SPIRO - PROFESSINAL STUDENT PROCESS ACADEMY
(TRAINING DIVISON OF SPIRO SOLUTIONS PVT. LTD)
ISO 9001:2008 CERTIFIED ,NASSCOM LISTED COMPANY

Stupros.com
ISO 9001:2008

+91-9791 044 044

Java- Programming

Duration:60 HOURS | Price: INR 6000 SAVE NOW! INR 5000 until December 1, 2011

Students Will Learn

- Java Language and Syntax
- The Java Development Kit
- Object Oriented Programming
- JavaBeans
- Databases and JDBC
- Servlets, JSPs, and Tag Libraries
- Developing a GUI Using Swing

Course Description: This hands on course introduces experienced programmers to Java™ technology and Java programming techniques. The Java platform provides an object-oriented, portable and robust framework for application development. Included are core language concepts including fundamental data types, flow control, and standard function libraries. The course emphasizes object oriented programming and modular design to support distributed development environments. Included are the design of classes and objects, inheritance and polymorphism, and the details about creating programs for use on a distributed network, with emphasis on JSP, Servlets, and JDBC.The course also includes coverage of the Java Collections API, fundamental I/O, exceptions, and exception handling. Students are introduced to GUI programming using the Swing library as an example of a GUI API.

The course is designed to leverage the participants' existing programming skills and to highlight the new and extended features of the Java programming framework as compared to other common languages. Comprehensive lab exercises provide hands on practice crucial to developing competence and confidence with the new skills being learned. Students who do not already possess fundamental programming skills should attend the Learning to Basic Java Program course rather than this course.

Course Prerequisites: Basic programming skills in a structured language. Knowledge and experience with Object-Oriented Design (OOD) is helpful, but not required.

Follow-up Courses: Java EE Web Application Development with Enterprise JavaBeans and Web Services, Java EE Web Application Development, Java EE Web Application Development with Apache Struts 1, Programming Java EE and Frameworks: Web Application Development Using Spring, Hibernate, AJAX and Web Services, XML Programming

SPIRO - PROFESSINAL STUDENT PROCESS ACADEMY
(TRAINING DIVISON OF SPIRO SOLUTIONS PVT. LTD)
ISO 9001:2008 CERTIFIED ,NASSCOM LISTED COMPANY

Stupros.com
ISO 9001:2008

+91-9791 044 044

Java Programming Course Overview

Introduction to Java

- Cornerstones of the Java Platform
- Java Advantages
- The Java Programming Language
- The Java Virtual Machine (JVM)
- Core Java Libraries
- Extension Libraries

Java Syntax Fundamentals

- Comments
- Identifiers
- Reserved Words
- Classes
- Statements and Blocks
- Variables, Constants, Literals
- Scope of Variables
- Methods
- Method Overloading
- static Members
- Static Import (Java SE 5+)
- Naming Conventions

Flow of Control

- if/else statement
- Combining ifs
- while and do/while Loops
- for Loop and Loop Counters
- break and continue
- Break to Labeled Loops
- switch Statement
- return Statement
- Exit Status

Using Java Classes and Objects

- Classes as Data Types
- Objects and References
- Memory in the JVM
- Object Initialization
- Objects as Arguments to Methods
- Objects as Return Values
- Garbage Collection
- Primitive Wrapper Classes - Integer, Double, etc.
- Autoboxing and Unboxing (Java SE 5+)

Strings

- String Manipulation
- StringBuffer and StringBuilder
- Simple Number/String Conversion

Developing Software Using Java

- Applications, Applets, Web Components
- Java SE, Java EE, Java ME
- Installing the JDK
- Compiling and Running Java from the Command Line
- The main() Method
- package and import Statements
- JAR Files
- Class Loading and CLASSPATH
- Online API Documentation
- JDK Tools
- Java Integrated Development Environments (IDEs)

Data Types and Operators

- Primitive Types
- Boolean, Integer, Floating-Point and Character Types
- Unicode Characters and Strings
- Type Conversion and Casting
- Expressions and Operators
- Arithmetic Operators
- Increment/Decrement Operators
- Division and Remainder Operators
- Assignment Operators
- Relational Comparison and Logical Operators
- Conditional Operator
- Bitwise Operators
- Order of Evaluation
- Operator Precedence and Associativity

Arrays

- Declaring and Allocating Arrays
- Multi-Dimensional Array
- Array Literals
- The java.util.Arrays Class
- Command-Line Arguments
- Enhanced for Loop (Java SE 5+)
- Arrays as Method Arguments
- Variable-Length arglists (varargs) (Java SE 5+)
- Autoboxing and varargs

SPIRO - PROFESSINAL STUDENT PROCESS ACADEMY
(TRAINING DIVISON OF SPIRO SOLUTIONS PVT. LTD)
ISO 9001:2008 CERTIFIED ,NASSCOM LISTED COMPANY

Stupros.com
ISO 9001:2008

+91-9791 044 044

Inheritance

- Extending Java Classes
- Accessing Superclass Constructors and Members
- Overriding Methods
- Abstract CLasses and Methods
- Polymorphism
- Overriding Methods of java.lang.Object
- equals(), toString(), hashCode();
- Final Classes and Methods
- Multiple Inheritance
- Interfaces
- Casting Object References
- Documenting Classes with the javadoc Utility
- Unit Testing

