

## CORE JAVA TRAINING

Learn the most demanded skill in industry

Duration:6 weeks Certified Training

### About Core Java Training

The Core Java training is a 6-weeks training program covering the basic concepts of Java and Object-Oriented Programming such as arrays, methods, and inheritance, polymorphism, classes etc. As a part of the project, students will learn about Java FX and develop an awesome game using the same concepts. You will learn through video tutorials. For great hands on learning experience, this training program is packed with assignments, assessment tests, and exercises.

Following are the detailed table of contents of this training:

#### 1. Basics of Java

- Java – What, Where and Why?
- All the important Features of Core Java
- Internals of Java Program
- Variable and Data Type Used in Java
- Naming Convention

#### 2. Object Oriented Programming System(OOPS Concepts)

- Advantage of OOPs
- Object and Class
- Polymorphism (Method Overloading)
- Constructor and Destructor
- Static Keyword (Static variable, method and block)
- this keyword use
- Types of Inheritance in Core Java
- Aggregation and Composition(HAS-A)
- Method Overriding (Interface)
- Covariant Return Type of Function(Method)
- super keyword
- Instance Initializer block
- final keyword ( Final variable , Final class , final function)
- Runtime Polymorphism
- Static and Dynamic binding
- Abstract class and Interface
- Down casting with instance of operator
- Package (Types of packages)and Access Modifiers

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Encapsulation and Data Abstraction  
Object class  
Object Cloning  
Java Array , Array passing and returning  
Call By Value and Call By Reference

### **3. Exception Handling Keywords (try , catch , throw , throws , finally)**

Exception Handling : What and Why?  
try and catch block  
Multiple catch block  
Nested try  
finally block execution  
throw keyword (user defined exception)  
Exception Propagation  
throws keyword and finally keyword  
Custom Exception (user defined)

### **4. Multithreading**

Multithreading : What and Why?  
Life Cycle of a Thread  
Creating Thread (Thread class , Runnable interface)  
Thread Scheduler  
Sleeping a thread (sleep(int) function)  
Joining a thread  
Setting Thread Priority (set Priority() function)  
Performing multiple task by multiple thread  
Runnable Interface technique use  
Thread Synchronization  
Synchronization of threads : What and Why required?  
Synchronized method (Function)  
synchronized block

### **5. Input and output (File Handling)**

File Output Stream & File Input Stream  
Byte Array Output Stream  
Sequence Input Stream  
Buffered Output Stream & Buffered Input Stream  
File Writer & File Reader  
Char Array Writer  
Input from keyboard by Input Stream Reader  
Input from keyboard by Console  
Input from keyboard by Scanner  
Print Stream class

Print Writer class  
Compressing and Uncompressing File  
Reading and Writing data simultaneously  
Data Input Stream and Data Output Stream  
Stream Tokenizer class

## **6. Applet**

Life Cycle of Applet  
Graphics class in Applet  
Displaying image in Applet  
Animation in Applet  
Event Handling in Applet  
J Applet class  
Painting in Applet  
Digital Clock in Applet  
Analog Clock in Applet  
Parameter in Applet  
Applet Communication

## **7. AWT and Event Handling**

AWT Controls and classes  
Event Handling by 3 ways  
Event classes and Listener Interfaces  
Adapter classes in AWT  
Creating Games and Applications by Java programming

## **8. Swing (Javax features)**

Basics of Swing  
JButton class use  
JRadioButton class use  
JTextArea class use  
JComboBox class use  
JTable class use  
JColorChooser class use  
JProgressBar class use  
JSlider class use  
Digital Watch  
Graphics in swing  
Displaying Image  
Edit Menu for Notepad  
Open Dialog Box  
Creating Notepad  
Creating Games and applications

## **9. Layout Managers**

- Border Layout and its Use
- Grid Layout and its Use
- Flow Layout and its Use
- Box Layout and its Use
- Card Layout and its Use

## **10. Java Database Connectivity (JDBC)**

- JDBC Drivers
- Steps to connect to the database
- Connectivity with Oracle database software
- Connectivity with MySQL database software
- Connectivity with Access without DSN
- Driver Manager class use
- Connection interface
- Statement interface
- Result Set interface
- Prepared Statement
- Result Set Meta Data
- Database Meta Data
- Storing image
- Retrieving image
- Storing file
- Retrieving file
- Stored procedures and functions
- Transaction Management
- Batch Processing
- JDBC New Features
- Mini Project