Cascading Style Sheets CSS

Asst. Prof. Dr. Özgü Can

- Language for formatting and designing information on the web, including ASP.NET pages.
- Change the appearance of pages.
- CSS code → to style pages

- In the early days of the Internet → Web pages consisted mostly of text and images.
- Web developers needed more power to format their pages.
- CSS was created to address HTML's styling shortcomings.

Problem's of HTML Formatting

- Limited set of options to style pages.
 - Not rich enough to create attractive web pages.

 HTML forces you to embed your formatting in your HTML document, making it harder to reuse or change the design later.

```
<font face="Arial" color="red" size="+1">
    This is red text in an Arial type face and slightly larger than the default text.
</font>
```

Problem's of HTML Formatting

```
<font face="Arial" color="red" size="+1">
    This is red text in an Arial type face and slightly larger than the default text.
</font>
```

- You can't easily change the formatting at runtime in the user's browser.
 - No way to let your visitor change things like the font size or color.
- Additional Markup → increase in the size of the page → slower download & display and harder to maintain pages

Problem's of HTML Formatting

- Limits the formatting possibilities.
- Data and presentation are mixed within the same file.
 - Harder to maintain your pages
- HTML doesn't allow you to easily switch formatting at runtime in the browser.
- Your page gets larger → Slower to load and display

- Define all formatting information in external files.
 - Separation of mixed data and presentation
- With this separation;
 - HTML → what you want to display
 - $CSS \rightarrow how you want to display$

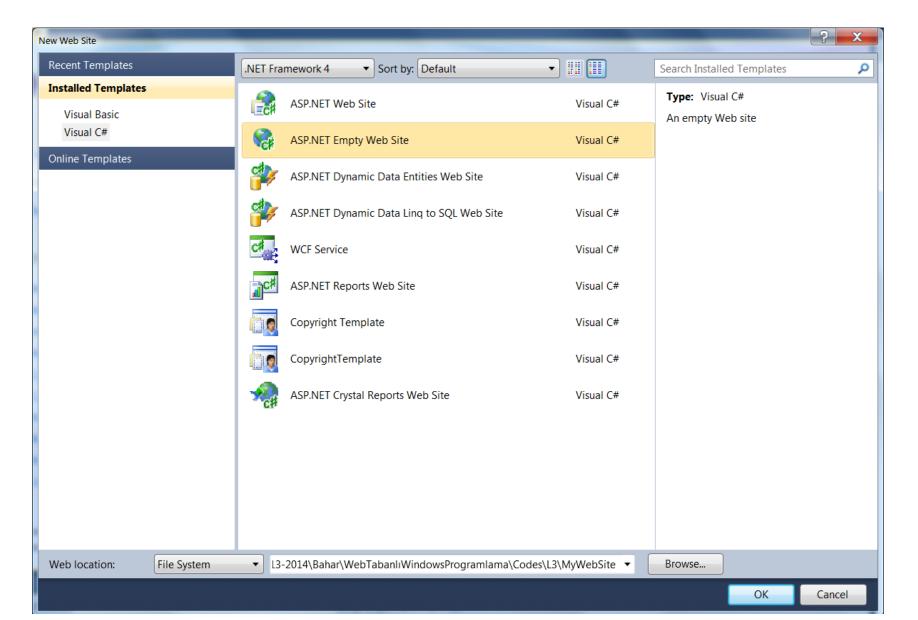
- It's easy to offer the user a choice between different styles.
 - 1. Create a copy of external style sheet
 - 2. Make the necessary changes
 - 3. Offer this alternative style sheet to the user

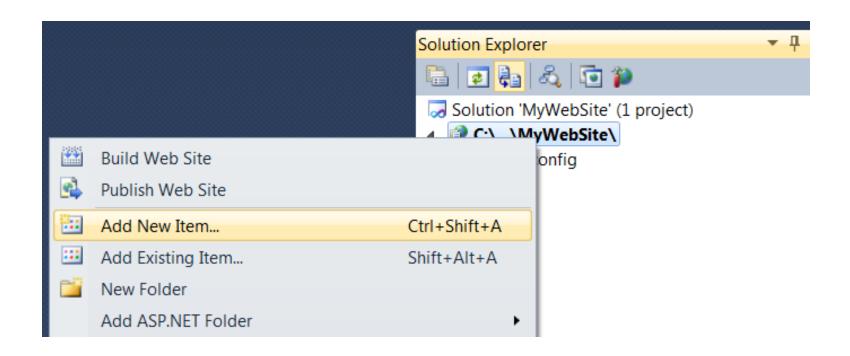
- Separate style sheet file → Decrease in bandwidth
- Style sheets don't change with each request
 - Browser saves a local copy of the style sheet the first time it downloads it.
 - Browser uses a Cached copy
 - CTRL+F5 → Get a fresh copy!

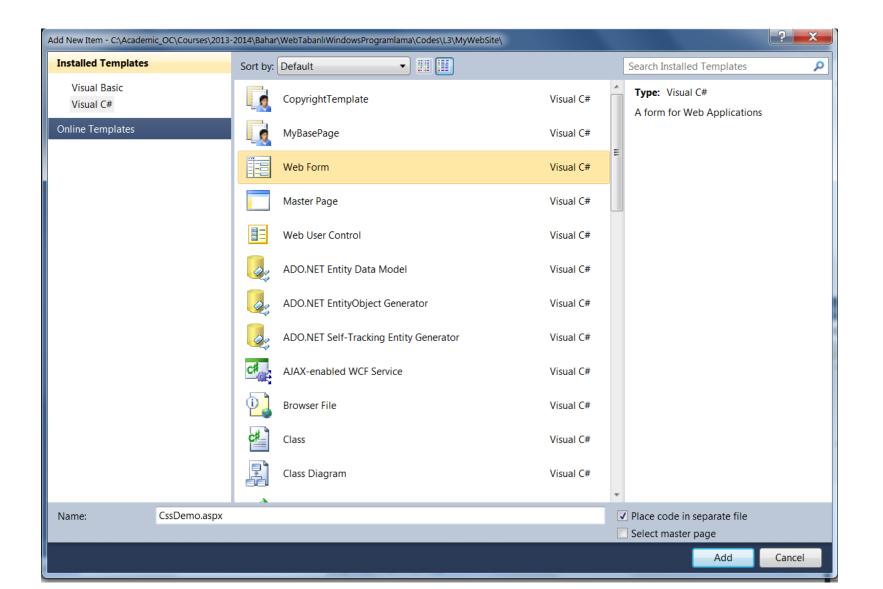
 Maintained by World Wide Web Consortium (W3C)

• For more information:

http://www.w3.org/Style/CSS/







```
<head runat="server">
                    <title></title>
                    <style type="text/css">
 Heading at
                        h1
the first level
                            font-size: 20px;
                            color: Green;
The look and
  feel for all
                        p
     >
  elements
                            color: Blue;
                            font-style: italic;
  Right-align
                         .RightAligned
 some text in
   the page.
                            text-align: right;
                    </style>
                </head>
```

<body>

```
<form id="form1" runat="server">
                          <div>
                          </div>
                          </form>
                      </body>
                      </html>
<body>
   <form id="form1" runat="server">
   <div>
       <h1>Welcome to this CSS Demo page</h1>
       CSS makes it easy to style your pages.
       With very little code, you can quickly change the looks of a page.
   </div>
   </form>
</body>
</html>
```

CssDemo.aspx ×

body

Welcome to this CSS Demo page

CSS makes it easy to style your pages.

