

The graphic features three blue clouds at the top. Below them is a black airplane flying to the right, two green palm trees, and an orange location pin with a white circle inside. To the right of the pin is the Java logo, which consists of three blue wavy lines above the word "Java" in black. A thick teal horizontal line runs across the middle of the graphic, passing behind the text.

# Java Vacation Training

Take your flight towards success...



## Course Introduction

Vacation time plays a very important role in the life of a student as during the vacation time you can master the skills required to keep alive in the ever changing industry we fondly call as "Information Technology". Java is one of the most used programming language in world with many of the newest frameworks and technologies like Hadoop, IoT, Android are based on the core framework of Java.

Considering the vacation period of 35 days we present you with our new Vacation Java Program to master your skills.

## How It Works?

Asterix Solution from its inception have always emphasized on providing the practical knowledge and hence all our training program works in a similar manner of 100% Practical Approach. We cover the all the required theory with the syllabus with the completion of Practical on the same day itself as well as timely practical assessment to master the topics and the queries.



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## Topics Covered

1. Basics of C++
2. Core Java
3. Advanced Java
4. Java Web Technologies
5. Hibernate

## Day Wise Syllabus

### Day 1:

#### Basics of Programing

- Understanding Programing Structure.
- Conditional and Logical Operators.
- Conditional Blocks
- Loops
- Switches
- Function

### Day 2

#### Java Declaration and Object Orientation

- Classes
- Objects
- Instances
- Difference in Objects of C++ and JAVA.
- Concept of JDK,JRE and JVM
- Constructors.
- Instance and Local Variables.

### Day 3:

#### Writing First Java Program

- JAVA Naming RULES & CONVENTIONS.
- Static Variables and Methods.
- Source File Declaration Rules.
- Installing JDK
- Configuring Java Variables on System
- Writing First Java Program



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- Compilation and Execution

### **In Class Assessment-1**

- 10 logical programs to break the ice with Java Environment

### **Day 4**

#### **Inheritance**

- Introduction to Inheritance
- Thumb Rule 1 (with practical)
- Super keyword
- Thumb Rule 2

### **Day 5**

- Method Overriding
- Final keyword
- Manifest Constants

### **Day 6**

#### **String**

- Introduction to String
- String and Memory management
- Why are Strings final?
- String Methods (with practical's)

### **Day 7**

- String Buffer and String Builder and Regular Expression

### **In Class Assessment-2**

- Practical's on String and Inheritance

### **Day 8:**

#### **Arrays**

- Introduction to Array
- 1-D Array
- Object Arrays

### **Day 9**

- 2-D Array
- Objects in 2-D Array

### **Day 10:**

#### **Wrapper Class and Boxing**

- Overview of Wrapper Class
- Methods of Wrapper Class
- Conversion from Wrapper to primitive and vice-versa



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- Creating and Using Wrapper Classes Objects.
  - Overloading in Wrapper Class

## Day 11

### Interface and Abstract Class

- Everything about interface and abstract class

### In Class Assessment-3

- Practical's on Arrays and Wrapper

## Day 12:

### Exception Handling and Packages

- Using try..catch
- Using Finally.
- Try with Resources
- Defining Exceptions.
- Hierarchy of Exception.
- Throwing our Exceptions.

## Day 13

- Understanding the concept of packages.
- Making our own package
- Understanding access specifier.
- Making our own jar file and setting in classpath.

## Day 14

### Java I/O

- File Navigation
- Input Output with Disk Files
- Serialization

## Day 15

### Threads

- Defining Threads
- Instantiating Threads.
- Thread States.
- Synchronization.
- Thread Priorities



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## Day 16

A full session revision on the topics covered.

## Day 17

A collective In Class Test on the covered topics with same day evaluation.

## Day 18

### GENERICS & COLLECTION

- List Interface
- Set Interface.
- Map Interface.
- Query Interface.
- ArrayList
- TreeSet
- TreeMaps

## Day 19:

### GENERICS & COLLECTION(Cont)

- Sorting Collections and Arrays
- Generic Declaration
- Generic Methods
- Polymorphism and Generics
- Mixing Generic and Nongeneric Collection.

## Day 20:

### JDBC

- JDBC Architecture.
- Overview of Drivers.
- JDBC Driver Manager.
- Steps for accessing database using JDBC API.
- Statements

## Day 21

- Prepared Statement
- Callable Statement
- Scrollable and Updatable ResultSet.



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- ResultSetMetaData and DatabaseMetaData.

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## Day 22 - 25:

### Servlet

- Introduction To Java Servlets
- Servlet API
- Servlet Life-Cycle.
- Working With Apache Tomcat
- GenericServlets
- HttpServlet
- HttpSession
- Session Binding/Tracking
- Inter-Servlet Communication

## Day 26-28:

### JSP

- JSP SYNTAX.
- Implicit Objects.
- Custom Tags.
- JSP Actions
- JSP Expression

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## Day 29-31:

### Hibernate

- Why Hibernate?
- Understanding ORM.
- Objects and Persistence.
- Hibernate Architecture
- Mapping Documents.
- Hibernate Database Connection
- Creating Persistent Classes
- Mapping Collection of Objects.
- Persistent Object Life Cycle.
- Hibernate with Servlets.
- HQL: Hibernate Query Language.
- Caching



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## Day 32-35:

Project based on Worker Action Model developed using Servlet, JSP and Hibernate.(This is demo example,actual projects change from batches to batches)

### Worker Action Model

- A tested and proven model which can be implemented in any desktop or web project. It makes the working easier as well as time saving. Model concentrates on Reusing of components.



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## Contact Details

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