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CIS 300
Web Design and Development

Chapter 4 | Cascading Style Sheet Basics

Learning Objectives

2

- Describe the purpose of Cascading Style Sheets
- List advantages of using Cascading Style Sheets
- Configure color on web pages with Cascading Style Sheets
- Configure inline styles
- Configure embedded style sheets
- Configure external style sheets
- Configure web page areas with element name, class, id, and descendant selectors
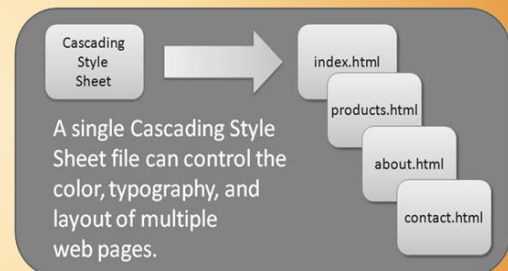- Test your CSS for valid syntax

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Overview of Cascading Style Sheets (CSS)

3

- See what is possible with CSS:
  - Visit http://www.csszengarden.com

- Style Sheets
  - Used for years in Desktop Publishing
  - Apply typographical styles and spacing to printed media

- CSS
  - Provides the functionality of style sheets (and much more) for web developers
  - A flexible, cross-platform, standards-based language developed by the W3C.

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Advantages of CSS

4

- Greater typography and page layout control
- Style is separate from structure
- Styles can be stored in a separate document and linked to from the web page
- Potentially smaller documents
- Easier site maintenance

Cascading Style Sheet → index.html
products.html
about.html
contact.html

A single Cascading Style Sheet file can control the color, typography, and layout of multiple web pages.

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Types of Cascading Style Sheets

5

- Inline Styles
- Embedded Styles
- External Styles
- Imported Styles

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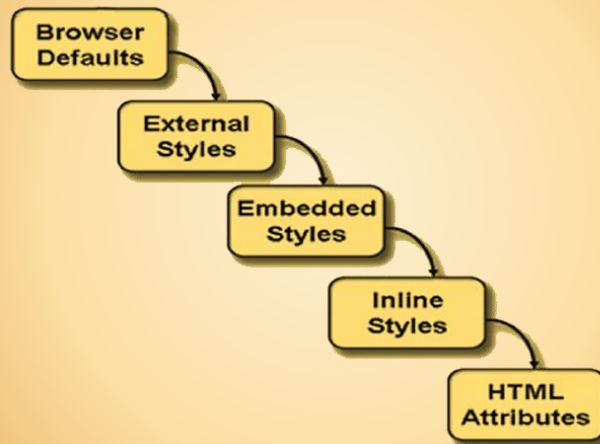
Description of the Types of Cascading Style Sheets

6

- Inline Styles
  - Configured in the body of the web page
  - Use the style attribute of an HTML tag
  - Apply only to the specific element

  `<p style="color: red;">This is a paragraph.</p>`

- Embedded Styles
  - Configured in the head section of a web page.
  - Use the HTML <style> element
  - Apply to the entire web page document
- External Styles
  - Configured in a separate text file with .css file extension
  - The HTML <link> element in the head section of a web page associates it with the .css file
- Imported Styles
  - Similar to External Styles
  - We'll concentrate on the other three types of styles.

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The "Cascade"

CSS Syntax

- Style sheets are composed of "Rules" that describe the styling to be applied.
- Each rule contains a Selector and a Declaration

body { color: blue }

Selector — body
Declaration Property — color
Declaration Value — blue

CSS Syntax Sample

Configure a web page to display blue text and yellow background.

body { color: blue;

     background-color: yellow; }

This could also be written using hexadecimal color values as shown below.

body { color: #0000FF;

     background-color: #FFFF00; }

Selector — Declaration Property — Declaration Value

body { color: blue }

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CSS Syntax for Color Values

- Table 4.2 Syntax to configure a paragraph with red text

CSS Syntax	Color Type
p { color: red }	Color name
p { color: #FF0000 }	Hexadecimal color value
p { color: #F00 }	Shorthand hexadecimal (one character for each hexadecimal pair – only used with web safe colors)
p { color: rgb(255,0,0) }	Decimal color value (RGB triplet)
p { color: rgba(255,0,0,0.5) }	CSS3: Decimal color value (RGB triplet) followed by the alpha opacity (a value from 0 to 1). *The CSS3 Color Module is in draft status and is not yet uniformly supported by browsers.*
p { color: hsl(0, 100%, 50%) }	HSL color values. *The CSS3 Color Module is in draft status and is not yet uniformly supported by browsers. See http://www.w3.org/TR/css3-color/#hsl-color*

