



Object Oriented Concepts using Java-Basic

Course Summary

Object Oriented Concepts using Java provides students with the key, fundamental skills, needed to successfully understand the fundamental principles of Object oriented language and applying those concepts using java

Duration

5 days

Objectives

Understand Basic Principles of Object Oriented Language and Know how to apply those principles using Java


Audience

Students, Professionals



Pre-Requisites





Before attending this class, the student should:

-  Have knowledge on Operating system basics.







Outline

Day1:






Introduction to java

-  History of java
-  Features of java
-  The java platform
-  JDK and JRE














Object oriented concepts

-  Class
-  Object
-  Encapsulation
-  Abstraction
-  Inheritance
-  Polymorphism

Basics of programming language







-  Data types
-  Conversion between types
-  Identifiers
-  Operators
-  Keywords












-  Sample program in java
-  About main method
-  Compile and run a java program
-  Statement and flow control
-  Statements and Blocks
-  Scope of the Variable
-  If-else Statement
-  Switch Statement
-  While Loop Statement
-  For Loop Statement
-  Using for to Iterate over Arrays and Collections
-  Break and continue Statement
-  Nested Loops and Labels

Day2:



Strings and Array

-  String Class
-  String functions
-  StringBuffer Class
-  Array declaration, initialization, and assignment.
-  1-D and 2-D array
-  Length Property








Object oriented programming in java

-  Class Syntax
-  Properties and Methods
-  Object creation
-  Access Specifiers
-  Constructor
-  Constructor over loading
-  Garbage collection
-  Variable length argument
-  Method overloading











-  Accessors and mutators
-  Static members and functions

Day 3:








-  Wrapper classes
-  Inheritance
-  Function overriding
-  Polymorphism
-  Abstract class and methods
-  Up casting and down casting
-  Interface

Day 4:


Packages

-  Create a package in java
-  Sub packing
-  Access Specifier
-  Import statement
-  Static import
-  Class path
-  Built-in Packages
-  JAR creation






Exception Handling

-  Exception
-  Purpose of handling exception
-  Exception types
-  Checked vs. unchecked exception
-  Exception life cycle
-  Handling exception
-  Throwing exception






-  Creating a custom exception

Day 5

-  Input/ output Streams
-  Byte stream
-  Character stream
-  Input/output class hierarchy
-  Object serialization

Lab Requirements

-  Windows Enabled System - WinXP/Windows 7 or Linux Based OS
-  Eclipse Galileo
-  JDK 1.6