



CSS for JSF Developers: A Very Quick Overview

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Overview

- **Most JSF developers already know at least the basics of CSS**
 - If you are one of them, skip this mini-tutorial entirely
 - This covers barebones syntax basics only, is not advanced CSS, and covers only syntax – it does not discuss CSS design strategies
- **But some are new to Web development**
 - I have been asked by several JSF students to give some introductory material on HTML (earlier section) and CSS (this section)
- **Far more details are available online**
 - Any of the online CSS tutorials give more details than this ultra-brief introduction

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Topics in This Section

- **Loading and using style sheets**
 - Standard HTML
 - JSF-specific
- **CSS selectors**
 - Applying styles in standard HTML elements
 - Applying styles in JSF elements
- **CSS properties**
- **Examples**
- **References**

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Loading and Using Style Sheets



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Loading an External Style Sheet: Standard HTML

- **Loading the style sheet**

```
<head>  
  <link href="css/styles.css"  
        rel="stylesheet" type="text/css"/>  
  ...  
</head>
```

The type attribute is officially optional in HTML 5. In other HTML versions, although it is ignored by browsers, it should be included for HTML validators.

- **Locating the style sheet**

- The CSS file goes in normal directory, in location referred to by relative URL above.
 - For example, in the above example, the style sheet styles.css is in the “css” subfolder of the current directory.

Loading an External Style Sheet: JSF-Specific Approach

- **Loading the style sheet**

```
<h:head>  
    <h:outputStylesheet name="styles.css" library="css"/>  
    ...  
</h:head>
```

- **Locating the style sheet**

- The CSS file goes in the folder referred to by “library”, relative to the “resources” folder.
 - For example, in above example, styles.css is in .../resources/css/ (WebContent/resources/css/ in Eclipse)

- **Motivation**

- So that you can refer to style sheets when writing a page or a piece of a page when you do not know the URL
 - Examples and details of this approach are covered in tutorial sections on JSF page templating and on composite components

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Embedding Styles (HTML and JSF)

- **Embedding an internal style sheet**

```
<head>  
    <style type="text/css">  
        p { color: blue; }  
        .note { font-weight: bold; background-color: red; }  
    </style>  
    ...  
</head>
```

<head> for vanilla HTML pages, <h:head> for JSF pages.
Again, the type can be omitted in HTML5

- **Listing CSS styles inline**

- <h1 style="color: red; background-color: blue">...</h1>

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Using Styles from Style Sheets

- **Styles that apply to elements**

- Apply automatically
 - `h2 { color: blue; font-family: sans-serif }`
 - All `<h2>` elements automatically in blue non-serif font

- **Styles that start with “.”**

- Must be applied with “class” (HTML) or “styleClass” (JSF) attributes
 - `.warning { color: red; font-weight: bold; font-size: 120% }`
- Standard HTML elements
 - `<p class="warning"/>...</p>`
 - `...`
- JSF elements
 - `<h:message styleClass="warning" .../>`
 - `<h:outputText styleClass="warning" .../>`

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CSS Selectors



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Big Idea

- **Selectors are what designate which elements the styles apply to**
 - `p { color: red; background-color: yellow }`
 - All `<p>` elements have foreground red and background yellow
 - `.indented { margin-left: 10px }`
 - `<blah class="indented">` elements are indented 10 pixels on the left. For JSF elements, you would use `<h:blahTag styleClass="indented">`
 - `table.colored td { color: blue }`
 - `<td>`'s within `<table class="colored">` have blue foreground
- **Only some of the selectors are shown here**
 - For complete list, with examples, see <http://www.w3.org/TR/css3-selectors/>

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CSS Selectors: Quick Examples

```
#some-id {
    Styles that apply to <h1 id="some-id">
}
p {
    Styles that apply to <p>
}
.note {
    Styles that apply to <div class="note">
}
p span {
    Styles that apply to <p>...<span>...</span>...</p>
}
h1, h2, td li {
    Styles that apply to <h1> and also to <h2> and also to <td>...<li>...</li>...</td>
}
}
```

