Java.
 - b. Difference between C++ and Java.
 - c. Edition Enhancements.
 - d. Introduction of J2EE Technology.

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ASSIGNMENT 2

4. **Java Fundamentals**
 - a. **Types of Java Programs-(Application Program OR Stand alone Program) (Applet OR Intelligent Program, Servlets)**
 - b. **Java Architecture.**
 - c. **JDK Tools (javac, java, jdb, rmic, jar, servlet runner, applet viewer)**
 - d. **Java Standard Library (JSL)**
 - e. **Important Packages (java. Lang, java.util, java.io, java.awt, java.applet, java.net, javax.swing).**

ASSIGNMENT 3

5. **Java Programming**
 - a. **Compiling and Running Java Programs.**
 - b. **Comments in a Program.**
 - c. **Command line Argument.**
6. **Data Types, Variables and Operators**
 - a. **Java Tokens, Alphabets (Character Set),**
 - b. **Keywords, Java Reserved Keywords, Identifiers, Constants, Data types, Operators.**
 - c. **Control-Flow Statements, Decision-Making Statements, Switch and IF else, Looping statements, Break, Continue, Return, TypeCasting.**

ASSIGNMENT 4

7. **Classes and Objects**
 - a. **What are Classes, Declaring a class, Rules for Naming Class, Abstract Class and Interface.**
 - b. **Creating an Object, Methods, Exploring New Operators, Constructors, Dynamic Methods dispatch, wrappers.**
 - b. **Difference between Constructor and a Method.**
 - c. **Type of Constructors.**
 - d. **Finalizers, Use of Final,Transient,volatile,Super and this Keyword String Buffer class, Array list.**

Exploring Methods

- a. **More about main () method.**
- b. **Rules for main () method.**
- c. **Methods, Argument Passing, Call by Reference, Local Variable.**

ASSIGNMENT 5

8. **Packages and Interface**
 - a. **User-defined Packages.**
 - b. **Structure of the Java Program.**
 - c. **How to Create a Package.**
 - d. **Class member Access Protection, Class Path, Creating an Interface (Using, Extending).**

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9. Java Exception Handling
 - a. Syntax for Exception Handling Mechanism.
 - b. The Try,Catch,Multiple Catch Block, Checked and UnChecked Exceptions
 - c. The Catch Block (or) Multiple Catch.
 - d. Throw, Throws, The finally Block, User Defined Exceptions.

ASSIGNMENT 7

- 10 MultiThreading
 - a. Overview of Processes and Threads.
 - b.Creating a child Thread using Thread class and Runnable Interface.
 - c.Synchronization of Thread.
 - d.InterThread Communication.

ASSIGNMENT 8

- 11 I/O
 - a. Introduction of input and output in java.
 - b. Types of I/O streams.
 - c. File handling on java_

ASSIGNMENT 9

- 12 Collection
 - a. What is collection
 - b. What is collection framework.
 - c. Introduction of collection classes
 - d. Introduction of collection Interface
 - e. Introduction of Generics and its Advantages.

ASSIGNMENT 10

- 13 Applet
 - e. Without using Html file to RUN an Applet.
 - f. Applet Life Cycle. Applet Tag.
 - g. Passing Parameters to Applets.
 - h. Difference between Applets and Application Program.
 - i. Converting Applet to Application.

ASSIGNMENT 11

- 14 Introducing HTML,DHTML
 - i. HTML Editor
 - ii. Advance tag of HTML
 - iii. Markup Tag of HTML
 - iv. Details of DHTML Tags.

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ASSIGNMENT 12

- 15 **AJAX**
- a. Introduction to Ajax
 - b. Ajax advantages and disadvantages
 - c. The purpose of AJAX
 - d. Complete Implementation of Ajax.

ASSIGNMENT 13

- 16 **Apache Tomcat Server OR Weblogic Server**
- b. Installation Process.
 - c. Describe Directory of Tomcat
 - d. How to Deploy Your Web application
 - e. How to run Your Application on Tomcat

ASSIGNMENT 14

- 17 **Servlet**
- f. CGI Script, Java Servlet, Servlet Container
 - g. Servlet Life Cycle, Servlet Interface, Generic Servlet Class
 - h. Http Servlet Class, Http Servlet Request Interface.
 - i. Session Tracing
 - j. Servlet Filters
 - k. Servlet Event and Listener
- 18 **JSP (Java Server Programming)**
- a. What is JSP
 - b. How to work JSP
 - c. Describe Directives of JSP
 - d. Describe implicit Object of JSP
 - e. Describe Action Tag of JSP
 - f. Describe of basic tag of JSP.

ASSIGNMENT 15

- 19 **Java Beans**
- a. Introducing Java Beans
 - b. How to create Java Beans
 - c. How to implement your Java Beans using JSP.

ASSIGNMENT 16

- 20 **Java Server Pages Standard Tag Library (JSTL)**
- a. Introduction of JSTL
 - b. Types of JSTL Tags
 - c. JSP Custom tag
 - d. JSP Expression Language

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ASSIGNMENT 17

21 Hibernate Framework:-

- a. Introduction to Hibernate
- b. Overview of Hibernate
- c. Features of Hibernate
- d. Getting Started with Hibernate
- e. Hibernate O/R Mapping
- f. Hibernate Mapping In Depth
- g. Hibernate Query Language(HQL).
- h. Hibernate Complete Example.

ASSIGNMENT 18

22 Database Handling

- a. Introduction to MYSQL and JAVA Database Connectivity.
- b. ODBC API, JDBC API
- c. JDBC Application Architecture, exploring java.sql.
- d. Obtaining a Connection.
 - i. Adding Library References
 - ii. Introducing JDBC Objects
 1. Connection Objects
 2. Statement Objects
 3. Result Set Objects
 - iii. Using JDBC Objects
 1. Opening/Closing Database connection
 2. Fetching tables in Result Set
 3. Manipulating Result Set
- e. Statement, Prepared Statement,Callable Statement etc.

23 Introducing MYSQL

- a. Creating, Backup, Restore Database
- b. Creating, working with Tables
- c. Creating, working with Views
- d. Introducing Triggers
- e. introduction of SQL Transaction
- f. Stored Procedures and functions

24 Reporting Tools :-

Various type of report generate using Jasper Report.

Special Notes and Classes for Project help:

- (1). Time to Time e. Soft provides useful printed materials, FAQ's related to the technology.
- (2). Special classes taken by the Highly Experienced Software Professionals of e.Soft.

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- (3). Gives Technical and HR Interview tips of the students and also take a Mock interview at the end of the Project.
- (4). Every Saturday we take a feedback of the Students regarding Project Status.

Reference Books for the Core Java and J2EE, MYSQL:

- (1). JSP in 24 Hours (Techmedia).
- (2). Complete Reference (Tata Mcgrahill) for CoreJava.
- (3). Java Script in 24 Hours. (Techmedia).
- (4). For Advance Level – Professional JSP (Apress)
Wrox Publications for J2EE Technology.
- (5). MYSQL in a NutShell.