Java Developer SkillJourney Series

Migrating Java 11 to Java 17 | Java 17 New Features and Skills (TT2135)

Hands-on Java Workshop: Gain the skills required to create efficient, scalable high-performance applications using Java.

Course Snapshot

- **Course: Migrating Java 11 to Java 17 | Java 17 New Features and Skills (TT2135)**
- **Duration**: 1 day
- **Audience** : This is course is for experienced Java 11 developers who wish to get up and running with Java 17 immediately. Attendees should have a working knowledge of developing Java 11 applications. This course is not for non-developers, or developers new to Java.
- **Format / Hands-on:** This course combines engaging instructor-led presentations and practical demonstrations with hands-on programming exercises, challenge labs, use case exploration and engaging group activities. Student machines are required.
- **Flexible Delivery Options**: This course can be delivered for your team or organization **online-live (virtual)**, **onsite in-person, self-paced** or across our immersive **blended learning experience platform (LXP).**
- **Public Schedule**: This course is currently available on our Public Open Enrollment Schedule.
- **Customizable**: We're flexible! This course agenda, topics, labs, hours and delivery modalities can be adjusted to target your specific training skills objectives, tools and learning goals. Please ask for details.

Overview

There have been a lot of changes in the Java programming language since the release of Java 11 in September of 2018. **Migrating to Java 17 / Java 17 New Features and Skills** is a one day course that focuses on the changes that will be most noticable for Java developers who will make the transition from Java 11 to Java 17.

This course blends expert instruction and practical, hands-on experience, focusing on bridging the gap between your current Java knowledge and the latest version. Understanding that many developers are now transitioning projects from older versions of Java, this course is your key to making that shift both quickly and effectively. Throughout the course, you'll delve into Java 17's new features, such as the innovative use of Records for data management and the enhanced String and Text Blocks for improved text handling. These topics, along with the introduction of Sealed Classes and the refined approach to Switch Expressions and Pattern Matching, are more than just updates; they are pivotal enhancements that will streamline your coding practice. The real-world labs enable you to quickly pick up useful practical skills you'll be able to apply seamlessly into your work.

Whether you're upgrading existing projects or embarking on new ones, the skills and insights gained here will empower you to use Java 17 efficiently and innovatively. This course is more than just an upgrade in your Java knowledge; it's a comprehensive enhancement of your development skills, preparing you to tackle modern challenges with renewed expertise and confidence.

Learning Objectives

Working in an interactive learning environment, led by our expert facilitator, you'll explore:
- **Mastering Records in Java 17**: Gain a thorough understanding of how to utilize Records in Java 17 for efficient data handling, enabling you to simplify data modeling and ensure more concise and readable code.
- **Advanced String and Text Block Management**: Develop the ability to effectively use the new String and Text Block features in Java 17. This includes mastering methods like `strip()`, `isBlank()`, and `repeat()`, as well as understanding the nuances of indentation in text blocks for improved text manipulation.
- **Implementing Sealed Classes and Interfaces**: Acquire the skills to implement sealed classes and interfaces in Java 17, enhancing your ability to create more secure, type-safe, and maintainable code.
- **Utilizing Enhanced Switch Expressions and Pattern Matching**: Learn to effectively use enhanced switch expressions and pattern matching for `instanceof` in Java 17. This skill is crucial for writing more concise and error-resistant code.

- **Efficient Exception Handling Techniques**: Master the enhanced exception handling features in Java 17, such as the improved try-with-resources statement and more informative NullPointerExceptions, to write more robust and reliable Java applications.
- **Applying Modern Java Development Techniques**: Develop the ability to apply these new Java 17 features in real-world scenarios. This includes integrating these skills into existing projects, enhancing your capacity to upgrade and modernize Java applications efficiently.
- **Specific Java 17 features that are covered in the course including:** Switch Expressions; Text blocks; Pattern matching for instanceof; Introducing records as carrier of immutable data
- **Specific Java 21 features that are covered in the course including:** Sequenced Collections; Pattern matching in Switch statements; Record Patterns

Need different skills or topics? If your team requires different topics or tools, additional skills or custom approach, this course may be further adjusted to accommodate. Our team will collaborate with you to understand your needs and will target the course to focus on your specific learning objectives and goals.

Audience & Pre-Requisites

This is an intermediate- level Java programming course, designed for experienced Java 11 developers who wish to get up and running with Java 17 immediately. Attendees should have a working knowledge of developing Java 11 applications. This course is not for non-developers, or developers new to Java.

