

# Java EE:

## JavaServer Faces – Libraries, Tags and Templates



**SoftUni Team**  
Technical Trainers



**Software University**

<http://softuni.bg>

## 1. Libraries and Tags

- Basic tags
- Validation tags
- Data table

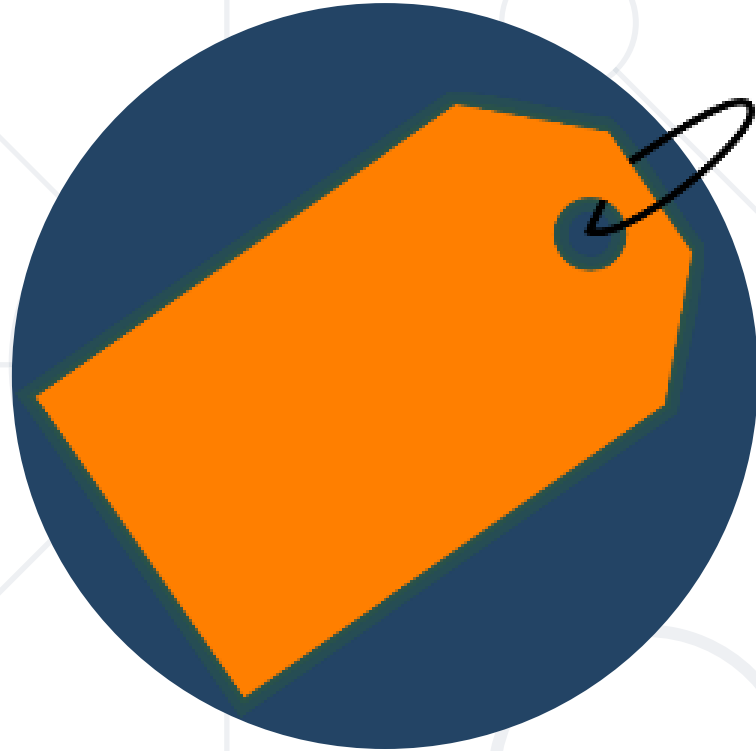
## 2. Templates

- Facelet tags



sli.do

**#java-web**



# JSF Libraries and Tags

- JSF provides a standard **HTML tag library**
  - **Tags** get rendered into corresponding **html** output
  - Use the following namespaces of URI in html node:

```
<html  
  xmlns =  
  "http://www.w3.org/1999/xhtml"  
  xmlns:h =  
  "http://java.sun.com/jsf/html"  
>
```



- **h:inputText:**
  - Renders an HTML **input** element of the type "**text**"

```
<h:form>
  <h3>Read-Only input text box</h3>
  <h:inputText value = "Hello World!" readonly = "true"/>
  <h3>Normal input text box</h3>
  <h:inputText value = "Hello World"/>
</h:form>
```

**Read-Only input text box**

Hello World!

**Normal input text box**

Hello World

- **h:inputSecret:**
  - Renders an HTML **input** element of the type "**password**"

```
<h:form>  
  <h3>Read-Only input password box</h3>  
  <h:inputSecret value = "password" readonly = "true"/>  
  <h3>Normal input password box</h3>  
  <h:inputSecret value = "password"/>  
</h:form>
```

**Read-Only input password box**

**Normal input password box**

- **h:inputTextarea:**
  - Renders an HTML **input** element of the type “**textarea**”

```
<h:form>  
  <h3>Read-Only input text area</h3>  
  <h:inputTextarea row = "10" col = "10" value = "Hello World!" readonly = "true"/>  
  <h3>Normal input text area</h3>  
  <h:inputTextarea value = "Hello World!"/>  
</h:form>
```

**Read-Only input text area**

Hello World!

**Normal input text area**

Hello World!