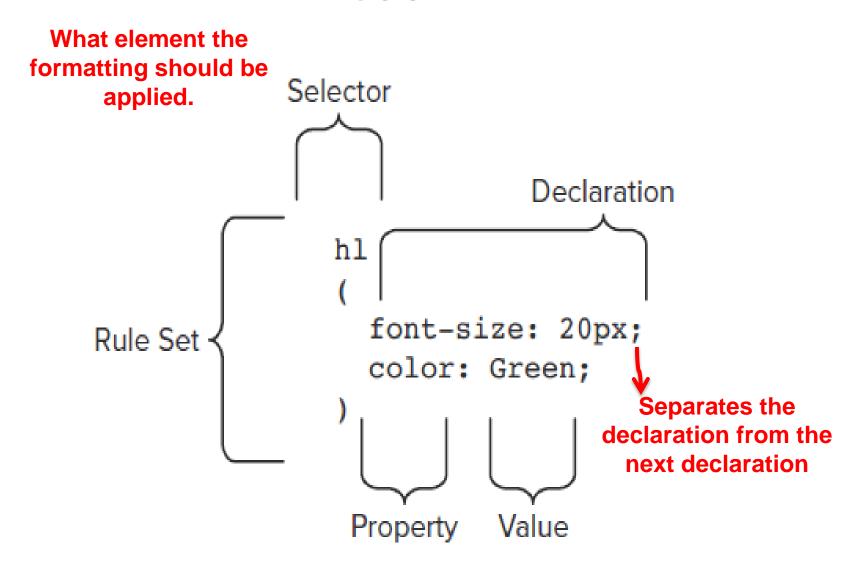
With very little code, you can quickly change the looks of a page.

- CSS → Case sensitive
 - RightAligned ≠ rightaligned
- Ctrl+F5

Welcome to this CSS Demo page

CSS makes it easy to style your pages.

With very little code, you can quickly change the looks of a page.



- A cascading style sheet is actually a collection of rules.
- A rule is a combination of a selector and one or more declarations, which in turn can be broken down to a property and a value.
- In its simplest form, a style sheet looks like this:

```
h1
{
  color: Green;
}
```

 A style sheet can also contain more than one rule. At the same time, each rule can contain multiple declarations, enabling you to group them under a single selector:

```
h1
{
  font-size: 20px;
  color: Green;
}
```

 A style sheet can also contain more than one rule. At the same time, each rule can contain multiple declarations, enabling you to group them under a single selector:

```
h1
{
  font-size: 20px;
  color: Green;
}

color: Green;
}
```

- To be able to style an element on a page, a browser has to know three things:
 - What element of the page must be styled?
 Selectors
 - What part of that element must be styled? Properties
 - 3. How do you want that part of the selected element to look?

Values

Selectors

- What element of the page must be styled?
 - The Universal Selector
 - The Type Selector
 - The ID Selector
 - The Class Selector

The Universal Selector

- Indicated by an asterisk (*)
- Applies to all elements in your page
- Can be used to set global settings
 - Font family
- Changing the font for all elements in the page to Arial:

```
*
{
  font-family: Arial;
}
```

The Type Selector

Points to an HTML element of a specific type

```
h1
{
   color: Green;
}
```

Not case sensitive!

```
-H1 = h1
```

The ID Selector

- Always prefixed by a hash symbol (#)
- Enables to refer to a single element in the page.
- Within an HTML or ASPX page, you can give an element a unique ID using the id attribute.
- ID Selectors are case sensitive!

The ID Selector

 With the ID selector, you can change the behavior for a unique single element

```
#IntroText
{
  font-style: italic;
}
```

Reuse the ID across multiple pages in the site

```
I am italic because I have the right ID.
I am NOT italic because I have a different ID.
```

The Class Selector

- Enables to style multiple HTML elements through the class attribute.
- Handy when you want to give the same type of formatting to a number of unrelated HTML elements.

```
.Highlight
{
  font-weight: bold;
  color: Red;
}
```

The Class Selector

Uses a period (.) in its name!

```
.Highlight
{
  font-weight: bold;
  color: Red;
}
```

Do not use period (.) is when referring to it!

```
This is normal text but <span class="Highlight">this is Red and Bold.</span>
This is also normal text but
<a href="CssDemo.aspx" class="Highlight">this link is Red and Bold as well.</a>
```

Grouping Selectors

 Enables you to group multiple selectors by separating them with a comma.

```
h1, h2, h3, h4, h5, h6
{
  color: Red;
}
```

 Handy if you want to apply the same styles to different elements.

Combining Selectors

- Enables to target to a specific element in a page.
- Separate the selectors with a space

```
#MainContent p
{
   font-size: 18px;
}

All  elements that fall within an element
```

with an id of MainContent, leaving

all other paragraphs unmodified.

Combining Selectors

Also use it with the other selectors.

```
#MainContent p.Attention
{
  font-weight: bold;
}
```

This rule changes all paragraphs with the class Attention within the element with its id set to MainContent and leaves all others untouched.

```
<div id="MainContent">
  My class is Attention, so my text is bold.
  My text is not bold, as it lacks the Attention class.
</div>
I am NOT bold because I don't fall within MainContent.
```

Grouping vs. Combining

• *Grouping* is just a shortcut to avoid typing the same declarations over and over again.

• **Combining** enables you to target specific elements in your document.

Properties

What part of that element must be styled?

 The element that you want to change with your style sheet.

You don't have to remember them all.

Properties - 1

PROPERTY	DESCRIPTION	EXAMPLE
background-color background-image	Specifies the background color or image of an element.	<pre>background-color: White; background-image: url(Image.jpg);</pre>
border	Specifies the border of an element.	border: 3px solid black;
color	Changes the font color.	color: Green;
display	Changes the way elements are displayed, enabling you to hide or show them.	display: none; This causes the element to be hidden, and not take up any screen space.
float	Enables you to "float" an element in the page using a left or right float. Other content is then placed on the opposite side.	float: left; This setting causes other content following a float to be placed at the top-right corner of the element. You see how this works later in the chapter.
<pre>font-family font-size font-style font-weight</pre>	Changes the appearance of fonts used on your page.	<pre>font-family: Arial; font-size: 18px; font-style: italic; font-weight: bold;</pre>

Properties - 2

PROPERTY	DESCRIPTION	EXAMPLE
height width	Sets the height or width of elements in your page.	height: 100px; width: 200px;
margin padding	Sets the amount of free space inside (padding) and outside (margin) of an element.	<pre>padding: 0; margin: 20px;</pre>
visibility	Controls whether an element is visible in the page. Invisible elements still take up screen space; you just don't see them.	visibility: hidden; This causes the element to be invisible. However, it still takes up its original space in the page. It's as if the element is still there, but completely transparent.

Values

How do you want that part of the selected element to look?

The available values depend on the property.