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Basic Selectors

Selector	Meaning	Examples	
element	Matches all elements with given tag name. Could be many matches.	li {...} p {...}	Matches all li elements Matches all p elements
#id	Matches the element with given id. Matches 0 or 1 elements.	#blah {...}	Matches element with <...id="blah">
.class	Matches all elements with given CSS style.	.important {...}	Matches elements with <... class="important">
element.class	Matches all elements with given tag name that have given class.	div.important {...}	Matches elements like <div class="important">
element#id	Matches the element that has given tag name and given id. Since ids must be unique, you can omit the element name and get same result.	form#blah {...}	Matches element with <form id="blah">
*	Matches all elements in entire page. Particularly useful for nesting and with the :not selector.	* {...} div * {...}	Matches all elements. Matches all elements that are inside divs

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Hierarchical Selectors

Selector	Meaning	Examples	
s1 s2	Elements that match selector s2 and are <i>directly or indirectly</i> inside an element that matches selector s1.	div.foo span.bar {...}	Matches all elements that are <i>somewhere</i> inside <div class="foo">.
s1 > s2	Elements that match selector s2 and are <i>directly</i> inside an element that matches s1.	div.foo > span.bar {...}	Matches all elements that are <i>directly</i> inside <div class="foo">.
s1, s2	Elements that match either selector.	ul,ol,dl.foo {...}	Matches all ul, ol, and <dl class="foo"> elements.
s1 + s2	Elements that match s2 and are immediately after a sibling element matching s1.	label + input {...}	Matches all input elements that are immediately after a label element.
s1 ~ s2	Elements that match selector s2 and are somewhere after a sibling element matching s1.	label ~ input {...}	Matches all input elements that have a label element somewhere before them at the same nesting level.

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Attribute Selectors

Selector	Meaning	Examples	
s[att]	Elements that match selector s and also contain attribute named att.	div.blah a[name] {...}	Matches all elements that are inside <div class="blah">
s[att=val]	Elements that match selector s and also contain attribute named att whose value is (exactly) val.	a[href=#sect2] {...}	Matches all elements
s[att^=val]	Elements that match selector s and also contain attribute named att whose value starts with val.	a[href^=#] {...}	Matches all internal hyperlinks
s[att\$=val]	Elements that match selector s and also contain attribute named att whose value ends with val.	a[href\$=jquery.com] {...}	Matches all hyperlinks pointing to blah.jquery.com home page (not subpages)
s[att*=val]	Elements that match selector s and also contain attribute named att whose value contains val.	a[href*=jquery.com] {...}	Matches all hyperlinks pointing to any page at blah.jquery.com
s[att!=val]	Elements that match selector s and either do not have the specified attribute, or have a different value.	a[href!=#sect2] {...}	Matches all hyperlinks except elements
s:not([...])	Elements that match s but do not match attribute specification.	a:not([href=http]) {...}	Matches hyperlinks that do not start with http...

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Positional Selectors

Selector	Meaning	Examples	
s:first s:last	First or last match in page.	ul.foo li:first {...}	Matches first li element that is inside <ul class="foo">
s:eq(n)	The nth match in the page. Count starts at 0.	p:eq(3) {...}	Fourth p element in page.
s:gt(n), s:lt(n)	Elements after/before the nth.	p:gt(3) {...}	5 th and following p elements.
s:even s:odd	Elements that are even or odd numbered elements in the page. 0-based, so first match is even.	tr:even {...}	Finds all table rows, then matches the even numbered ones from that overall list.
s:first-child s:last-child s:only-child	Elements that are the first or last child of their parents, or that have no siblings.	tr:first-child {...}	Matches the first row of every table.
s:nth-child(n)	Elements that are the nth child. First child is nth-child(1), not (0)	tr:nth-child(3) {...}	Matches the third row of each table
s:nth-child(even) s:nth-child(odd)	Elements that are even or odd children of their parent. Count starts at 1, so first match is odd.	tr:nth-child(even) {...}	Matches rows that are even numbered rows of their own table.
s:nth-child(xn+y)	Elements matching formula. You list "n" literally. So, 3n means every third. 3n+1 means entry after every third.	tr:nth-child(4n+2) {...}	Matches row 6, 10, 14, ... of each table.