- **h:inputHidden:**
  - Renders an HTML **input** element of the type "**hidden**"
- **h:selectBooleanCheckbox:**
  - Renders a single HTML **check box**
- **h:selectOneRadio:**
  - Renders a single HTML **radio button**
- **h:selectOneMenu:**
  - Renders an HTML **input** element of the type "**select**"



- **h:outputText:**
  - Renders an HTML **text**

```
<h:form>  
  <h3>Text</h3>  
  <h:outputText value = "Hello World"/>  
</h:form>
```

**Text**

Hello World

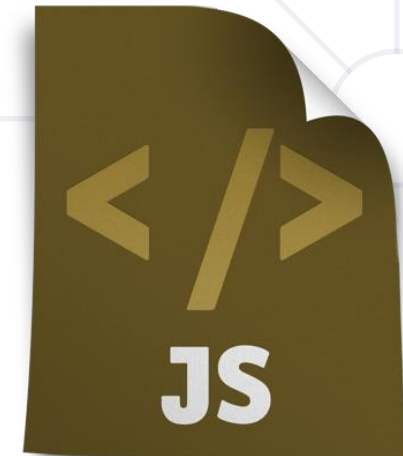
- **h:outputFormat:**
  - Renders an HTML **text** but can accept **parameterized** inputs

```
<h:form>
  <h3>Text</h3>
  <h:outputFormat value = "parameter 1 : {0}, parameter 2 : {1}" >
    <f:param value = "Item 1" />
    <f:param value = "Item 2" />
  </h:outputFormat>
</h:form>
```

**Text**

parameter 1 : Item 1, parameter 2 : Item 2

- **h:graphicImage:**
  - Renders an HTML element of the type "img"
- **h:outputStylesheet:**
  - Renders an HTML element of the type "link" with type "text/css"
- **h:outputScript:**
  - Renders an HTML element of the type "script" with type "text/javascript"



- **h:commandButton:**
  - Renders an HTML input element of the type "submit"
- **h:commandLink:**
  - Renders an HTML "anchor" element

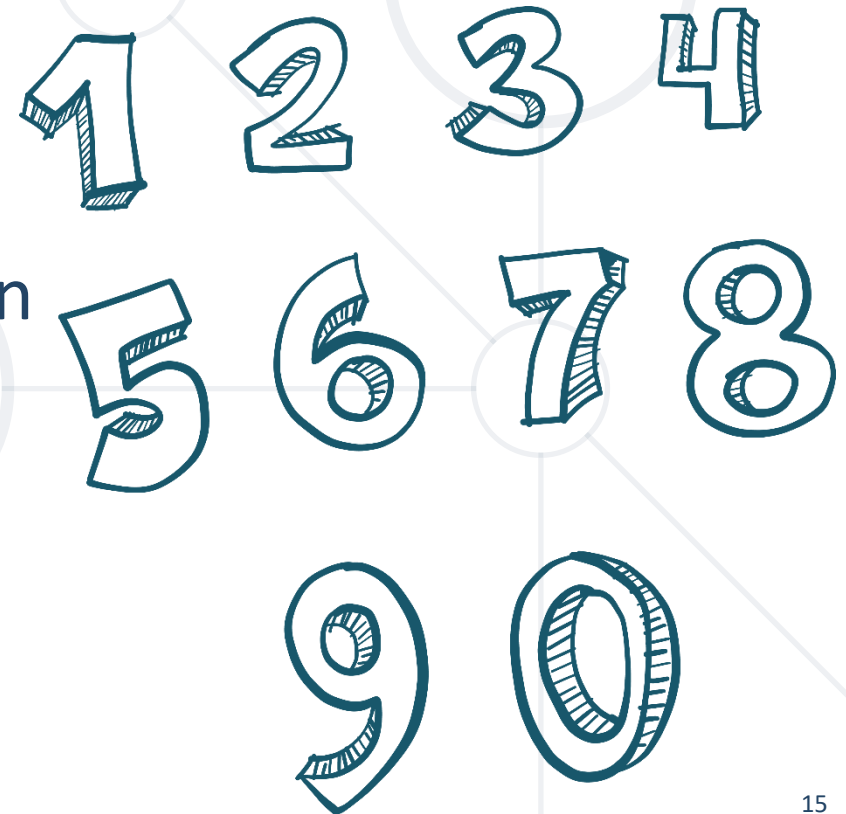


- JSF provides inbuilt **convertors**
  - Convert UI component's data to objects
  - Use the following namespaces of URI in html node:

```
<html  
  xmlns =  
  "http://www.w3.org/1999/xhtml"  
  xmlns:f =  
  "http://java.sun.com/jsf/core"  
>
```



- **f:convertNumber**
  - **Convert** a string value to a number of required format
  - Attributes:
    - **type**: number, currency, or percent
    - **pattern**: formatting pattern, as defined in `java.text.DecimalFormat`