Named color

Hexadecimal Number

RGB Value

Shorthand

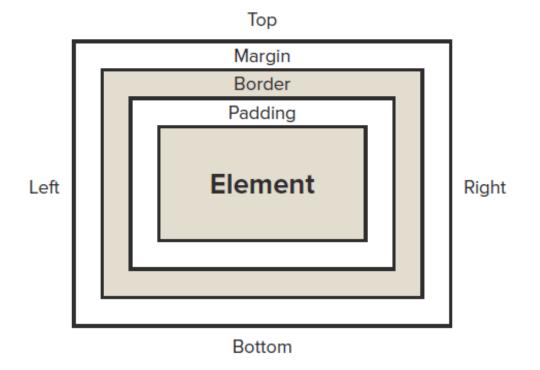
- Border property applies a border to all four sides of an HTML element.
- The border size will be 1px, the style will be solid and the border color will be set to Black.

border: 1px solid Black;

```
border-top-width: 1px;
border-top-style: solid;
border-top-color: Black;
border-right-width: 1px;
border-right-style: solid;
border-right-color: Black;
border-bottom-width: 1px;
border-bottom-style: solid;
border-bottom-color: Black;
border-left-width: 1px;
border-left-width: 1px;
border-left-style: solid;
border-left-style: solid;
```

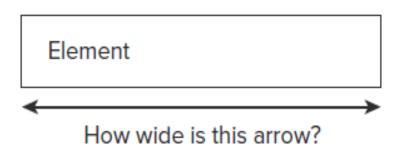
The CSS Box Model

- The CSS Box Model describes the way three important CSS properties are applied to HTML elements:
 - Padding
 - Border
 - Margin



The CSS Box Model

```
.MyDiv
{
   width: 200px;
   padding: 10px;
   border: 2px solid black;
}
...
<div class="MyDiv">Element</div>
```



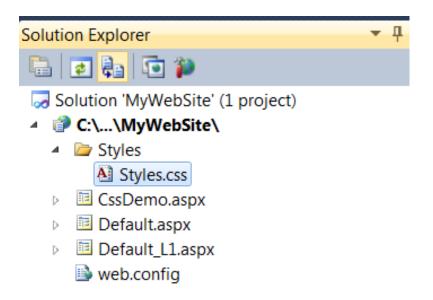


When things end up wider or taler than you anticipated, check the width, height, padding, border, and margin properties in the CSS style sheet.

• Open **Default.aspx**

```
<form id="form1" runat="server">
    <div id="PageWrapper">
       <div id="Header">Header goes here.</div>
       <div id="MenuWrapper">Menu goes here.</div>
       <div id="MainContent">
           <h1>
               Hi there visitor! Welcome to my Web Site :-)</h1>
           >
               I'm glad that you are visiting my web site <a href="http://www.mywebsite.com">
               http://www.mywebsite.com</a>
           >
               <strong>Feel</strong> <span class="style1"><strong>free</strong></span> to have a look around.
       </div>
       <div id="Sidebar">Sidebar goes here.</div>
       <div id="Footer">Footer goes here.</div>
   </div>
</form>
```

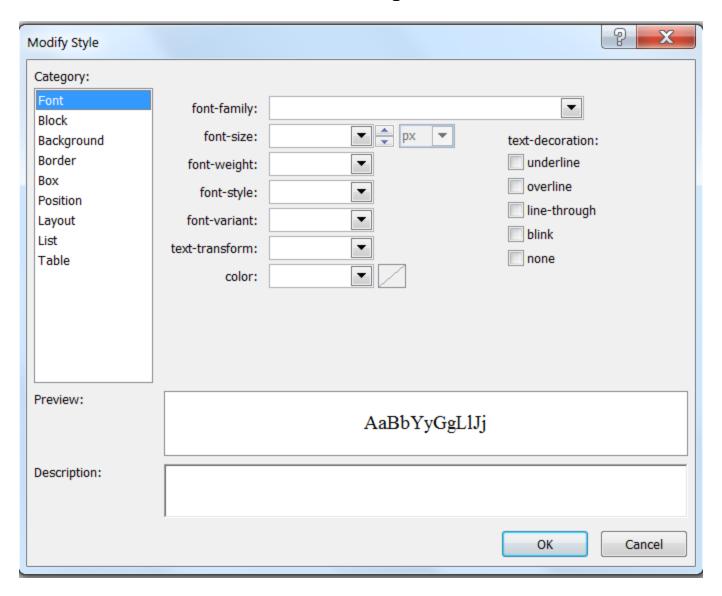
• Open Styles > Styles.css

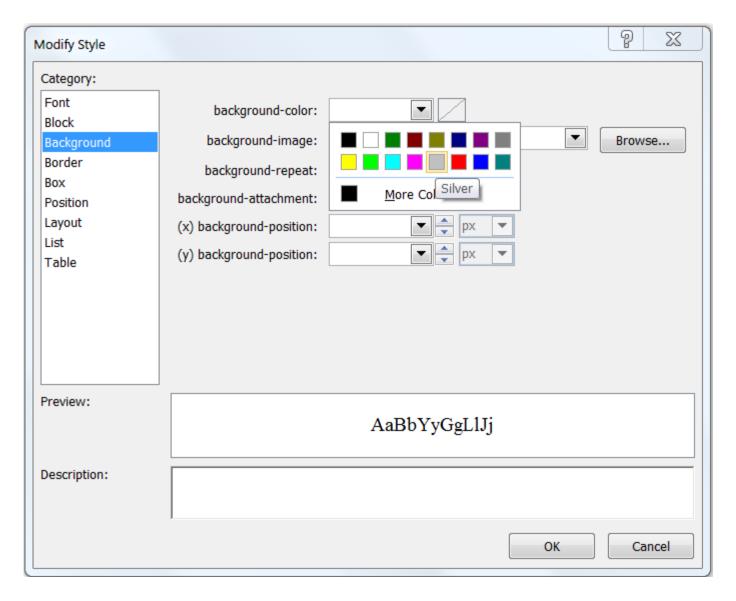


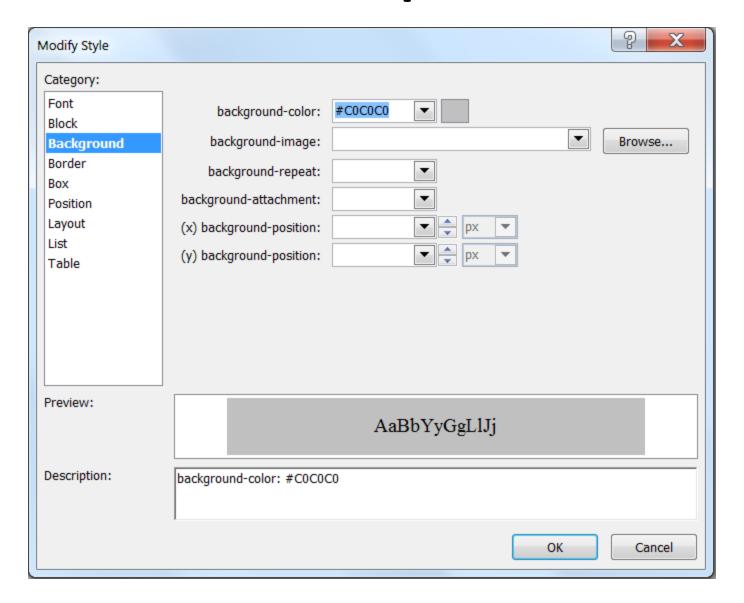
```
Styles/Styles.css × Default.aspx

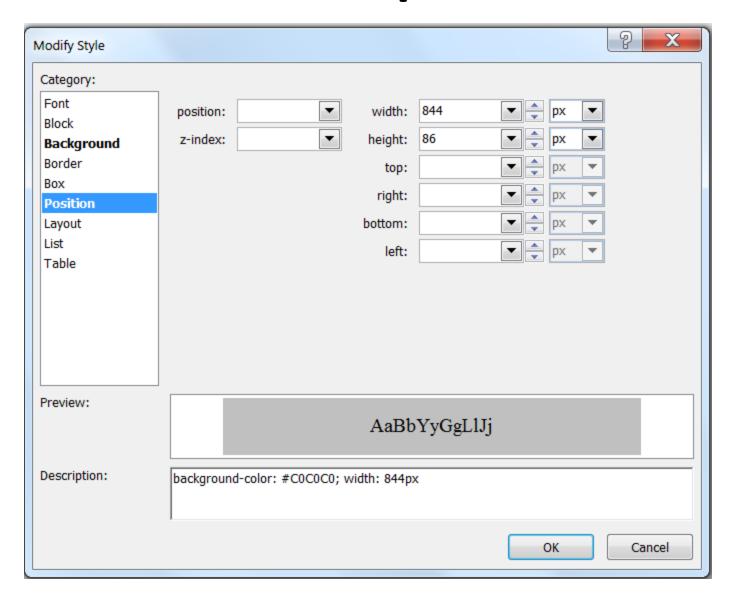
#Header
{
}
```

