

Web Development with Jakarta Server Pages and Servlets

Session: 14

Internationalization



Objectives

- ❖ Explain the concept of internationalization and localization
- ❖ Describe the resource bundling mechanism and resource bundle for various locales
- ❖ Describe how to format dates in servlets for internationalization
- ❖ Identify the process to format currency in servlets for internationalization
- ❖ Explain how to format numbers in servlets for internationalization
- ❖ Identify the steps to format percentages and messages in servlets for internationalization
- ❖ List various tags available in the JSTL internationalization tag library

Internationalization and Localization

Internationalization

- Refers to designing and developing an application that can be deployed internationally.
- Also referred to as I18N.

Localization

- Refers to adapting of the application for a particular region or locality.

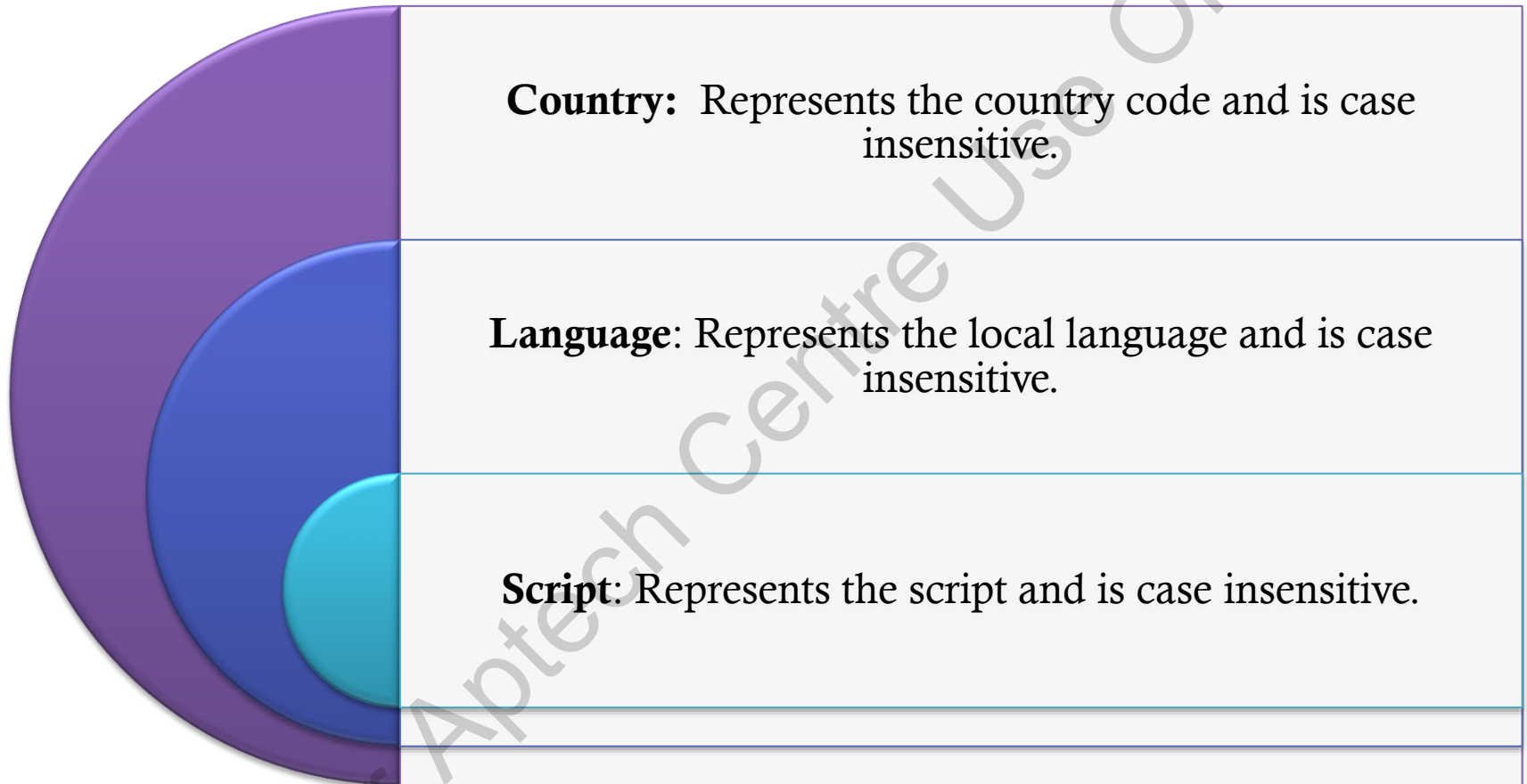
Unicode



Unicode Table

Coding system that has codes for all the major languages of the world.

