





### Intro to the ADVANCED JAVA Program

Java is a general-purpose, class-based, object-oriented programming language designed for having lesser implementation dependencies. It is a computing platform for application development. Java is fast, secure, and reliable, therefore. It is widely used for developing Java applications in laptops, data centers, game consoles, scientific supercomputers, cell phones, etc.

### About the ADVANCED JAVA Certification

This course is designed for clearing the TechVidya JAVA Certification. The entire course content is in line with the certification program and helps you clear the certification exam with ease and get the best jobs in top MNCs.

As part of this training, you will be working on real-time projects and assignments that have immense implications in the real-world industry scenarios.

At the end of this program, there will be a assessment that perfectly reflects the type of questions asked in the certification exam and helps you score better marks.

TechVidya Course Completion Certificate will be awarded upon the completion of the project work and upon scoring at least 60% marks in the final assessment.

### Objectives of the JAVA Certification

- Write JAVA Programs using OOP principles and proper program structuring.
- Develop Java program using packages, inheritance and interface.
- Create Multithreaded programs.
- Write Java programs to implement error handling techniques using exception handling and develop programs using class and inputs from keyboard.
- Develop graphical User Interface using AWT.
- Demonstrate event handling mechanism.

### Prerequisites of the JAVA Program

This course assumes no previous experience, and takes you from the absolute beginner concepts and then goes into more detail. Basic programming skill in any language is required.



#### Module 1: Introduction to Core Java

- What is Java
- Why Java
- Platform Independence
- JDK, JVM & JRE and Java Versions
- Intro to IDE
- Creating & Running Sample App in IDE

#### Module 2: Java Basics

- Identifiers, Keywords, Data Types, Variables, Constants
- Reading Values from Keyboard
- Operators and Flow Control Statements(If-else, loops)
- Arrays (1D, 2D, multiple-dimensional array)

#### Module 3 : Object Oriented Concepts

- OOPs Concepts (Class, Object, Abstraction, Encapsulation etc.
- Creating a Class and Object
- Constructor and its types
- Overloading Constructor and Method and Main Method
- Static Keyword
- This Keyword

#### Module 4: Inheritance & Polymorphism

- Types of Inheritance
- Is-A and Has-A relationship
- Super Keyword
- Method Overriding & its Rules
- Access Modifiers (private, protected, public and default)
- Final Keyword
- Polymorphism
- Abstraction
- Interfaces and achieving Multiple Inheritance in JAVA



#### Module 5 : Packages

- Defining & Creating a Package & its Advantages
- Accessing Package Members
- Static Import

#### Module 6 : Exception Handling in Java

- Causes of Exceptions
- Exception Handling Keywords
- Exception Hierarchy
- Types of Exceptions
- Throw and Throws Keyword
- Custom Exceptions

#### Module 7: Inner Classes and Garbage Collection

- Introduction to inner classes
- Introduction to garbage classes
- Types of inner & Garbage classes

#### Module 8 : Multithreading

- Define Thread & its Life Cycle
- Creating Thread in 2 Ways
- Thread Properties
- Naming & Priorities of Thread
- Thread Synchronization
- Thread Communication

#### Module 9 : IO in Java

- Define Stream and IO Hierarchy
- Reading & Writing in Files using IO Classes
- Serialization



#### Module 10: Internationalization (I18N)

- Locale Class
- Formatting Date, time, Number, Currency and Language

#### Module 11 : String Handling

- Character Class
- String Class (Mutable & Immutable Strings)
- StringBuffer Class
- StringBuilder Class

#### Module 12 : Collection Framework

- Collection Hierarchy
- Concept of Generics
- List Interface & its Classes
- Queue Interface & its Classes
- Set Interface & its Classes
- Map Interface & its Classes
- Sorting Collections (Comparator & Comparable Interfaces)

#### **Module 13**: JDBC (Java database Connectivity)

- Intro to Database and SQL (MySql, Oracle)
- Creating Tables in MySql
- Peforming SQL Queries on Tables
- JDBC Connectivity Steps
- Types of Drivers
- Types of Statements
- Inserting Data in DB
- Retrieving Data from DB