Styles/Styles.css × Default.aspx				
	#Hea {	der		
	}	¥	Cut	Ctrl+X
	,		Сору	Ctrl+C
			Paste	Ctrl+V
		×	Delete	Del
		**	Build Style	
		*	Add Style Rule	
			Synchronize Document Outline	









```
#Header
{
    background-color: #C0C0C0;
    width: 844px;
    height: 86px;
}
```

```
font-family: Arial;
h1
    font-size: 20px;
#PageWrapper
    width: 844px;
#MenuWrapper
    width: 844px;
#MainContent
   width: 664px;
   float: left;
#Sidebar
    background-color: #808080;
   width: 180px;
   float: left;
#Footer
    background-color: #C0C0C0;
   width: 844px;
    clear: both;
```

```
Default.aspx ×
```

body

Header goes here.

Menu goes here.

Hi there visitor! Welcome to my Web Site :-)

I'm glad that you are visiting my web site http://www.mywebsite.com

Feel free to have a look around.

Sidebar goes here.

Footer goes here.

```
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
        <title></title>
</head>
```

 From the Solution Explorer, drag the file Styles.css from the Styles folder onto the page.

Adding CSS to Page

External

```
<link href="StyleSheet.css" rel="Stylesheet" type="text/css" media="screen" />
```

Embedded

```
<head runat="server">
  <title></title>
  <style type="text/css">
    h1
    {
      color: Blue;
    }
  </style>
</head>
```

The <style> element should be placed at the top of your ASPX or HTML page, between the <head> tags.

Inline

```
<span style="color: White; background-color: Black;">
    This is white text on a black background.
</span>
```

You don't need a selector.

External over Embedded over Inline

 External style sheets enable you to change the appearance of the entire site through a single file.

 Make one change to your external style sheet file, and all pages that use this style sheet pick up the change automatically.

- If you want to change the look of a single page, without affecting other pages in your site, an embedded style sheet is your best choice.
- If you only want to change the behavior of a single element in a single page, and you're pretty sure you're not going to need the same declaration for other HTML elements, use an inline style.

If you have multiple identical selectors with different property values,

the one defined last takes precedence.

```
h1
                         Styles.css
  color: Green;
<link href="Styles/Styles.css" rel="stylesheet" type="text/css" />
<style type="text/css">
 h1
                                                                      Embedded
    color: Blue;
                            Embedded
                            overrides
</style>
                             External
<style type="text/css">
                                      External
 h1
                                     overrides
   color: Blue;
                                    Embedded
</style>
<link href="Styles/Styles.css" rel="stylesheet" type="text/css" />
```

Inline style sheets take precedence over embedded and external style sheets.



They're defined directly on the HTML elements.



CSS overrules attributes on HTML elements

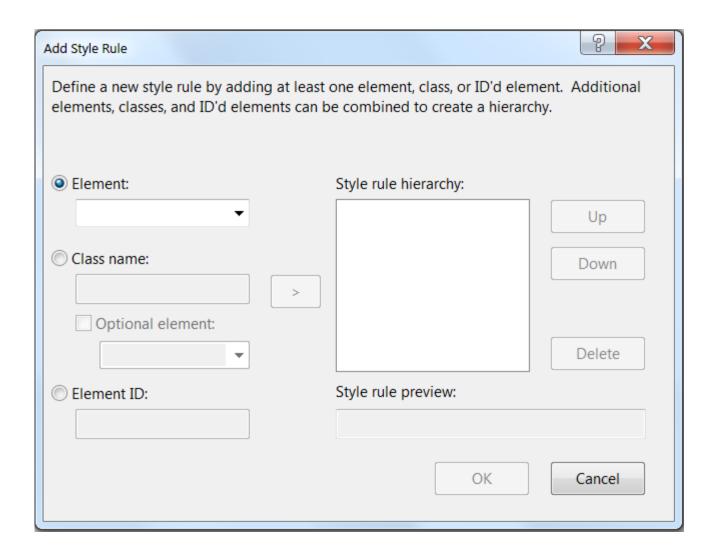
```
img
{
  height: 100px;
  width: 100px;
}
...
<img src="SomeImage.jpg" width="200px" height"200px" />
  100px
  100px
```

- Open Styles.css
- At the end of the file:

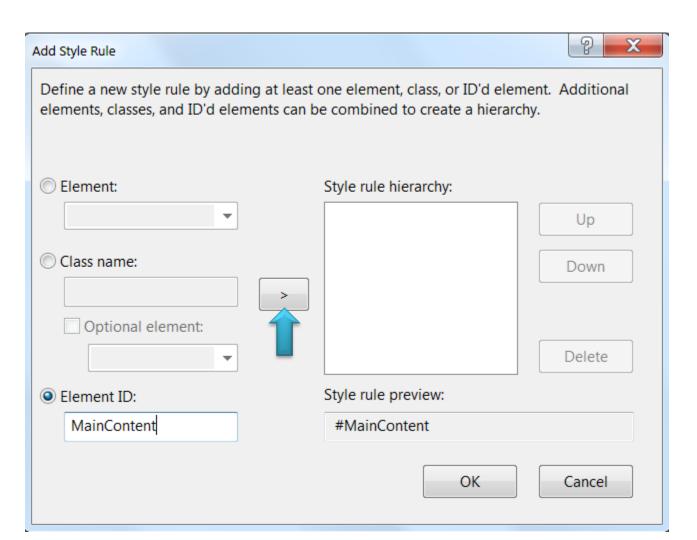
```
#Footer
       background-color: #C0C0C0;
       width: 844px;
       clear: both;
          Cut
                                             Ctrl+X
          Copy
                                            CtrI+C
          Paste
                                             Ctrl+V
          Delete
                                             Del
          Build Style...
%
          Add Style Rule...
out
          Synchronize Document Outline
ow or
```