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Content Filtering Selectors

Selector	Meaning	Examples
<code>s:contains(text)</code>	Elements that match <code>s</code> and whose body content contains given text.	<code>.foo li:contains(wow) {...}</code> Matches <code>li</code> elements that have “wow” in their body text and are inside <code><... class="foo"></code>
<code>s:empty</code>	Elements that have no child elements. Body content counts as a child element (text node).	<code>div:empty {...}</code> Empty divs.
<code>s:parent</code>	Elements that have child elements.	<code>div:parent {...}</code> Non-empty divs.
<code>s1:has(s2)</code>	Elements that match <code>s1</code> and have directly or indirectly contain elements that match <code>s2</code> .	<code>table:has(th) {...}</code> All tables that have at least one <code>th</code> element inside.

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CSS Properties



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Big Idea

- **Properties are what you use to style selected elements**
 - `p { color: red; background-color: yellow }`
 - All `<p>` elements have foreground red and background yellow
 - `.indented { margin-left: 10px }`
 - `<blah class="indented">` elements are indented 10 pixels on the left. For JSF elements, you would use `<h:blahTag styleClass="indented">`
- **Only a few properties are shown here**
 - For complete list, with examples, see <http://www.w3.org/TR/CSS21/propidx.html>

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Colors

- **color**
 - Foreground text color
- **background-color**
 - Color of the background
- **border-color**
 - Color of the border (see upcoming “box model” slide)
- **Example**

```
.colored {
  color: red;
  background-color: #00ff00;
  border-color: black;
}
```

 - Example usage: `<p class="colored">...</p>`

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Color Units

- **Official predefined color name**
 - aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, orange, purple, red, silver, teal, white, yellow
- **X11 color names**
 - See <http://www.html-color-names.com/color-chart.php>
 - Includes CornSilk, Salmon, PapayaWhip, etc.
 - Supported for historical reasons, because the first browser was on OS that used X Windows
- **RGB spec**
 - #ff00ff
 - rgb(255, 0, 255)
- **Examples**
 - .cool { color: red; background-color: #0000ff; border-color: papayawhip }

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Fonts

- **font-size**
 - { font-size: 25px }
 - { font-size: 125% }
- **font-family**
 - { font-family: "Times New Roman", Times, serif; }
- **font-style**
 - { font-style: italic }
- **font-weight**
 - { font-weight: bold }

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Box Model: Idea

- **Idea**

- Block-level elements have four parts: margin, border, padding, and the main content section
 - Size units can be in colors or percentages
 - Color units shown earlier



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Image from http://www.w3schools.com/css/css_boxmodel.asp

Box-Model: Properties

- **Margin**

- margin
- margin-left, margin-right, margin-top, margin-bottom

- **Border**

- border, border-color
- border-left, border-left-color, etc.

- **Padding**

- padding
- padding-left, padding-right, padding-top, padding-bottom

- **Content**

- width
- height

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A Few Examples



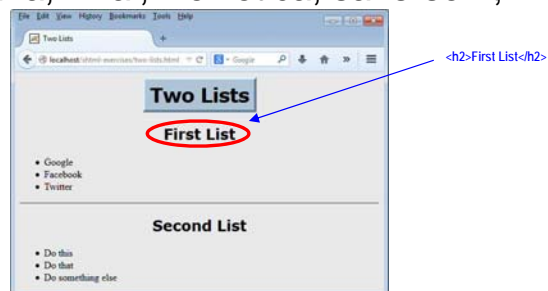
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Centered Headings

- **Code**

```
h1,h2,h3 {
  text-align: center;
  font-family: Verdana, Arial, Helvetica, sans-serif;
  color: black;
}
```