#### Module 14 : Networking and Socket Programming

- Java Networking Terminologies
- Socket Programming using TCP
- Socket Programming using UDP
- URL & URLConnection Class

#### Module 15 : Java Versions New Features Other Features

- Introduction to java versions of new features & other features
- Types of java versions new features & other features

#### Module 16 : Applets & GUI design

- Define Applet and its Life Cycle and its Advantages
- Creating Sample Applet
- Drawing in Applet
- AWT API
- Creating Frame in AWT
- AWT UI Controls
- Events and its Handling
- Adapter Classes
- Layout Managers & Type of Layouts
- Swing API
- AWT vs Swing

#### **Module 17**: Creating Sample SwingBased App with JDBC

- Introduction to creating sample swingbased app with jdbc
- Types of creating sample swingbased app with jdbc

#### Module 18 : Web Terminologies

- Web Application
- HTTP
- HTTP Requests (Get and Post)
- Web Server and Containe



#### Module 19 : Servlet

- Intro to Servlet and its API & Servlet Terminologies
- Servlet Life Cycle
- Types of Servlets (Generic & Http)
- Creating, Deploying & Running Sample Servlet Application on IDE
- Servlet Request and Servlet Response Interfaces
- Servlet Config and Servlet Context Interfaces
- Servlet Collaboration
  - Request Dispatcher Interface
  - Send Redirect Method
- Session Tracking in Servlet
  - Cookies
  - Hidden Form Fields
  - HttpSession
  - URL Rewriting
- Servlets and JDBC
  - Saving Data in DB
  - Retrieving Data from DB
  - Uploading a File
  - Downloading / Retrieving a File
  - Login Example
- Design Patterns
  - DAO (Data Access Object)
  - DTO (Data Transfer Object)
- Servlet and CRUD (Create, Read, Update, Delete)
  - Creating Sample CRUD App in Servlet using JDBC
- Pagination in Servlet
- Filters in Servlets
  - Filter and its API
  - FilterConfig Interface



#### Module 20: JSP (Java Server Pages

- Intro to JSP & its Advantages over Servlet
- JSP Life Cycle & its API
- Creating & Deploying JSP App in IDE
- JSP Scripting Elements
  - Scriptlets
  - Expressions
  - Declarations
- JSP Directives
  - Page Directive
  - Include Directive
  - Taglib Directive
- JSP Action Elements
  - jsp:include
  - jsp:forward
  - jsp:useBean
  - jsp:setProperty
  - jsp:getProperty
- JSP Implicit Objects
  - JSP Request
  - JSP Response
  - JSP Config
  - JSP Application
  - JSP Session
  - JSP Exception
  - JSP Page
  - JSP PageContext



- Exception Handling in JSP
- Custom Tags in JSP
  - Example of Simple Custom Tag
  - Attributes in Custom Tags
  - Custom Tags with Body Content
- Expression Language in JSP
- JSTL (JSP Standard Tag Library)
  - JSTL Core Tags
  - JSTL Function Tags
  - JSTL Formatting Tags
  - JSTL SQL Tags
- JSP and CRUD (Create, Read, Update, Delete)
  - Creating Sample CRUD App in JSP using JDBC
  - Uploading and Downloading a File in JSP
  - Registration and Login Example
  - MVC in JSP
  - Pagination in JSP

#### Module 21 : Framework (Any One)

- Hibernate
- Spring
- Struts

#### Module 22 : Projects

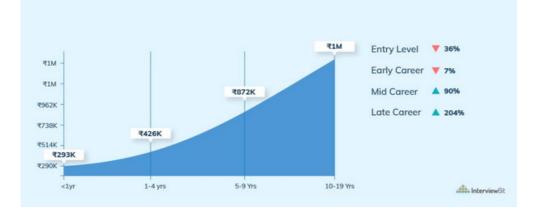
- E-Commerce Website
- Social Networking Website