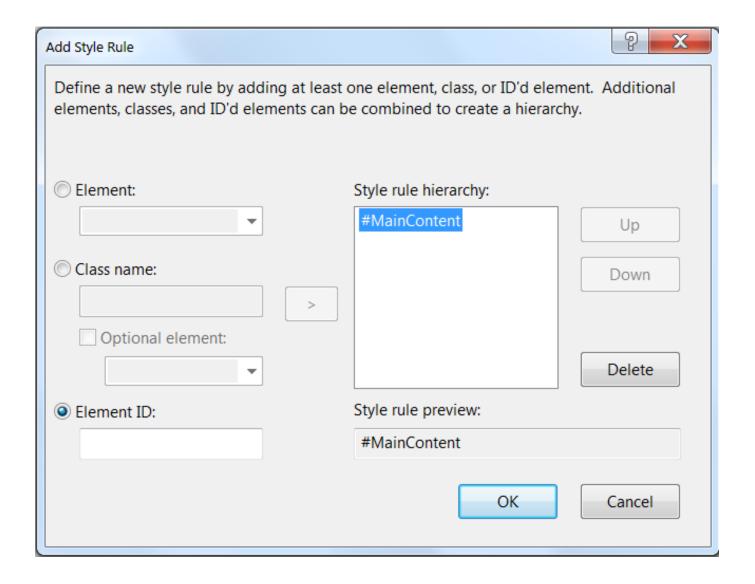
OR

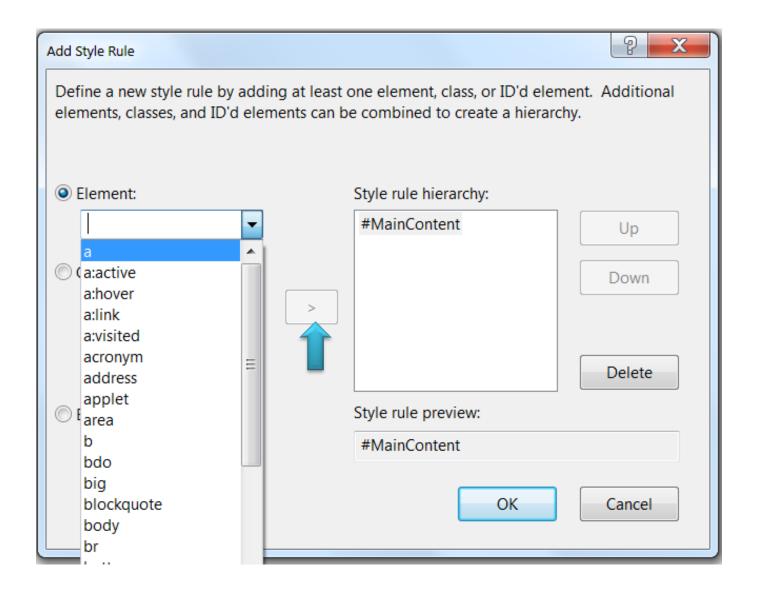


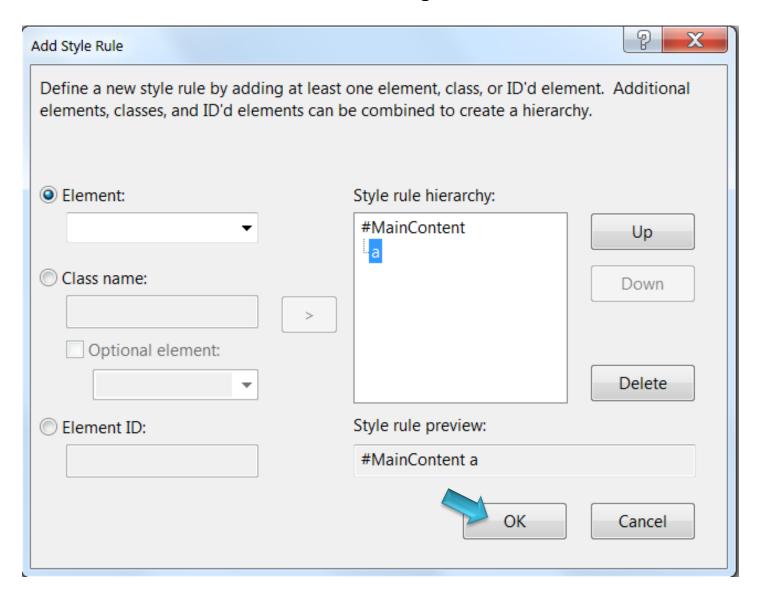


• Select Element ID

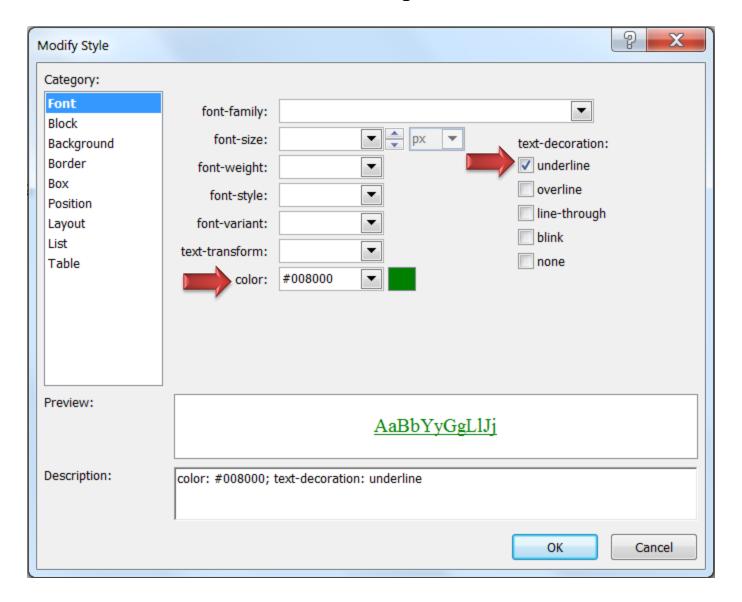








```
Styles/Styles.css* × Default.aspx
     }
     #Sidebar
         background-color: Gray;
         width: 180px;
         float: left;
     }
     #Footer
     {
         background-color: #C0C0C0;
         width: 844px;
         clear: both;
     #MainContent a
```



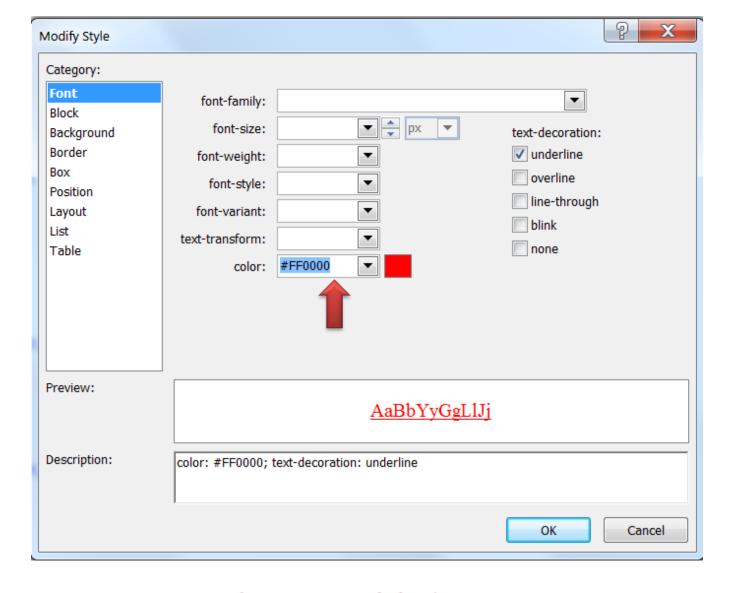
```
#MainContent a
{
    color: #008000;
    text-decoration: underline;
}
```

- Copy this rule set and paste it twice.
- Rename: #MainContent a



#MainContent a:visited

```
#MainContent a
    color: #008000;
    text-decoration: underline;
#MainContent a:visited
         Cut
                                        Ctrl+X
         Copy
                                        Ctrl+C
         Paste
                                        Ctrl+V
         Delete
                                         Del
         Build Style...
         Add Style Rule...
         Synchronize Document Outline
```



