

TechLeap Academy



TECHLEAP ACADEMY
UNLOCK YOUR INTELLECTUAL GRACE

ADVANCED CERTIFICATION PROGRAM IN

Advanced Java Programming

Powered by: **TechLeap Academy**



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About us:

TechLeap Academy is an EdTech Platform, offers a diverse range of programs designed to match your ambitions and career goals. Whether you're just starting your journey in technology or looking to upskill, our carefully curated courses provide the perfect blend of theory and hands- on experience. From software development and web technologies to digital marketing, data analytics, and emerging tools, our programs are built with industry demand in mind. Each course is led by experienced mentors who guide you through real-world projects, ensuring you gain the confidence and expertise to succeed.

Program Overview



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Phase-1 (Application & Onboarding)

1.----- Application Submission-----2.----- Application Submission

Phase-2 (Journey Begin)

1.----- Basic Quiz----2.-----Self Analysis Drill

Phase-3 (Let's start mentorship)

- 1.-----Data Science & Analytics (Basic to advance)
- 2.-----LIVE sessions + weekly challenges.
- 3----Guidance of Industry Mentor

Phase-4 (Ready to join the industry)

- 1.-----Live Projects-----2.-----Phase Test-----
- 3.-----Internship Opportunities-----4.-----Career Assistance Session-----5.-----Mock Interviews



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TechLeap Certification

1. -----TechLeap Certification
2. -----3+Industrial Expert Guest Sessions
3. -----3+ Advanced Projects

Tools & skills learnt



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Spring Framework &
Hibernate & JUnit frameworks

Restful Web Services: Advanced Java developers often learn to build RESTful APIs using frameworks like Spring Boot, Jersey, or REStEasy.

XML (Extensible Markup
Language)

Concurrency Multi-threading, thread synchronization, and concurrency utilities like `java.util.concurrent` package.

JSP (JavaServer
Pages) & Servlets

JSON (JavaScript
Object Notation)

JDBC (Java Database
Connectivity)

Security: HTTPS, SSL/TLS, encryption, authentication, and authorization to build secure applications.



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Job Opportunities

Java Developer
(₹4-6 lakhs per annum)

Java Architect
(₹8-10 lakhs per annum)

Java Consultant
(₹6-8 lakhs per annum)

Java Backend Developer
(₹5-7 lakhs per annum)

Java Software Engineer
(₹4-6 lakhs per annum)

Java Full Stack Developer
(₹5-7 lakhs per annum)

Java Team Lead
(₹6-8 lakhs per annum)

Java Integration Developer
(₹6-8 lakhs per annum)



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Curriculum

Week 1: Introduction to Advanced Java • Difference between Core Java & Advanced Java • Review of OOP principles • Advanced Exception Handling • Packages and modular programming • Lab: Creating reusable modular projects.

Week 2: Multithreading & Concurrency • Thread lifecycle and states • Synchronization techniques • Concurrency utilities (Executor Framework, Callable, Future, ForkJoinPool) • Deadlocks and thread safety • Lab: Multithreaded banking application simulation.

Week 3: Java I/O & Serialization • Byte Streams vs Character Streams • BufferedReader, PrintWriter, Scanner, FileReader/FileWriter • Object Serialization & Deserialization • NIO.2 (java.nio.file, Path, Files) • Lab: File handling system with serialization.



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Week 4: Networking in Java • Networking basics (IP, Port, Protocols) • Java Networking APIs (InetAddress, URL, URLConnection) • TCP/IP socket programming (Client-Server model) • Datagram (UDP) sockets • Lab: Chat application using sockets.

Week 5: JDBC & Database Programming • JDBC Architecture • Driver types and connection pooling • Statement, PreparedStatement, CallableStatement • Transaction management (commit, rollback, savepoint) • Lab: Student management system with database.

Week 6: Servlets (Java EE Basics) • Introduction to Java EE and web apps • Servlet lifecycle (init, service, destroy) • Request & Response handling • Session management (Cookies, HttpSession, URL Rewriting) • Lab: Online login system with Servlets.



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Week 7: JSP (Java Server Pages) • JSP lifecycle and scripting elements • Directives, Expressions, Declarations, Scriptlets • Implicit objects in JSP • JSP & Servlet integration • JSTL & Expression Language (EL) • Lab: JSP-based registration and login system.

Week 8: MVC Architecture & JSTL • MVC Design Pattern • Integration of Servlets, JSP, and JDBC • Using JSTL for cleaner JSP pages • Error handling & form validation • Lab: Mini MVC web application.

Week 9: Java Beans & Enterprise Concepts • Java Beans architecture • EJB basics (Session Beans, Message-Driven Beans) • Annotations in Java EE • Dependency Injection basics • Lab: Simple EJB-based application.



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Week 10: Hibernate (ORM Framework) • Introduction to ORM & Hibernate architecture • Mapping objects to tables (Annotations, XML mapping) • SessionFactory, Session, Transaction API • HQL (Hibernate Query Language) • Relationships (One-to-One, One-to-Many, Many-to-Many) • Lab: Employee management system with Hibernate.

Week 11: Spring Framework Basics • Introduction to Spring Core • Dependency Injection (Constructor & Setter Injection) • Spring Beans and IoC container • Annotations in Spring • Lab: Basic Spring project with DI.

Week 12: Spring MVC & REST • Spring MVC architecture • DispatcherServlet, Controllers, ViewResolvers • RESTful web services with Spring Boot • JSON/XML data exchange • Lab: REST API for product catalog.



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Week 13: Spring Boot & Microservices • Introduction to Spring Boot • Auto-configuration & Spring Boot starters • Creating REST APIs with Spring Boot • Introduction to Microservices architecture • Lab: Microservice-based order management system.

Week 14: Security in Java Applications • Java security basics • Authentication & Authorization in web apps • Spring Security integration • HTTPS & SSL setup • Lab: Secure login system with Spring Security.

Week 15: Advanced Topics & Tools • JMS (Java Messaging Service) basics. • JMS (Java Messaging Service) basics • Introduction to WebSockets in Java • Introduction to cloud deployment (Heroku/AWS basics for Java apps) • Maven/Gradle build tools • Lab: Deploying Java app on cloud.

Week 16: Capstone Project & Review • Students work on real-world end-to-end project (E-commerce, Banking, Job Portal) • Integrating DB, Servlets, JSP, Spring Boot, Security • Final presentations & evaluation.

Recruitment Partners



Code of Conduct

Program Structure: Skill Development Track: We will focus on enhancing skills and knowledge with LIVE sessions from industry mentors.

Certification: Successful completion of the program, including assessments, projects, and attendance, will lead to gaining Completion Certificate and Project Certificate. Internship Certificate will be provided by the company you'll be interning with, if any. Career Track (**Early Career Opportunities**): We will provide opportunities for early career development through internships.

Code of Conduct Class Schedule and Attendance: Regular Classes: Classes will be held two times a week on a consistent schedule. Evening Time Slots: Class timings will be in the evening slot between 6:30 PM - 10:00 PM, and each session will last approximately 1-1.5 hours.

Mandatory Attendance: A minimum of 70% attendance in live classes is required. Certification Criteria: Certifications will only be issued to students who maintain the required attendance.

Contact Us

Course starts:

Classes from first week of the month

Program hours:

50+ learning hours

4+ Industrial Projects

For admissions, contact:

+918130058278

support@techleapacademy.org

<https://techleapacademy.com/>