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Inline CSS with the Style Attribute

11

- Inline CSS
  - Configured in the body of the Web page
  - Use the style attribute of an HTML tag
  - Apply only to the specific element
- The Style Attribute
  - Value: one or more style declaration property and value pairs

- Examples

`<h1 style="color:#ff0000">Heading text is red</h1>`

Heading text is red

`<h1 style="color:#FF0000;background-color:#cccccc">This is displayed as a red heading with gray background</h1>`

This is displayed as a red heading with gray background

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Configure Embedded CSS with the Style Element

12

- Configured in the head section of a web page.
- Use the HTML <style> element
- Apply to the entire web page document
- Style declarations are contained between the opening and closing <style> tags
- The optional type attribute indicates the MIME type of text/css
- Example:

```
<style>
body { background-color: #000000;
       color: #FFFFFF;
}
</style>
```

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CSS Embedded Styles

- The body selector sets the global style rules for the entire page.
- These global rules are overridden for <h1> and <h2> elements by the h1 and h2 style rules.


```
<style>
body { background-color: #E6E6FA;
       color: #191970;}
h1 { background-color: #191970;
     color: #E6E6FA;}
h2 { background-color: #AEAED4;
     color: #191970;}
</style>
```

External Style Sheets - 1

- CSS style rules are contained in a text file separate from the HTML documents.

- The External Style Sheet text file:
  - extension ".css"
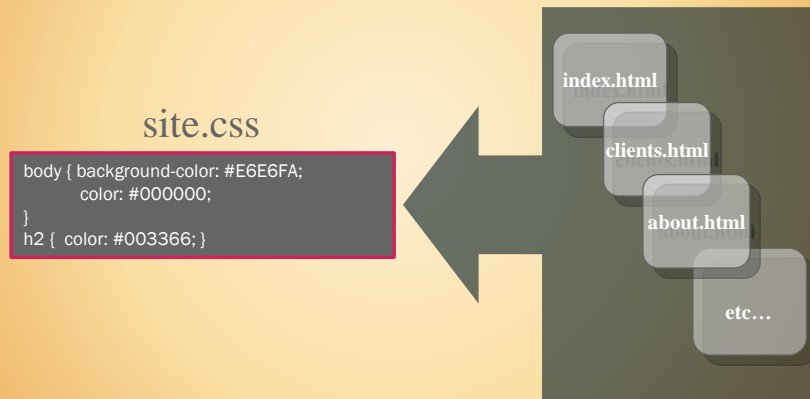 - contains only style rules
  - does not contain any HTML tags

External Style Sheets - 2

Multiple web pages can associate with the same external style sheet file.

site.css

```
body { background-color: #E6E6FA;
       color: #000000;
}
h2 {  color: #003366; }
```

index.html

clients.html

about.html

etc…

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The <link> Element

- A self-contained tag
- Placed in the header section
- Purpose: associates the external style sheet file with the web page.
- Example:

```
<link rel="stylesheet" href="color.css">
```

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Using an External Style Sheet

- External Style Sheet color.css

```
body { background-color: #0000FF;
       color: #FFFFFF;
}
```

- To associate with the external style sheet called color.css, place the following code in the head section:

```
<link rel="stylesheet" href="color.css">
```

CSS Selectors

- Common Types of Selectors:
  - HTML element name selector
  - class selector
  - id selector
  - descendant selector

Using CSS with "class"

19

- class Selector
  - Apply a CSS rule to ONE OR MORE elements on a web page
  - Does not associate the style to a particular HTML element

```
<style>
.new { color: #FF0000;
}
</style>
```

- Configure with .classname
  - The sample creates a class called "new" with red text.
- To use the class, code the following HTML:

```
<p class="new">This text is red</p>
```

This text is red.