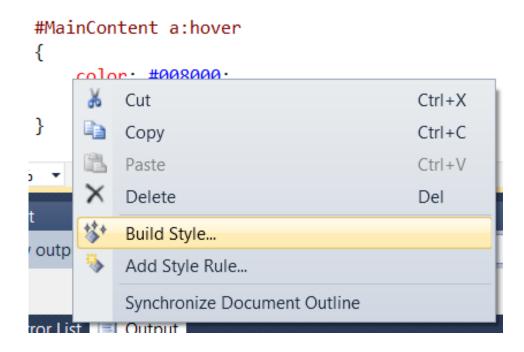
```
#MainContent a:visited
{
    color: #FF0000;
    text-decoration: underline;
}
```

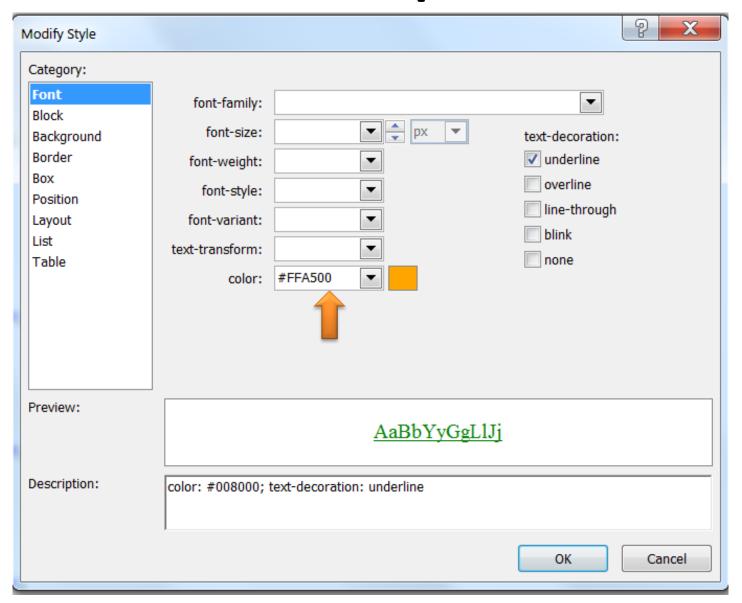
Rename the third selector:

#MainContent a



#MainContent a:hover



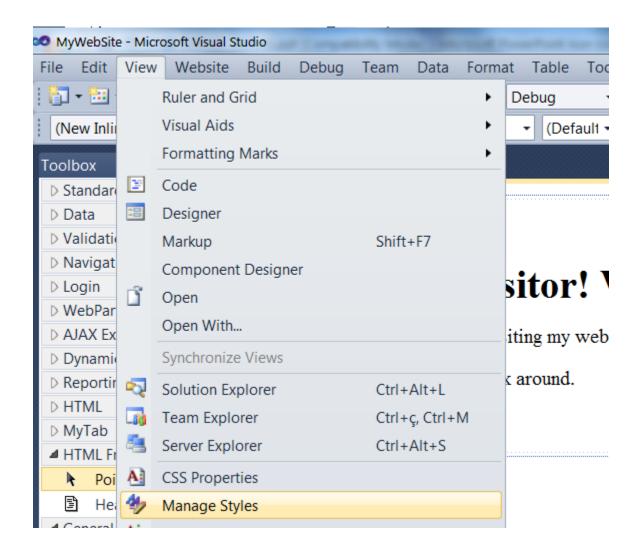


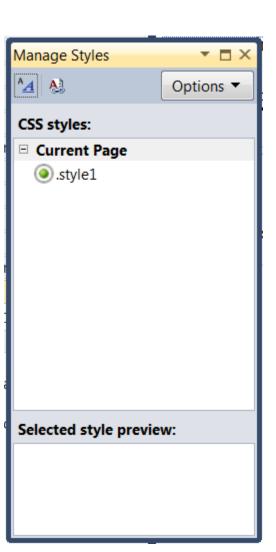
Example

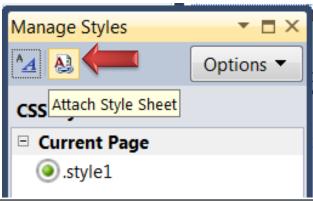
```
#MainContent a
{
    color: #008000;
    text-decoration: underline;
#MainContent a:visited
    color: #FF0000;
    text-decoration: underline;
}
#MainContent a:hover
    color: #FFA500;
    text-decoration: underline;
}
```

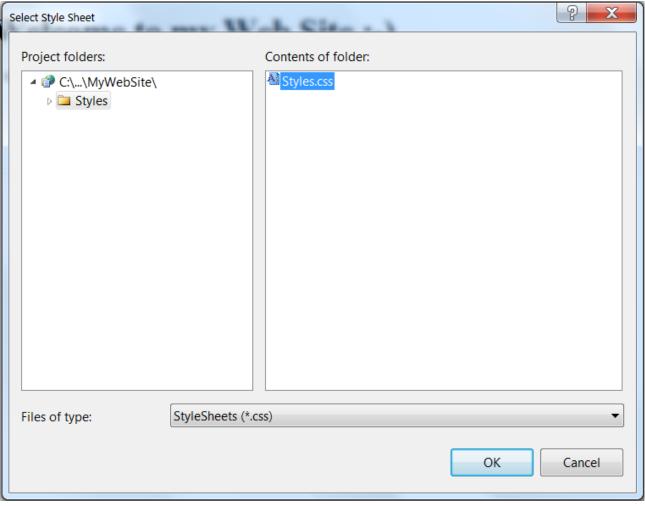
- Open **Default.aspx** in Source View
- Remove k /> element

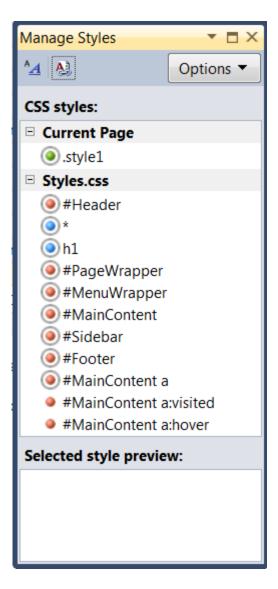
In Design View:



