

<b>Registered Office:</b> 7-Way Lane, Ram Mohan Rai Marg, Lucknow - 226 001, India. Tel/Fax : 91-522-2205664 / 2205665	
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### Course Content for JAVA / J2EE/MYSQL

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

#### 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, GEL Editor, MYSQL) 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

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

**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, Type Casting.**

**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.**

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**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).

**ASSIGNMENT 6**

- 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 **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 9**

- 12 **Introducing HTML,DHTML**
  - i. HTML Editor
  - ii. Advance tag of HTML
  - iii. Markup Tag of HTML

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iv. Details of DHTML Tags.

**ASSIGNMENT 10**

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

**ASSIGNMENT 11**

- 14      **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 12**

- 15      **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.
- 16      **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 13**

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

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**ASSIGNMENT 14****18 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 15****19 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. ResultSet Objects
    - iii. Using JDBC Objects
      - 1. Opening/Closing Database connection
      - 2. Fetching tables in ResultSet
      - 3. Manipulating ResultSet
  - e. Statement, Prepared Statement, Callable Statement etc.
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- 20 Introducing MYSQL
    - a. Creating, Backup, Restore Database
    - b. Creating, working with Tables
    - c. Creating, working with Views
    - d. Introducing Triggers and Procedures
  
  - 21 Reporting Tools :-  
Various type of report generate using Jasper Report.

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**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.
- (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.

Course Duration	Course Fee
3 MONTHS	Rs. 7500
2 MONTHS	Rs. 6500

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