Type Safety

- Annotations (Java SE 5+)
- Java SE Built-In Annotations
- Defining New Annotations
- Enumerated Types (Java SE 5+)
- Constants and Constrained Values
- Defining and Declaring enums
- enum Values
- enums and switch Statements
- values() and valueOf()
- Generic Classes (Java SE 5+)
- Generic Type Parameters
- Using Type Parameters inClass, Variable and Method Declarations
- Using a Generic Class
- Bounded Type Parameters

Exceptions and Exception Handling

- The Throwable Hierarchy: Error, RuntimeException and Checked Exception
- Methods that Throw Exceptions
- Handling Exceptions with try-catch-finally Blocks
- Application-Defined Exceptions
- Throwing an Exception
- Assertions (Java 1.4+)
- Enabling Assertions at Run-Time

Network Programming

- The java.net Package
- IP Addresses and Port Numbers
- Client/Server Socket Programming
- URL and URLConnection classes
- Communicating with Web Servers
- HTTP GET and POST Operations
- Posting to a Server-Side Program

Developing Java Classes

- Object-Oriented (OO) Concepts
- Methods, member variables
- Accessing Members
- Tight Encapsulation
- Access Control Modifiers
- Constructors and Finalizer
- Using this Class Variables - Static Members & Static Blocks
- Instance Variables
- Local Variables
- Variables and Initialization
- Inner Classes
- Anonymous Classes
- JavaBeans
- Driver Classes

The Collections Framework

- The java.util Package
- Container Objects
- Arrays as Containers
- Legacy Container Classes - Vector, Hashtable, Enumeration
- Legacy Container Generic forms (Java SE 5+)
- Collections Interfaces - Collection<E>, List<E>, Set<E>, SortedSet<E>
- Map Interfaces - Map<K,V>
- Coding to the Interface
- List<E>, Set<E>, Queue<E> and Map<K,V> implementations
- Iterating Collections with the Iterator<E> Interface
- Collections and the Enhanced for Loop
- Choosing the Correct Implementation and Interface
- The java.util.Collections Utility Class
- Sorting Using the Comparable Interface

SPIRO - PROFESSINAL STUDENT PROCESS ACADEMY
(TRAINING DIVISON OF SPIRO SOLUTIONS PVT. LTD)
ISO 9001:2008 CERTIFIED ,NASSCOM LISTED COMPANY

Stupros.com
ISO 9001:2008

+91-9791 044 044

Threads

- Life and States of a Thread
- Creating and Starting a Thread
- java.lang.Runnable and java.lang.Thread
- Stopping a Thread
- Inter-Thread Communication
- Thread-Safe Access to Shared Objects and Variables
- Synchronized Code
- Sleeping
- Interrupting a Blocked Thread
- wait(), notify(), notifyAll() Example
- Thread Scheduling
- Thread Groups
- Writing a Multithreaded Server

Java Web Applications

- Java Enterprise Edition
- Java EE Application Servers
- Web Application Directory and WAR files
- Deploying a Web Application - the web.xml file
- Servlet Architecture
- The javax.servlet Package
- Servlet Classes and Interfaces
- Writing a Servlet
- HttpServletRequest and HttpServletResponse
- Handling HTML Forms
- Retrieving Request Parameters

Basic Input and Output (I/O)

- The java.io Package
- Using Stream Classes
- Combining Streams
- flush() and close()
- Console Input and Output
- Navigating the File System
- File Streams
- Character File Input and Output
- Reader and Writer Interfaces
- BufferedReader and BufferedWriter
- Binary File I/O - DataOutputStream and DataInputStream
- Object Streams - ObjectInputStream and ObjectOutputStream
- Serialization and Versioning
- Random Access Files
- Formatted Input and Output
- Formatter (Java SE 5+)
- Format specifiers, printf() and format()
- java.text Classes for Formatting Dates, Numbers, Currencies
- Input with Scanner (Java SE 5+)

Java Database Connectivity

- The java.sql Package
- JDBC Architecture and Drivers
- SQL Exceptions
- DriverManager, Connection, Statement and ResultSet interfaces
- Examining database MetaData
- Basic Query and Update
- Improving Performance with PreparedStatement and CallableStatement Interfaces
- JDBC Transaction Management

JavaServer Pages (JSPs)

- JSP Lifecycle
- Elements of a JSP
- Directives, Declarative, Scriptlets
- Writing a JSP
- Objects Available in a JSP
- Repeated content in JSPs
- Translation-Time and Request-Time Includes
- Using JavaBeans in a JSP
- Session Management
- Mixing JSPs and Servlets
- Installing and Using Tag Libraries
- The JSP taglib Directive
- The Tag Library Descriptor

SPIRO - PROFESSINAL STUDENT PROCESS ACADEMY
(TRAINING DIVISON OF SPIRO SOLUTIONS PVT. LTD)
ISO 9001:2008 CERTIFIED ,NASSCOM LISTED COMPANY

Stupros.com
ISO 9001:2008

+91-9791 044 044

Student Testimonials

"I enjoyed the instructors teaching. He was willing to address scenarios specific to my current Java projects at the office. I found the course very helpful in understanding Java terminology and concepts. I feel prepared to continue using and learning Java on my own."
— Sarkunam

"The instructor's knowledgeable of Java and programming in general is phenomenal. His understanding of the subject can be seen throughout the class. Answered all questions and provided analogies to day to day life scenarios to better understand Java and object oriented programming. The training in overall fully met my expectations and would like to recommend this class to friends/colleagues. "
— Vijay kumar

 # 78 ,3rd Floor,Usman Road,T.Nagar,Chennai-17.(above Hotel Sarvanha Bhavan)
Mobile : 9791 044 044,9176 644 044 Email:course@stupros.com