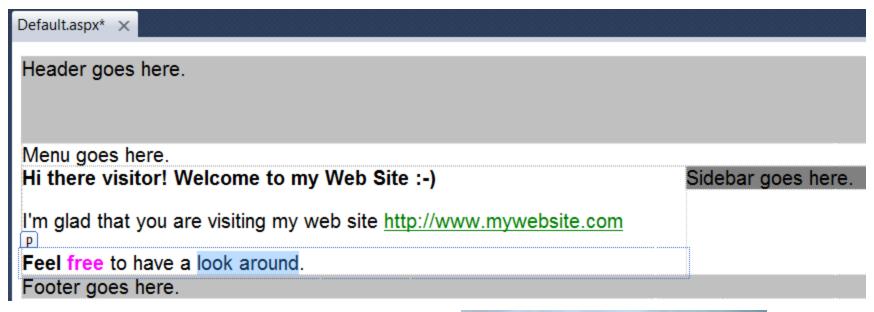




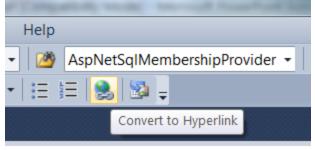


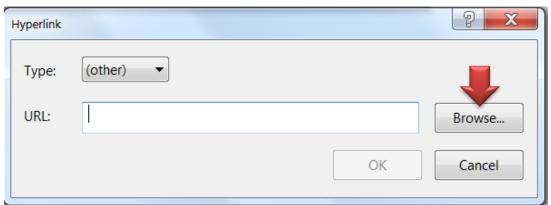


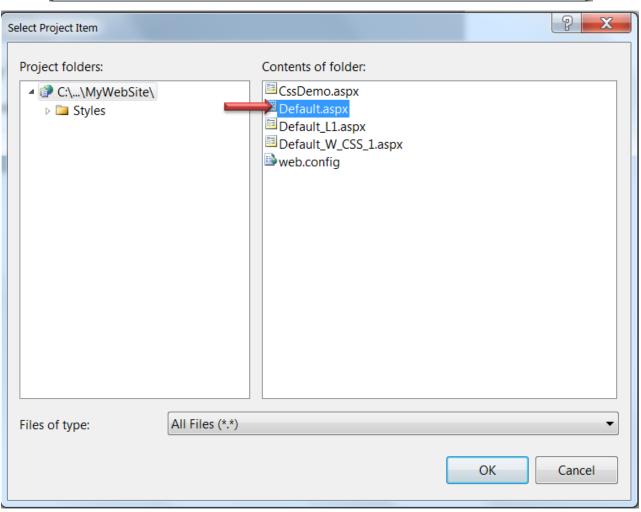
Select "look around"

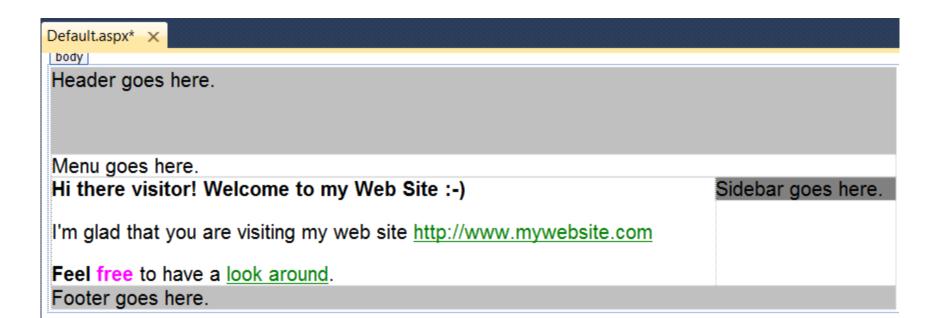


Convert to hyperlink









View in browser



Header goes here.

Menu goes here.

Hi there visitor! Welcome to my Web Site :-)

I'm glad that you are visiting my web site http://www.mywebsite.com

Feel free to have a look around.

Footer goes here.

Sidebar goes here.

Hover your mouse

Header goes here.

Hi there visitor! Welcome to my Web Site :-)

I'm glad that you are visiting my web site http://www.mywebsite.com

Feel free to have a look around.

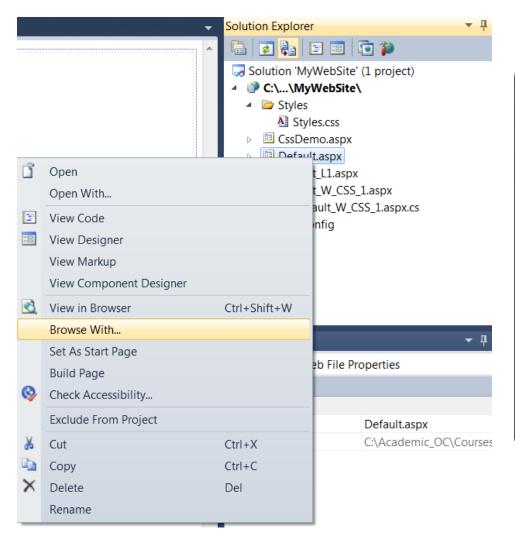
Footer goes here.

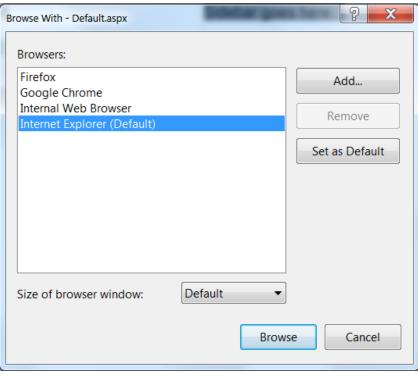
Menu goes here.

Sidebar goes here.

