



Core Java



Java™

About Course

Core Java is a part of the Java programming language that one can use for developing or creating a general-purpose app. Its main focus is to build such general applications. The J2SE (Java Standard Edition) is known as Core Java. It mainly covers concepts of object-oriented programming (OOP).

Core Java

CURRICULUM

① Java Language Environment

Object Oriented

Platform Independent

Automatic Memory Management

Compiled / Interpreted approach

Robust

Secure

Dynamic Linking

Multi-Threaded

Built-in Networking

② Java Fundamentals

Data types

Operators

Control Statements

Arrays

Enhanced for-loop

Enumerated types,

Static import

Auto boxing

C-style formatted I/O

Variable arguments

3 Essentials of Object-Oriented Programming

Object and Class Definition

Using encapsulation to combine methods and data in a single class

Inheritance and Polymorphism

4 Writing Java Classes

Encapsulation

Polymorphism

Inheritance

OOP in Java

Class Fundamentals

Using Objects

Constructor

Garbage Collection

Method Overloading

Method Overriding

Static Members

Understanding Interface

Using Interfaces

5 Packages

Why packages

Understanding Class path

Access modifiers & their Scope

6 Exception Handling

When an exception occurs.

Importance of Exception Handling

Exception Propagation

Exception Types

Using try and catch

throw, throws, finally

Writing User defined Exceptions

7 WORKING WITH STRINGS

What is String

String Class

Creating String Object

Operations on String

String Buffer Class and it's Methods

Difference between String and StringBuffer class

String Builder Class and it's Methods

Difference between StringBuffer and StringBuilder

8 I/O Operations in Java

- Byte Oriented Streams
- File Handling
- Readers and Writers

9 Multithreaded Programming

- Introduction to Multi-Threading
- Understanding Threads & its States
- Java Threading Model
- Thread class & Runnable Interface
- Thread Priorities
- Thread Synchronization
- Interthread Communication
- Preventing Deadlocks

10 Java Util Package / Collections Framework

- Collection & Iterator Interface
- Enumeration
- List and ArrayList
- Vector
- Comparator
- Set Interface & SortedSet
- Hashtable
- Properties

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Generics

Introduction to Generics

Using Built-in Generics Collections

Writing Simple Generic Class

Bounded Generics

Wild Card Generics

12

Abstract Window Toolkit

Graphics

Color and Font

AWT Components/Controls

Event Handling & Layouts

13

Swing Programming

Introduction to Swing & MVC Architecture

Light Weight Component

Swing Hierarchy

Atomic Components e.g. JButton, JList and more

Intermediate Container e.g. JPanel, JSplitPane and more

Top-Level Container e.g. JFrame and JApplet

Swing Related Events



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Java Abstraction

Abstract class

Interface


Abstract vs Interface



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