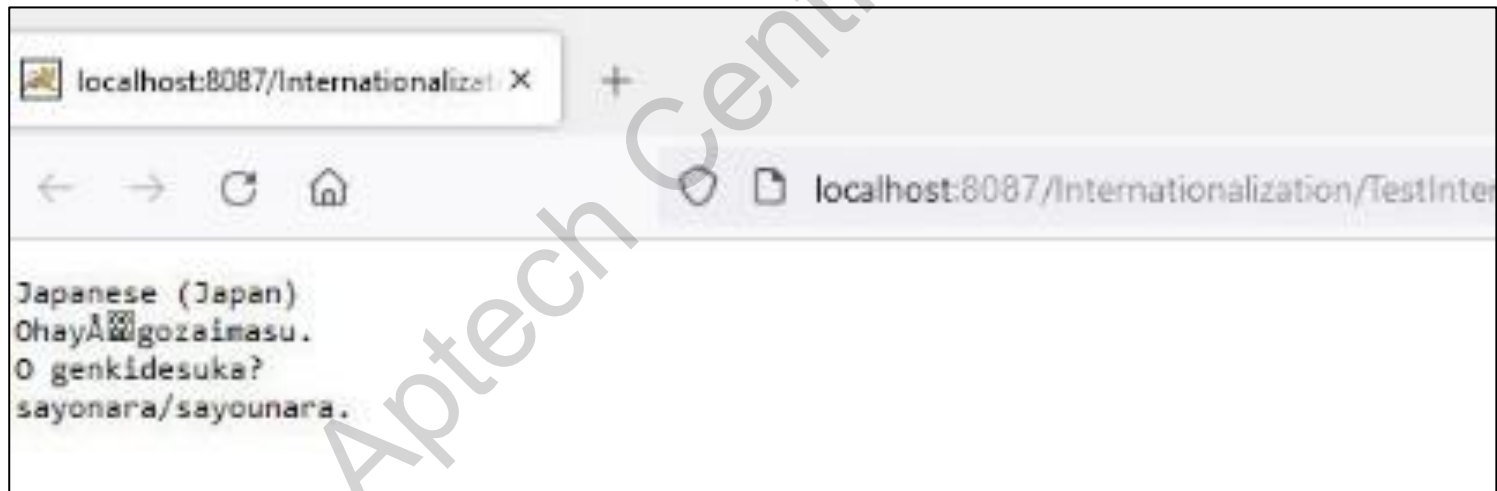
- Includes punctuation marks/ symbols/classical and historical texts.
- 16-bit character encoding.
- Simple and fast.
- Allows java to handle international characters.



Resource Bundles

ResourceBundle
Methods

- `getBundle()`
- `getKeys()`
- `getLocale()`
- `getObject()`
- `getString()`



Output Demonstrating Internationalization

Formatting in Servlets

Formatting Dates

- `DateFormat`
- `DateFormat.Field`
- `DateFormatSymbol`
- `DateFormatter`
- `SimpleDateFormat`

Formatting Currency

- `getCurrencyCode()`
- `getSymbol()`
- `getInstance(Locale locale)`

Formatting Numbers

- `format(double number)`
- `getCurrency()`
- `getInstance()`
- `parse()`
- `setCurrency()`

Formatting Percentages

- `getPercentInstance()`
- `getPercentInstance(Locale inLocale)`

Formatting Messages

- `MessageFormat`
- `MessageFormat.Field`

Internationalizing JSP pages

`formatDate`

Formats a date value as a date using a locale.

`formatNumber`

Formats a number as a currency using a locale.

`message`

Retrieves a message from a resource bundle and formats the message.

Summary

- ❖ Internationalization can be defined as the method of designing an application that can be adapted to a region or a language without much change in the technology
- ❖ Localization is a process of making a product or service, language, culture, and local 'look-and-feel' specific.
- ❖ Internationalization of server side code reduces the task of writing multiple versions of a class for different locales.
- ❖ Resource bundles are used to achieve the locale specific output.
- ❖ Internationalization requires formatting of dates, numbers, currencies, and messages with the help of resource bundle.
- ❖ The internationalization or I18N tags in JSTL help to reduce and manage the complexities of internationalized applications. There are several tags available in I18N.