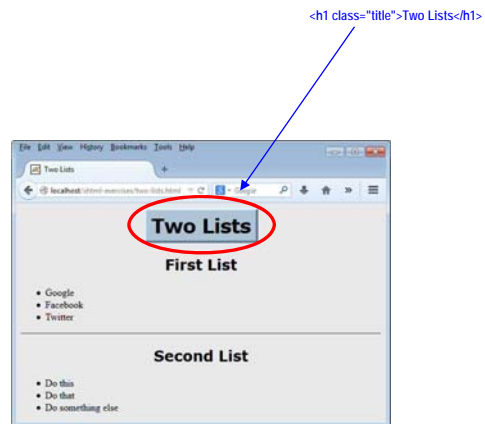
- **Meaning**

- `<h1>`, `<h2>`, and `<h3>` headings are centered and black.
- They use Verdana font if available, Arial as second choice, Helvetica as third choice, and otherwise use the default non-serif font of the system

3D Titles

- **Code**

```
h1.title {  
  display: table;  
  margin: auto;  
  background-color: #afc4d6;  
  border-width: 4px;  
  border-style: outset;  
  border-color: #9fd1ff;  
  padding: 5px 8px;  
  letter-spacing: -.025em;  
}
```



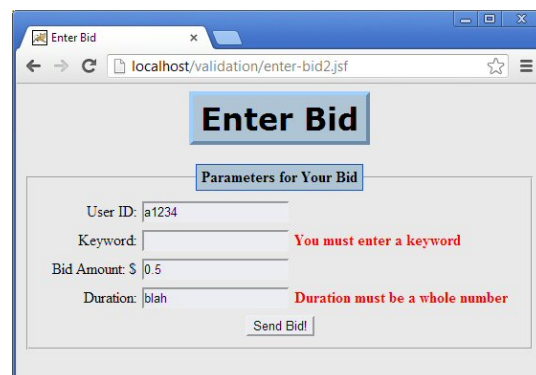
- **Meaning**

- `<h1 class="title">Text</h1>` displayed as above

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Forms with Aligned Textfields and R-Aligned Prompts

```
.formTable {  
  display: table;  
}  
.formTable td:first-child {  
  text-align: right;  
}  
.formTable td:nth-child(3) {  
  color: red;  
  font-weight: bold;  
}
```



- **Meaning**

- The first `<td>` of each `<tr>` is R-aligned when inside `<table class="formTable">` (or `h:panelGrid`)
 - The prompt is in the first `<td>`, the textfield in the second, and the red/bold error message (if any) in the third.

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Wrapup



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References

- **Books**

- *CSS Cookbook* by Christopher Schmitt
- *CSS3: Visual Quickstart Guide* by Jason Cranford Teague
- *HTML5 and CSS3* by Brian P. Hogan

- **Online References**

- All official CSS specs:
<http://www.w3.org/Style/CSS/specs.en.html>
- CSS tutorial: <http://www.w3schools.com/css/>
- Search on Google for “CSS tutorial[s]”
- Cool demo: <http://www.csszengarden.com/>
 - Examples of how you can totally revamp a page by changing only the CSS.

Summary

- **Load style sheets**
 - HTML and JSF
 - `<link href="css/styles.css" rel="stylesheet" type="text/css"/>`
 - JSF only
 - `<h:outputStylesheet name="styles.css" library="css"/>`
- **Apply styles (that start with “.”)**
 - HTML elements: `<tag class="name">`
 - JSF elements: `<h:tag styleClass="name">`
- **Selectors**
 - `h1 { ... }`
 - Applies to all h1 elements
 - `.foo { ... }`
 - Applies to `<tag class="foo">` or `<h:tag styleClass="foo">`
 - `div table.bar td { ... }`
 - Applies to tds inside `<table class="bar">` that are inside divs

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Questions?

More info:

<http://www.coreservlets.com/JSF-Tutorial/JSF2/> – JSF 2.2 tutorial

<http://www.coreservlets.com/JSF-Tutorial/primefaces/> – PrimeFaces tutorial

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