



JAVA TRAINING

Java Advanced Course

Elevate your Java skills. Master advanced Java programming for robust, high-performance applications.

DURATION

48 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

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- Globally Recognized Certification
 - Expert-Led Hands-On Training
 - Flexible Scheduling

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COURSE OVERVIEW

The Java Advanced Course at Computer Pride is meticulously designed for developers who have a solid grasp of fundamental Java SE and are ready to elevate their programming prowess to build robust, scalable, and high-performance applications. This intensive 48-hour program transcends basic syntax, diving deep into the intricate mechanisms and advanced features of the Java platform. You will master critical topics such as sophisticated concurrency models, advanced I/O and networking, efficient database integration using JDBC, and foundational enterprise web development concepts. This course empowers you to tackle complex software challenges with confidence, laying the groundwork for architecting and implementing sophisticated Java-based solutions.

By mastering the advanced concepts and core technologies covered – including the Java Concurrency Utilities, NIO.2 API, advanced JDBC features, Servlets, and essential design patterns – you will gain invaluable skills highly sought after in the industry. The professional benefits are immense: you'll enhance your problem-solving capabilities, write more efficient and maintainable code, and significantly broaden your technical skillset. This course is a crucial step for aspiring Senior Software Engineers and Backend Developers looking to contribute meaningfully to large-scale enterprise projects and accelerate their career growth in the dynamic world of IT.

Duration	48 hours
Level	Intermediate
Vendor	Java

COURSE CURRICULUM

01 Module 1: Deep Dive into Java SE Features

- Generics: Advanced usage, wildcards, type erasure
- Collections Framework: Performance considerations, advanced data structures (Concurrent Collections, Deques, PriorityQueues)
- Lambda Expressions and Stream API: Advanced operations, custom collectors, parallel streams
- Exception Handling: Custom exceptions, best practices for robust error management

02 Module 2: Mastering Concurrency and Multithreading

- Thread Lifecycle and Management
- Concurrency Utilities: Executors Framework, Callable and Future, ThreadPools
- Synchronization Mechanisms: Locks, Semaphores, Atomic Variables
- Concurrency Problems: Deadlock, Livelock, Starvation prevention and resolution

03 Module 3: Advanced I/O and Networking

- Java I/O Streams: Serialization, Object I/O, File System API
- NIO.2 API: Path, Files, Asynchronous I/O operations
- Network Programming: Sockets (TCP/UDP), URL and HttpURLConnection for basic web interaction

04 Module 4: Database Integration with JDBC & ORM Concepts

- Advanced JDBC: Batch Updates, Stored Procedures, Connection Pooling techniques
- Transaction Management in JDBC
- Introduction to ORM principles and concepts (e.g., conceptual overview of Hibernate's role)

05 Module 5: Introduction to Enterprise Java & Web Development

- Servlet API: Lifecycle, Request/Response handling, Session management

- JSP Fundamentals: Scriptlets, Expression Language (EL), JSTL basics
- Introduction to RESTful Web Services: Principles, building simple REST endpoints with Java

06 Module 6: Java Design Patterns & Best Practices

- Creational Patterns: Singleton, Factory Method
- Structural Patterns: Adapter, Decorator
- Behavioral Patterns: Observer, Strategy
- Code Quality: Logging (Log4j/SLF4j basics), Unit Testing with JUnit, Code Review best practices

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Enterprise Java Backend Developer**
- > **Solutions Architect (Java Focus)**
- > **Senior Software Engineer (Java Platform)**

FREQUENTLY ASKED QUESTIONS

Q: What prior Java knowledge or experience is required to effectively benefit from this Advanced Java course?

This Advanced Java course assumes you have a solid foundation in core Java SE. This includes comfort with object-oriented programming principles (inheritance, polymorphism, encapsulation), basic data structures (arrays, lists, maps), fundamental control flow, and standard exception handling. You should be able to write, compile, and debug basic Java applications independently. Familiarity with an IDE like IntelliJ IDEA or Eclipse is also beneficial.

Q: How does this advanced course specifically prepare me for roles in enterprise application development or backend engineering?

This course is designed to equip you with the essential skills for enterprise roles by focusing on building scalable and robust applications. You'll gain expertise in critical areas like multithreading and concurrency for high-performance systems, advanced database interaction via JDBC for data persistence, and foundational web technologies (Servlets/JSP) for server-side logic. These skills are directly applicable to developing the backbone of complex enterprise systems, preparing you for immediate contributions in backend development teams.

Q: Will I learn about specific popular Java frameworks like Spring or Hibernate in this course?

While this Java Advanced Course provides the indispensable core Java and foundational enterprise concepts that are prerequisites for working with frameworks, it does not deep-dive into specific frameworks like Spring Boot or Hibernate. The focus is on mastering the underlying Java SE features (e.g., Concurrency, NIO.2) and enterprise APIs (e.g., advanced JDBC, Servlets) that these frameworks build upon. A conceptual overview of ORM principles will be provided to contextualize later framework learning, ensuring you have a strong theoretical base before moving to framework-specific training.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

Professionals Trained

50+

Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

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