#### Module 23 : Interview Preparation

- PD Classes
- Resume Preparation
- Interview Question Preparation



### Benefits as JAVA Developer



### Our Training Benefits as JAVA Developer Program

- Our complete training is constructed as per the current industry standard.
- Live Project & Industrial Based Training.
- One of the biggest team of Certified Expert & Competent Trainers.
- Easy to understand study material.
- Regular and Weekends classes for IT & Software training is provided.
- Interaction, analysis and case studies are an integral part of the training.
- Smart Labs with Real Latest Equipments.
- Students are free to access the labs for an unlimited number of hours
- Free Study Material, e-PDFs, Video Trainings, Sample Questions.
- Globally Recognized Course Completion Certificate.
- The ability to retake the class at no-charge as often as desired.
- One-on-One attention from instructors.
- Helps students to take knowledge of complex technical concepts.
- Post Training Support will help the students.
- Personality Development & Interview Preparation classes.
- 100% Job Assistance with dedicated training & placement team.





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### **Our Latest Reviews**



Hi All, I am Shilpa and i have done my Certification from TechVidya. The study environment is good and trainers are full of knowledge. I personally recommend TechVidya Institute to all the students who looking for quality education and sincere about there future.

I am grateful to TechVidya - both the faculty and the Training & Placement Department. They've made efforts ensuring maximum number of placed students. The Institute started grooming us for placements in the first few months including courses such as Professional Excellence Program and Professional Skills Enhancement. I suggest to join TechVidya which comes under top 10 IT & Software training institute.





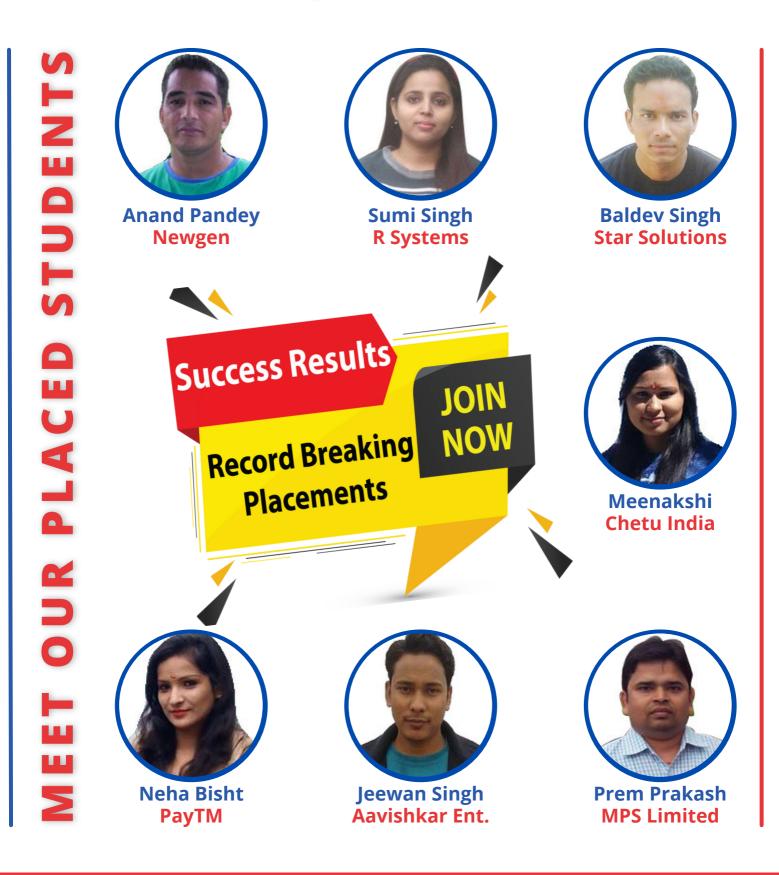
Hi I am Amit Kumar and my Enrollment ID with TechVidya is TV230967. I completed my Certification from TechVidya. They provides IT & Software courses in more practical & real scenario basis. Complete project based training help me to sharpen my technical skills.

TechVidya has always believed in helping and guiding its students and it was no different during the placement time. Regular classes held to help us with our aptitude and technical skills. Recommend to all the students who looking for best computer classes with quality education. Thanks TechVidya for explore my career.





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## **Contact Us**



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