

SIX WEEKS JAVA COURSE CURRICULUM

INTRODUCTION TO JAVA

- Understanding Requirement: why JAVA
- Why java important to the internet
- JAVA on LINUX PLATFORM

INTRODUCTION TO JAVA VIRTUAL MACHINE

- Java Virtual machine Architecture
- Class loading process by class loaders
- Booting loader
- Extension loader
- System loader
- Role of Just In time compiler (JIT)
- Execution Engine

AN OVERVIEW OF JAVA AND BUZZWORDS

- Data Types , Variables ad Arrays
- Operators
- Control statements
- Object oriented paradigms
- Abstractions
- Encapsulation, Inheritance, Polymorphism

JAVA CLASSES AND OOP IMPLEMENTATION

- Class fundamentals
- Commands line arguments
- Learning Static Initializer
- Declaration of objects
- Instance variable Hiding
- Overloading and Overriding of Methods
- Up casting
- Down casting
- Understanding of Access Controls (private, public and protected)
- Learning Nested and Inner classes
- Dynamic method Dispatching
- Using Abstract classes
- Using final to prevent Overriding & Inheritance

PACKAGES AND INTERFACES

- Defining a package
- Understanding CLASSPATH
- Access Protection
- Importing packages
- Defining and Implementing interfaces
- Anonymous classes
- Abstract classes Vs Interfaces
- Adapter classes

EXCEPTION HANDLING

- Fundamental of Exception handling
- Types of Exceptions
- Learning exceptions handlers
- Try and Catch
- Multiple catch Clauses
- Nested Try statements
- Throw , throws and finally
- Creating custom exceptions
- Assertion

STRING HANDLING

- Learning String Operation
- Learning character Extraction
- Learning string Comparison
- Understanding string Buffer Classes
- String builder class
- Creating Immutable Class

SWING & AWT

- Introduction to JFC
- Controls
- Event Delegation Method
- Event Classes
- Event listeners

MULTI THREADED PROGRAMMING

- The java thread model
- Creating a thread: Extended Thread and Implementing Runnable
- Creating multiple Thread and Context Switching
- Synchronization: methods and statements
- Inter thread Communication
- Thread local
- Dead lock

INTRODUCTION TO I/O STREAMS

- File handling
- Binary Streams
- Character stream
- Serialization
- Scanner
- Stream tokenizer
- String tokenizer
- Data Encryption & decryption

NETWORKING

- URL, InetAddress
- Socket And Server Socket
- Datagram socket
- Socket factories

REFLECTION API

- Determining the class of an object
- Getting information about classes modifier, fields, methods, constructor, and super classes
- Finding out constant and method declaration belong to an interface
- Creating an instance of a class whose name is not known until runtime
- Getting and setting value of an objects field if field name is unknown until runtime
- Invoking a method on an object if the method is unknown until runtime
- Creating a new array whose size and components type are not know until runtime
- Invoking private member of a class

COLLECTION API

- Collection Overview
- The Collection Interfaces (List, Set, SortedSet)
- The Collection Classes (ArrayList, LinkedList, HashSet, TreeSet)
- Accessing a Collection via an Iterator
- Working with Maps

JDBC

- JDBC Drivers
- Statements
- Metadata
- Scrollable & Updatable Result set
- Batch Updates
- Data Sources And Connecting Pooling
- Row sets
- Transaction (commit , rollback, savepoint)
- Getting Data from excel sheet
- Generating log file