Java and Java EE Internationalization

Overview

The Java and Java EE Internationalization workshop provides attendees with a broad understanding of internationalization processes, issues and pitfalls. Specific features of Java versions 6, 5.0 and 1.4 are presented.

This workshop shows how Java and Java EE deal with: character sets and Unicode (including surrogates, UTF encodings, normalization forms and transcoding), locales and locale models for client-server applications, resources and resource maintenance, sorting & searching, date & time processing, formatting of numbers and currency, text processing functions, etc.

Attendees will leave with a clear understanding of how to correctly and efficiently internationalize their Java-based applications.

Target Audience

This course is intended for software developers, software architects, software technical project managers and team leaders. It is highly recommended that attendees have a working knowledge of Java (and have taken the pre-requisite "All About Internationalization" workshop).

Benefits

This workshop provides software professionals with a solid foundation on software internationalization and a practical, extensive coverage of Java internationalization techniques.

Duration

The agenda described below is for a one day session (there is also a two-day version of this workshop that does not have any pre-requisites).

Pre-requisites

This one-day version of the workshop presumes that attendees have already taken the "All About Internationalization" workshop.
Agenda

1. Internationalization with Java and Java EE
   - Java platforms: Java SE and Java EE
   - JSP and JSTL
   - Internationalization features of Java SE 6, J2SE 5.0 and Java 1.4
   - books and useful resources

2. Java and Unicode
   - Java versions vs. Unicode versions; supplementary character support
   - Characters vs. Code Points; Character and code-point interfaces
   - What needs to change for full Unicode support
   - Unicode normalization in Java
   - Basic transcoding for Files and Strings
   - Reliable transcoding with the CharSet class
   - Character sets for JSP and the Web
   - Java SE 6 support for IDN and IRL (international domain names and URL)

3. Java Locales
   - Identification, ISO 639, ISO 3166
   - Enumeration
   - Selection: install, start-up, run-time
   - Locale-aware functions
   - Locale hierarchies: resource container selection
   - new locales in Java SE 6
   - User-defined locales
   - Locales with JSP and JSTL

4. Java Resources
   - Resource bundles
   - GetBundle search order
   - GetLocale and GetString
• ListResourceBundle
• PropertyResourceBundle
• Non-text resources
• New in Java SE 6: ResourceBundle.Control (with many examples)
• JSP resources
• Performance caveats, subclassing pitfalls

5. Formatting & Parsing
• Formatting & parsing numbers and currency; format customization
• Formatting & parsing date and time; format customization
• Working with calendars
• Formatting messages with Java Formatter and Java MessageFormat
• How to handle plural agreement in messages

6. Text Processing
• Searching and sorting text
• Collation and collation-based processes
• Collation rules and collation performance
• Word and character boundaries
• Line and sentence boundaries
• Case conversion
• Character properties

7. Text Input and Output
• Input methods and the Java IMF (Input Method Framework)
• Input method types: host input method support vs. built-in input methods
• When do you need to use input method APIs?
• Text rendering and GUI layout
• The ComponentOrientation property
• Logical and physical fonts
• The new Java 5.0 font mechanism
• Three options for fonts: logical fonts, platform fonts or embedded fonts
Handouts

Each attendee will receive a 200+ page booklet, one slide per page, with ample room for notes, complete with table of contents and glossary and glossary. The booklet is designed to serve as a practical easy-to-use reference “book” for regular use during an internationalization project.