- **f:convertDateTime**
  - **Convert** a string value to a date of required format
  - Attributes:
    - **type**: date (default), time, or both
    - **dateStyle**: default, short, medium, long, or full
    - **timeStyle**: default, short, medium, long, or full
    - **pattern**: formatting pattern, as defined in `java.text.SimpleDateFormat`





- JSF provides inbuilt **validators**
  - Can validate:
    - **Length** of a field
    - **Type** of input which can be a custom object
  - **f:validateLength**
    - Used to **validate** the length of a string value in a particular range
    - Attributes:
      - **minimum**
      - **maximum**



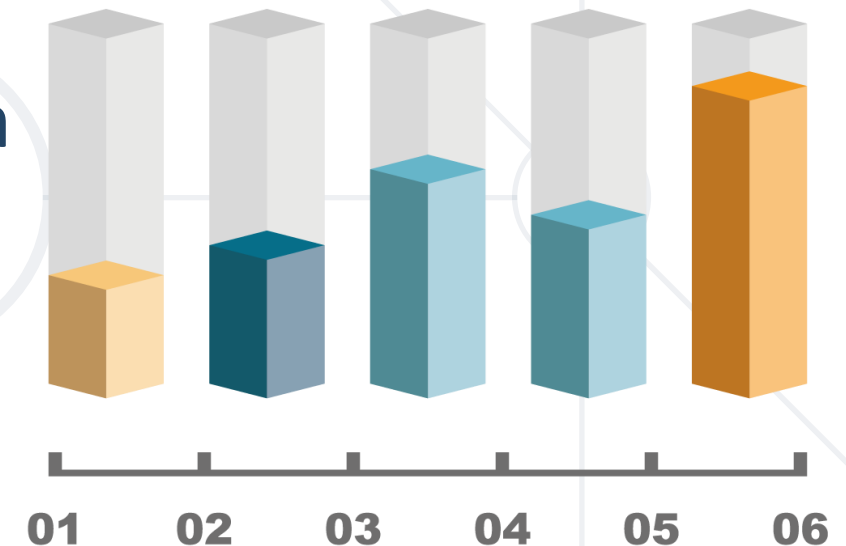
- **f:validateLongRange**
  - Used to **validate** the long value in a particular range
  - Attributes:
    - **minimum**
    - **maximum**



- `f:validateDoubleRange`
  - Used to **validate** a value to a range of float values
  - Attributes:
    - **minimum**
    - **maximum**



- JSF provides **DataTable** to render and format html tables
  - Can iterate over a collection or array of values to display data
  - Provides attributes to modify its data in an easy way
- **h:dataTable**
  - Used to display data in a tabular fashion
- **h:column**
  - Used to display column





# Templates

- Facelets tags
  - Create **common layout** for a web application
  - Provide flexibility to manage common parts of multiple pages at one place
  - Use the following namespaces of URI in html node:

```
<html  
  xmlns:ui =  
    "http://java.sun.com/jsf/facelets"  
>
```



- **Templates** in a web application defines:
  - Common interface **layouts**
  - **Styles**
- **ui:insert**
  - Used in template file
  - Defines contents to be placed in a template

- **ui:define**
  - Defines the contents to be inserted in a template
- **ui:include**
  - Includes contents of one xhtml page into another xhtml page
- **ui:composition**
  - Loads a template using template attribute
  - Defines a group of components to be inserted in xhtml page



- Define a default content of Header section

header.xhtml

```
<ui:composition>  
    <h1>Hello, I am Header</h1>  
</ui:composition>
```

- Define a default content of Footer section

footer.xhtml

```
<ui:composition>  
    <h2>Hello, I am Footer</h2>  
</ui:composition>
```

- Define a default content of Content section

content.xhtml

```
<ui:composition>  
    <h3>Hello, I am Content</h3>  
</ui:composition>
```



- Use `ui:insert` and `ui:include` tag to include header/footer and content file in template file

common.xhtml

```
<ui:insert name="header">
    <ui:include src="header.xhtml" />
</ui:insert>
<ui:insert name="content">
    <ui:include src="content.xhtml" />
</ui:insert>
<ui:insert name="footer">
    <ui:include src="footer.xhtml" />
</ui:insert>
```