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Using a CSS id Selector

20

- id Selector
  - Apply a CSS rule to ONLY ONE element on a web page.
- Configure with #idname

```
<style>
#new { color: #FF0000;
}
</style>
```

- The sample creates an id called "new" with red text.

- To use the id, code the following HTML:

```
<p id="new">This text is red.</p>
```

This text is red.

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Using a CSS Descendant Selector

- Descendant Selector
  - Apply a CSS
    rule within the context of
    the container (parent) element.
  - Sometimes called a
    contextual selector.

```
<style>
footer  p {color: #00ff00; }
</style>
```

- Configure by listing the
  container selector followed by the selector you are styling.
- The sample specifies a green text color for only the paragraph elements
  located within the footer element.

The div element <div>

- A block-display element

- Purpose: configure a specially formatted division or area of a web
  page
  - There is a line break before and after the division.
  - Can contain other block-level and inline elements

- Useful to define a generic area that will contain other block
  display tags (such as paragraphs or spans) within it.

\<div\> Example

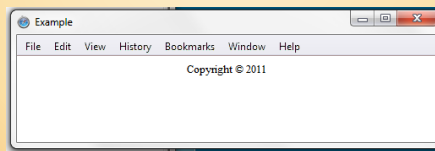23

- Configure a page footer area
- Embedded CSS:

```
<style>
.notes { font-size: small;
         text-align: center; }
</style>
```

- HTML:

```
<div class="notes">Copyright &copy; 2014</div>
```

Example
File Edit View History Bookmarks Window Help
Copyright © 2011

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The Span Element \<span\>

24

- An inline-level element
- Purpose:
  - Configure a specially formatted area displayed in-line with other elements, such as within a paragraph.
- There is no line break before and after the span.

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<span> Example
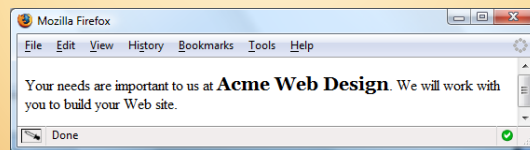
25

- Embedded CSS:

```
<style>
.companyname { font-weight: bold;
                font-family: Georgia, "Times New Roman", serif;
                font-size: 1.25em;
</style>
```

- HTML:

```
<p>Your needs are important to us at <span class="companyname">Acme Web Design</span>. We will work with you to build your website.</p>
```
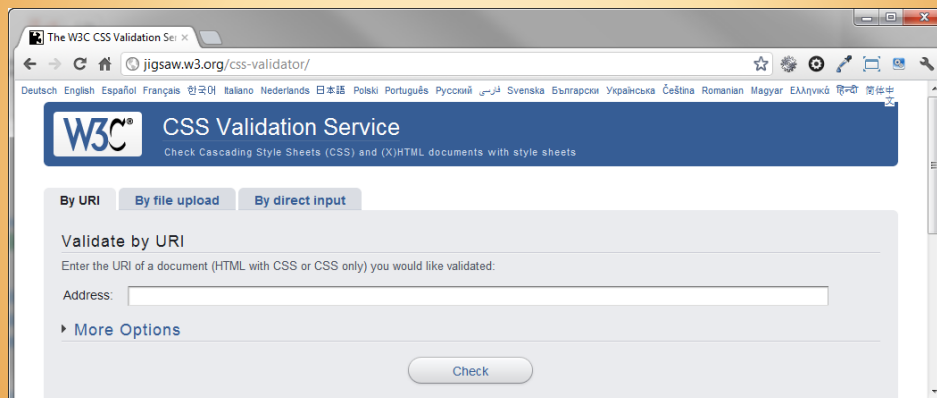
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W3C CSS Validation

26

- http://jigsaw.w3.org/css-validator

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CSS Troubleshooting Tips

- Verify you are using the : and ; symbols in the right spots—they are easy to confuse.
- Check that you are not using = signs instead of : between each property and its value.
- Verify that the { and } symbols are properly placed
- Check the syntax of your selectors, their properties, and property values for correct usage.
- If part of your CSS works, and part doesn't:
  - Review your CSS
  - Determine the first rule that is not applied.
    Often the error is in the rule above the rule that is not applied.
- Validate your CSS at http://jigsaw.w3.org/css-validator

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See you in the next video!