



FREE eBook

LEARNING internationalization

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#internation
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About

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Chapter 1: Getting started with internationalization

Remarks

Internationalization is an engineering process intended to generalize a product so that it can handle multiple languages, scripts and cultural conventions without the need for redesign or recompilation. It involves a range of activities, such as:

- Prepare software distribution platforms for a global audience
- Defining mappings for currency conversion
- Defining sorting rules which change based on the current alphabet
- Defining numeric and date formatting which adapts to the current locale selected
- Discovering the language of the user's input, so that content can be displayed correctly
- Offering a default language, with the option to have the text transliterated from one language to another
- Permitting the user to select language-related user preferences
- Displaying times, dates, and calendar information in appropriate languages and formats

Versions

Version	Release Date
ICU 58	2016-12-09
ICU 57	2016-03-23
ICU 56	2015-10-07
ICU 55	2015-04-01
ICU 54	2014-10-01
ICU 53	2014-04-02
ICU 52	2013-10-09
ICU 51	2013-03-22
ICU 50	2012-12-17
ICU 49	2012-03-21

Examples

Installation or Setup

ICU(International Components for Unicode) can be installed as a library for the following languages:

- [Java: ICU4J](#)
- [C/C++: ICU4C](#)
- [Python: pyICU](#)
- [Perl: Wrappers for ICU \(PICU\)](#)
- [C#: ICU-dotnet](#)
- [Erlang: icu4e](#)
- [Ruby: ffi-icu](#)
- [Haskell: text-icu](#)
- [Lua: ICU4Lua](#)

Here is a series of installion steps for a few implementations:

- ICU4J:
 - place icu4j.jar in your CLASSPATH
 - Optionally, place icu4j-charset.jar in your CLASSPATH for charset API support
 - To build ICU4J, you will need JDK 7+ and Apache Ant 1.9+
 - Set the JDK and Ant environment variables
 - set JAVA_HOME=C:\jdk1.8.0
 - set ANT_HOME=C:\apache-ant
 - set PATH=%JAVA_HOME%\bin;%ANT_HOME%\bin;%PATH%
 - Run the desired target defined in build.xml. The default target is "jar" which compiles ICU4J library class files and create ICU4J jar files. For example:
 - C:\icu4j>ant
- ICU4C
 - Place the path to ICU4C in the LD_LIBRARY_PATH environment variable so that dynamic linker can find it. For example:
 - export LD_LIBRARY_PATH=/opt/icu/lib
 - Or Windows:
 - set PATH=%PATH%;C:\icu\dist\bin; set INCLUDE=%INCLUDE%;C:\icu\dist\include; set LIB=%LIB%;C:\icu\dist\bin
 - Run the configure script and build ICU4C using a makefile:
 - ./configure --prefix=/opt/icu
 - Or CygWin:
 - set PATH=%PATH%;C:\Cygwin\bin C:> dos2unix * C:> dos2unix -f configure
 - C:> "C:\Program Files (x86)\Microsoft Visual Studio 10.0\VC\vcvarsall.bat" x86
 - C:> bash runConfigureICU Cygwin/MSVC -prefix=/cygdrive/c/icu/dist
 - Run make and make install:
 - make && make install

[Read Getting started with internationalization online:](#)

<https://riptutorial.com/internationalization/topic/7109/getting-started-with-internationalization>

Chapter 2: i18n

Examples

Language Neutral Date and Time Formatting in PHP via the MessageFormatter class

```
<?php

// Setting parameters
$time    = time();
$values  = [7, $time, $time];

// Prints "At 3:50:31 PM on Apr 19, 2015, there was a disturbance on planet 7."
$pattern = "At {1, time} on {1, date}, there was a disturbance on planet {0, number}.";
$formatter = new MessageFormatter("en_US", $pattern);
echo $formatter->format($values);

// Prints "À 15:53:01 le 19 avr. 2015, il y avait une perturbation sur la planète 7."
$pattern  = "À {1, time} le {1, date}, il y avait une perturbation sur la planète {0, number}.";
$formatter = new MessageFormatter("fr_FR", $pattern);
echo $formatter->format($values);

?>
```

ICU4J Plurality for Scala via the MessageFormat class

```
import com.ibm.icu.text.MessageFormat
import java.util.Locale
import scala.collection.JavaConverters._

// Outputs "A common message for all options. Selected: (other)"
val formatted = new MessageFormat(
  "{messageCount, plural, one {{aMessage}} (one)} other {{aMessage}} (other)}",
  new java.util.Locale("en_US")
).format(Map(
  "messageCount" -> 900,
  "aMessage"     -> "A common message for all options. Selected: "
).asJava)
```

Read i18n online: <https://riptutorial.com/internationalization/topic/9859/i18n>

Credits

S. No	Chapters	Contributors
1	Getting started with internationalization	Community , Paul Sweatte
2	i18n	Paul Sweatte