- Load common.xhtml using ui:composition tag in any xhtml page

index.xhtml

```
<h:body>  
  <ui:composition template="templates/common.xhtml" />  
</h:body>
```

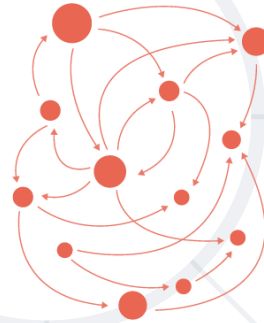
← → ↻ 🏠 ⓘ localhost:8000

**Hello, I am Header**

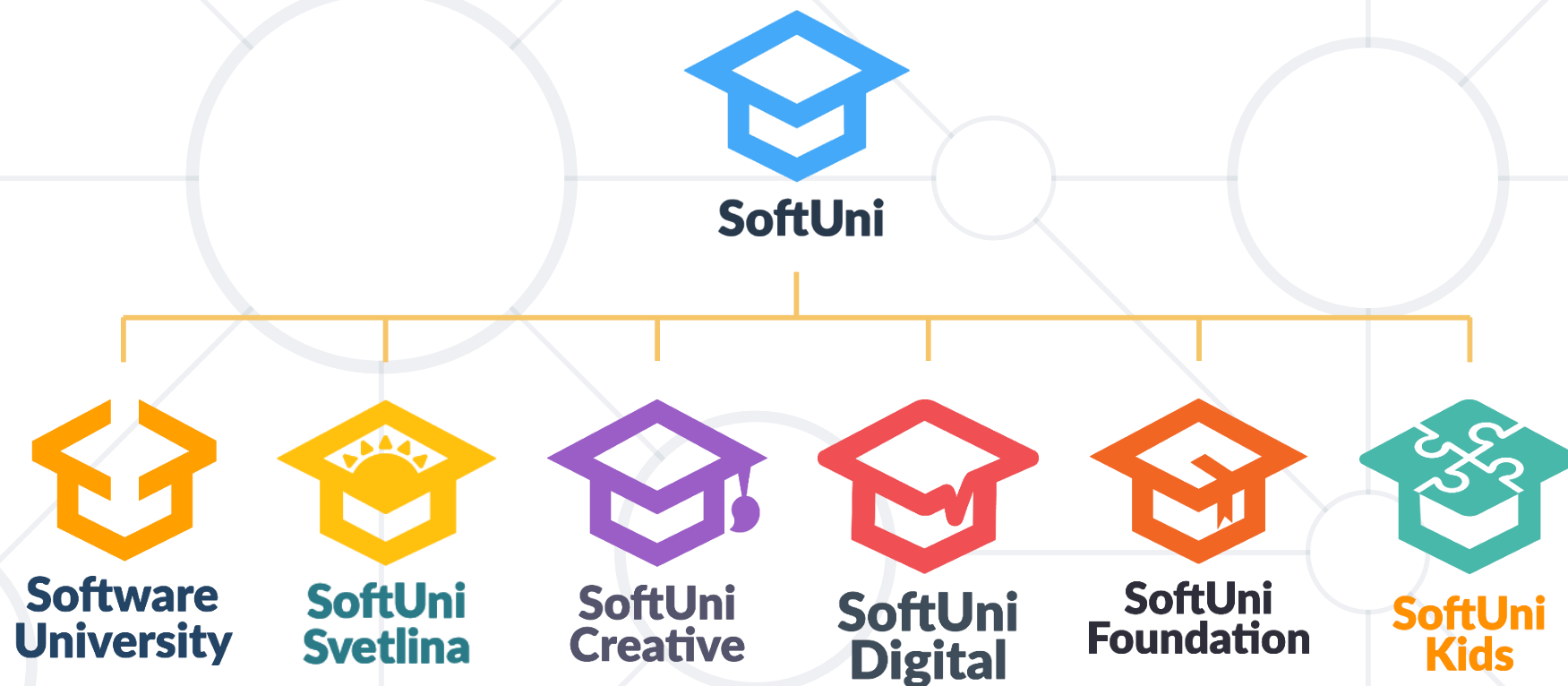
Hello, I am Content

**Hello, I am Footer**

- Tags:
  - Basic tags
  - Validation tags
  - DataTable
- Templates:
  - Facelets tags
  - Provide flexibility to manage common parts of multiple pages at one place



# Questions?



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