VproV TECHNOLOGIES

Syllabus: Core Java Programming

Chapter 1: Introduction to Java programming

- The Java Virtual Machine
- Variables and data types
- Conditional and looping constructs
- Arrays

Chapter 2: Object-oriented programming with Java Classes and Objects

- Fields and Methods
- Constructors
- Overloading methods
- Garbage collection
- Nested classes

Chapter 3: Inheritance

- Overriding methods
- Polymorphism
- Making methods and classes final
- Abstract classes and methods
- Interfaces

Chapter 4: Exception handling with try-throw-catch-finally constructs

- The Exception class

Chapter 5: The Object class

- Cloning objects
- The JDK LinkedList class
- Strings
- String conversions

Chapter 6: Working with types: Wrapper classes

- Enumeration interface

Chapter 7: Packages

- Package access
- Documentation comments

Chapter 8: Applets

- Configuring applets
- Applet capabilities and restrictions

Chapter 9: Basics of AWT and Swing

- Layout Managers
- Event Handling
- The Action Listener interface
- Panels
- Classes for various controls, such as label, choice, list,
- Checkbox, etc.
- Dialogs and frames
- Using menus
- Using the adapter classes
- Graphics

Chapter 10: Threads

- Synchronization

Chapter 11: The I/O Package

- InputStream and OutputStream classes
- Reader and Writer classes

Chapter 12: Basic concepts of networking

- Working with URLs
- Concepts of URLs
- Sockets

Chapter 13: Database connectivity with JDBC

- Java security

Syllabus: Advanced Java Programming (J2EE)

(Web-Server & support Technologies)

Java Database Connectivity

- JDBC Product
- Types of Drivers
- Two-Tier Client/Server Model
- Three-Tier Client/Sever Model
- Basic Steps of JDBC
- Creating and Executing SQL Statement
- The Result Set Object
- Working with Database MetaData
- Interface

Servlets

- Servlet Interaction & Advanced Servlets
- Life cycle of Servlet
- Java Servlet Development Kit
- Javax.servlet package
- Reading Servlet Parameters
- Reading Initialization Parameters
- The javax.servlet.http Package
- Handling HTTP

JavaServer Pages

- JSP Technologies
- Understanding the Client-Server Model
- Understanding Web server software
- Configuring the JSP Server
- Handling JSP Errors
- JSP Translation Time Errors
- JSP Request Time Errors
- Creating a JSP Error Page

RMI

- RMI Architecture
- Designing RMI application
- Executing RMI application

EJB

- Types of EnterpriseJava beans
- Session Bean & Entity Bean
- Features of Session Bean
- Life-cycle of Stateful Seession Bean
- Features of Entity Bean
- Life-cycle of Entity Bean
- Container-managed Transactions &
- Bean-managed Transactions
- Implementing a container-manged Entity Bean

XML

- What is XML?
- XML Syntax Rules

Structs

- Introduction to the Apache Struts
- MVC Architecture
- Struts Architecture
- How Struts Works?
- Introduction to the Struts Controller
- Introduction to the Struts Action Class
- Using Struts ActionFrom Class
- Using Struts HTML Tags
- Introduction to Struts Validator Framework
- Client Side Address Validation in Struts
- Custom Validators Example
- Developing Application with Struts Tiles

Hibernate

- Introduction to Hibernate 3.0
- Hibernate Architecture
- First Hibernate Application

Java ME (J2ME) Upgrade for Java Programmers

J2ME (Java 2 Micro Edition) Java 2 Platform, Micro Edition is an advanced technology in Java, developed with the help of Java Community Process Program. J2ME is a reduced version of the Java API and Java Virtual Machine that is designed to operate within the limited resources available in the embedded computers and microcomputers. J2ME is targeted to developers of intelligent wireless devices and small computing devices. who need to incorporate cross-platform functionality in their products. A key benefit of using J2ME is compatibility with all Java-enabled devices. Motorola, Nokia, Panasonic all have Java-enabled devices. A J2ME application is a balance between local and server-side processing.

J2ME & Mobile Application Content Duration: 9 Week / 2 Months

Introduction to J2ME

- UI Design
- Graphic Design
- Data Management and Application Development
- Communications
- Assignment and hands on live projects.

Training concepts

Understand the differences between J2ME and other versions of Java, namely J2SE (standard client-side Java), and J2EE (enterprise Java).
Understand the environments, and their limitations, in which J2ME runs.
J2ME components:
KVM - CLDC - MIDP Personal Java Overview of profile system Architecture and Midlets. Understand & Create Midlets (Applets for Mobile Devices). Deploy and test Midlets. Differences between J2ME environments

MIDP 2.0

- Mobile information device profile Creating MIDP applications Midlet suites Midlet deployment

MIDP 2.0 GUI

- Graphical User Interfaces with MIDP Displays, Commands, Pointers, Screens Animations and drawing
- Threading and Synchronization
- Threading Creating Threads in Java Synchronization

J2ME Capabilities

- Streamed IO Socket IO (TCP/IP) J2ME IO Networking with HTTP RMS (Record Management System)

Connectivity

- SMS Bluetooth IrDA - Infrared Data Adapter Networking Push Registry

APIs

- MMAPI - JSR 135 SIPAPI - JSR 180 Game API

Course content for 2 Day training in J2ME

- Overview of Wireless Domain
- Overview of J2ME
- Architecture Overview
- Environment Setup for J2ME
- User Interface (High level and low level)
- RMS (Record Management System)
- Development and Debugging of a demo client for Nokia phones
- Tips on making code portable
- Understanding Client Server Architecture
- Practical End-to-End Development, Designing and Coding of a “Commercial Application” as per industry standards