Java 7 SE, Part 3 of 4: Unicode, Classes, and Frameworks

Meet the expert: Brigitte Birze is a seasoned software development professional with over 25 years of experience in Corporate IT and Engineering across many verticals. Brigitte has been involved in every phase of the software development lifecycle from the perspective of several roles: individual contributor, team lead, S/W architect, system engineer, proposal author, and project manager. Her innovative software architectures have resulted in six published papers and eight patents. Brigitte's dynamic communication skills, paired with her depth and breadth of technical knowledge, give her the unique ability to make the complex understandable and to convey technical concepts to cross-functional groups, speaking at the business or technical level.

Prerequisites: This course assumes users have a solid understanding of object-oriented principals and experience coding with Java 5 or greater. This course was filmed using Eclipse for RCP and RAP developers (Java developer edition). A general understanding of Eclipse is required but only to understand the methods shown. The theory for this course will work on any IDE that supports the Java 7 SE SDK. You should have viewed the Java 7 SE: Enhancements and Concurrency and Java 7 SE: IO, New IO and Network Protocols courses before viewing this course.

Runtime: 02:12:26

Course description: There a few significant updates to Java SE 7 in the area of XML. JAXB, JAX-WS and JAXP all had a minor revision update which included a number of bug fixes, localization updates, and standardization of data mapping. JAXP also got some additional security updates to guard against denial of service attacks that exploit XML processing. In the internationalization or I18N area, Java SE 7 was all about support for Unicode 6.0. Support for international stands, like the ISO 4217 currency codes and locale updates adding support for IETF-BCP 47 language tags, the Unicode data markup language, and adding a couple new locale default objects to control formatting resources and the UI. The new numeric shaper enumerated range class adds new Unicode ranges and makes outputting numbers in different shapes a breeze. The last topic in the course covers the updates to the collections framework. The framework got two new concurrency queuing classes and was tuned up with a new hash function for maps and a new sorting algorithm which affects the entire framework. These algorithm upgrades will speed up your application without a single change to your code.

Course outline:

XML External Properties
• Introduction
• Java SE 7 XML Enhancements
• JAXP 1.5 External Properties
• Demo: Set Properties
• Demo: JAXP Properties
• Summary

XML Processing Limits
• Introduction
• JAXP 1.5 Processing Limits
• Demo: JAXP Properties File
• Demo: JAXP Limits File
• Demo: Limit Sizes
• Summary

I18N Regular Expressions
• Introduction
• Java SE I18N Enhancements
• Unicode Regular Expressions
• Demo: Unicode Support for Regex
• Demo: Script Property
• Summary

I18N Locale Class Updates
• Introduction
• Default Locale Categories

• Demo: LocaleCategories
• Locale IETF-BCP 47 Support
• Demo: BCP 47 Support
• Demo: forLanguageTag
• Locale Extensions
• Demo: LocaleUpdates
• Demo: GetUnicodeLocale Methods
• Summary

I18N Numeric Shaper
• Introduction
• Extensible Currency Code Support
• Demo: Currency Class Updates
• Demo: Currency Properties File
• NumericShaper Enhancements
• Demo: NumericShaper
• Demo: NumericShaper Cont
• Summary

Collection Framework Updates
• Introduction
• Hash Map New Hash Function
• Array.Sort() Algorithm Change
• ConcurrentLinkedDeque Class
• Demo: LinkedDeque

• New TransferQueue Interface
• Demo: TransferQueue
• Demo: Run TransferQueue
• Summary