Related Courses / Trivera's Java Developer Suite
The following is a subset of our related basic Java Foundation courses. Please visit www.triveratech.com for the full catalog and complete list.
- TT2000   Getting Started with Programming, OO and Java Basics for Non-Developers (5 days)
- TT2103   JumpStart to Java for OO Developers (such as C++, C#) (3 days)
- TT2104   Fast Track to Java Programming for Experience OO Developers (such as C++, C#) (4 days)
- TT2120   Basic Java Programming for Developers New to OO (such a C, Mainframe) (5 days)
- TT2135   Migrating from Java 11 to Java 17 (1 day)
- TT2136   Migrating from Java 11 to Java 21 (1 day)
- TT2010   Java Developer SkillJourney – Career Experience Program (for Core Java) (multi-week)
- TT2015   Java Full Stack Developer SkillJourney – Career Experience (for full stack / front and back end) (multi-week)

Next Steps / Follow-on Courses: We offer a wide variety of follow-on courses for next-level Java skills, Java for Web / Full Stack, Jakarta / Java EE, Spring, REST, Microservices, Unit Testing / TDD, Java secure coding, mobile development and more. Please see our **Java Developer Courses, Learning Paths & SkillJourneys** for options based on your specific role and goals.

Enhanced Learning Services: Please also ask about our Pre-Training Class OnRamp & Prep / Primer offerings, Skills Gap Assessment Services, Case Studies, Knowledge Check Quizzes, Skills Immersion Programs & Camps, Collaborative Mentoring Services and Extended Learning Support & Post Training services.

Course Topics / Agenda

Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We'll work with you to tune this course and level of coverage to target the skills you need most. Topics, agenda and labs are subject to change, and may adjust during live delivery based on audience skill level, interests and participation.

1. **Versions and Features**
- Quick refresh of Java versions since Java 8
- (Non) LTS releases
- Preview features
- Java Language Specifications
- Java Specification Requests
- Java Enhancement Proposals
- Tutorial: IntelliJ Community Edition 2023 QuickStart (Using Maven) (Eclipse also available – please inquire)

2. **Records**
- Data objects in Java
- Introduce records as carrier of immutable data
- Defining records
- The Canonical constructor

- Compact constructors
- Lab: Records

3. String and Text Blocks
- Discuss the definition of whitespace in Java
- Introduce the strip() methods of the String class
- The isBlank() and repeat() methods introduced in Java 11
- Using the lines() method to construct a Stream instance using a String
- Compact strings
- Introducing Text Blocks
- Indentation in text blocks
- Lab: Text Blocks

4. Sealed Classes
- Introduce sealed classes
- The sealed and permits

- modifier
- Sealed interfaces
- Sealed classes and pattern matching
- Lab: Sealed Classes

5. Switch Expressions
- Switch Expressions
- Using yield
- Discuss switch fall through
- Lab: Switch Expressions

6. Pattern Matching for instanceof
- Pattern Matching for instanceof
- Scope of variable when using pattern matching
- Refining Patterns in switch
- Dominance of pattern labels
- Lab: Pattern Matching

7. Exception Handling
- Enhanced try-with-resources
- Helpful NullpointerExceptions
- Excluding parameter names in error messages
- Lab: Helpful Nullpointers

8. More Updates
- Private methods in interfaces
- The forRemoval and since attributes of the Deprecated annotation
- Multi-release JAR files
- Javadoc updates
- Class-Data Sharing
- Application Class-Data
- CompactNumberFormat
- Lab: Creating a Multi-Release Jar file

Setup Made Simple! Learning Experience Platform (LXP)

All applicable course software, digital courseware files or course notes, labs, data sets and solutions, live coaching support channels, CodeCoach.AI anytime tutor access, and rich extended learning and post training resources are provided for you in our "easy access, single source, no install required" online **Learning Experience Platform (LXP),** remote lab and content environment. Access periods vary by course. We'll collaborate with you to ensure your team is set up and ready to go well in advance of the class. Please inquire about set up details and options for your specific course of interest.

For More Information

For more information about our training services (instructor-led, self-paced or blended), collaborative coaching services, robust Learning Experience Platform (LXP), Career Experiences, public course schedule, partner programs, courseware licensing options or to see our complete list of course offerings, solutions and special offers, please visit us at **www.triveratech.com**, email **Info@triveratech.com** or call us toll free at **844-475-4559.** Our pricing and services are always satisfaction guaranteed.

Trivera Technologies • *Experience is Everything*

Real-World IT Training, Coaching & Skills Development Solutions

www.triveratech.com
toll free +1-844-475-4559
Info@triveratech.com

Follow Us for Updates, Free Resources & Offers:
www.Linkedin.com/company/triveratech
www.X.com/TriveraTech
www.facebook.com/triveratech

Subscribe to our Channel for Free Training, Tips & Playlists:
www.Youtube.com/@triveratech

ONSITE, ONLINE & BLENDED TRAINING SOLUTIONS • PUBLIC / OPEN ENROLLMENT COURSES
LEARNING EXPERIENCE PLATFORM (LXP) • COACHING / MENTORING • ASSESSMENTS • CONTENT LICENSING & DEVELOPMENT
LEARNING PLAN DEVELOPMENT • SKILLS IMMERSION PROGRAMS / RESKILLING / NEW HIRE / BOOT CAMPS
PARTNER & RESELLER PROGRAMS • CORPORATE TRAINING MANAGEMENT • VENDOR MANAGEMENT SERVICES

Trivera Technologies is a Woman-Owned Small-Business Firm