NOTE

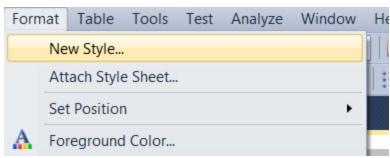
Browse with different browsers

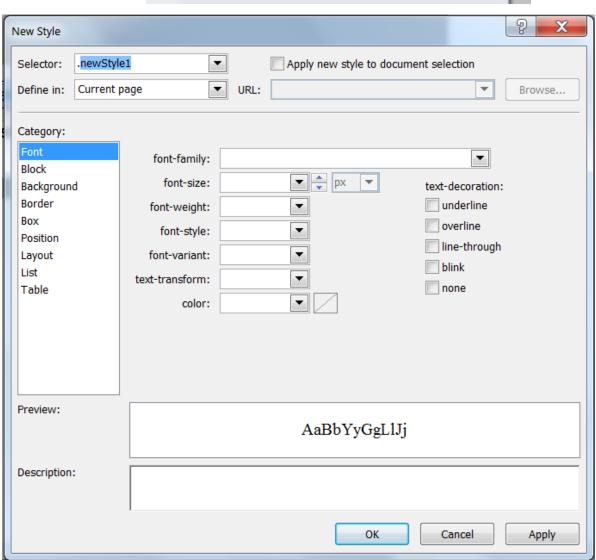


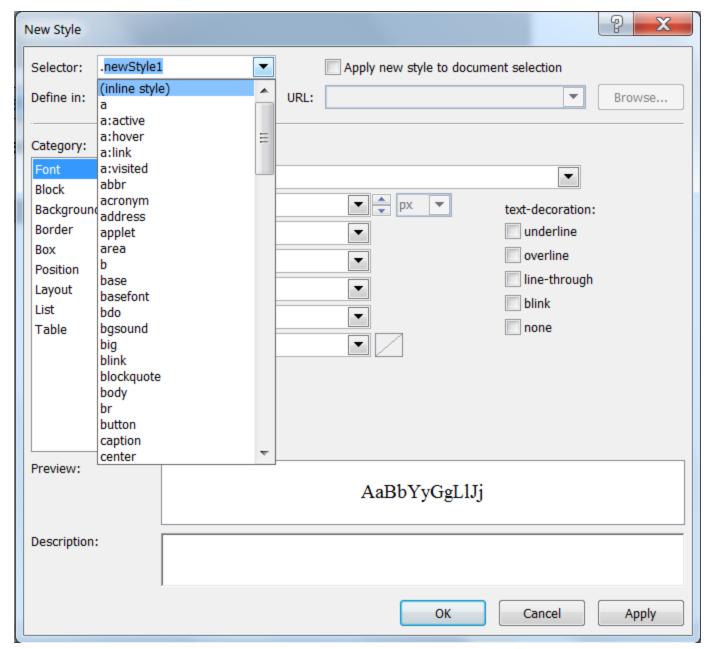


- Open Default.aspx in Design View
- Click h1 element

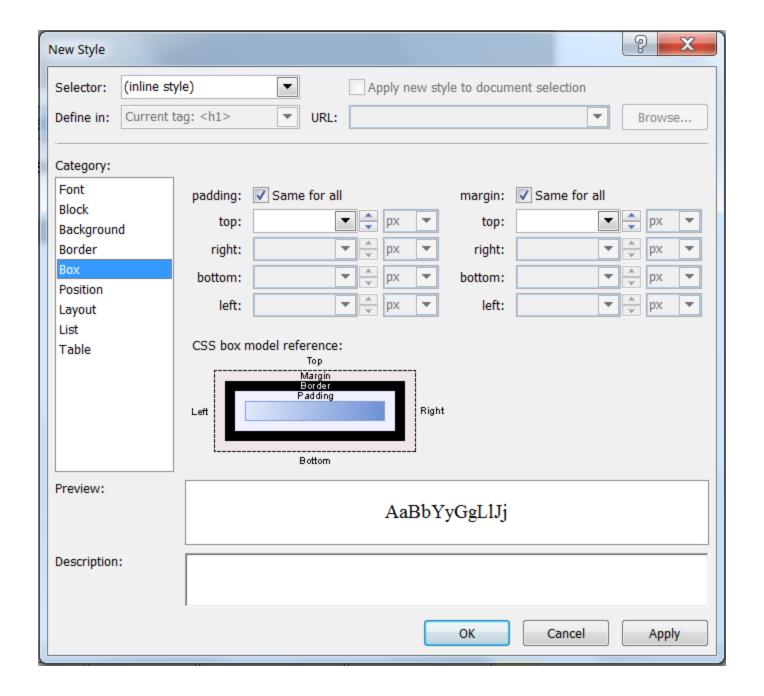


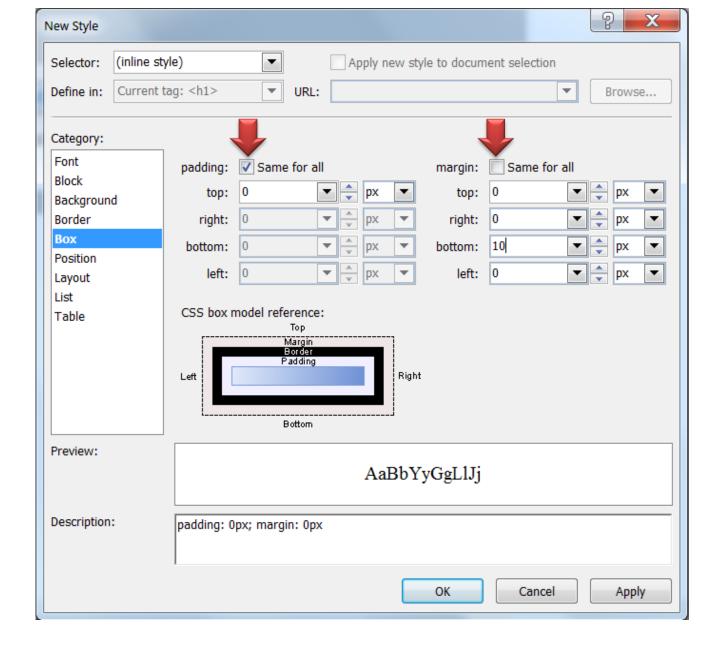




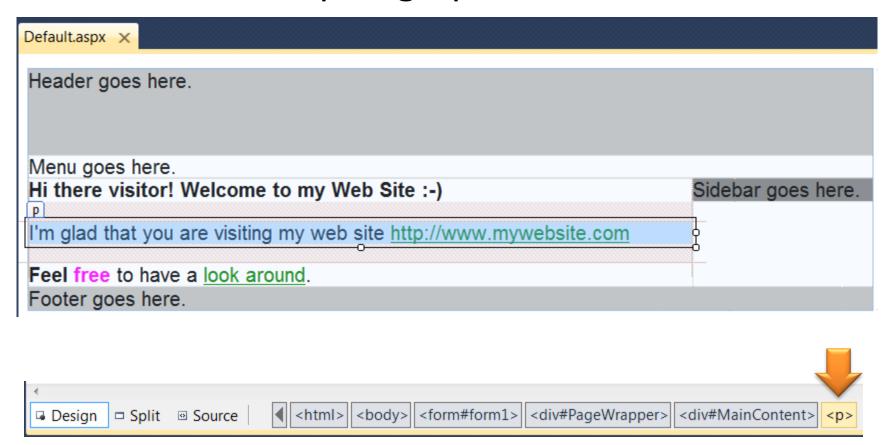


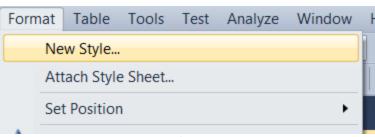
Choose inline style

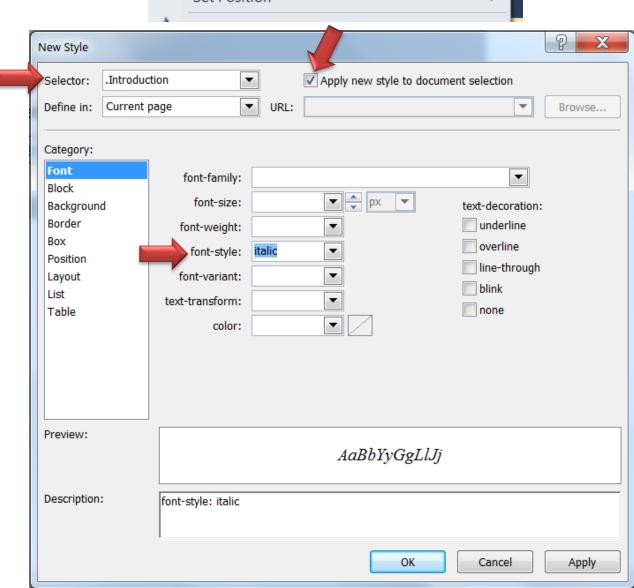




Select the first paragraph

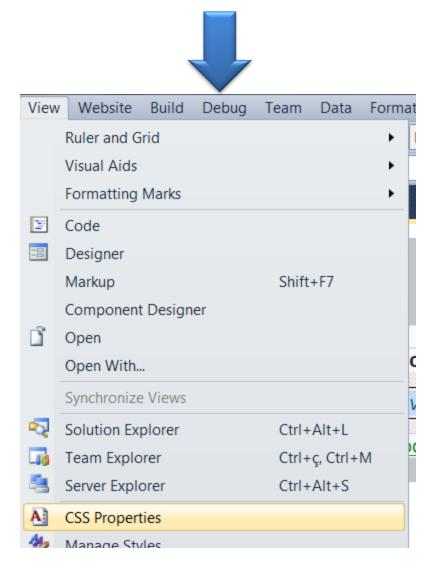


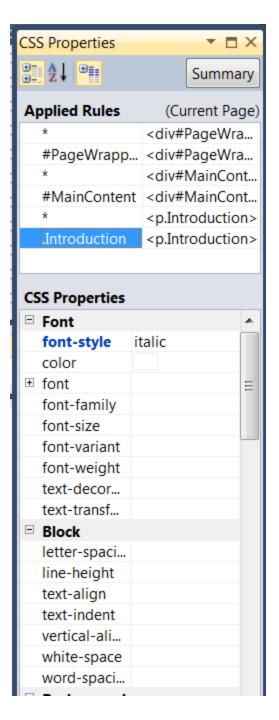


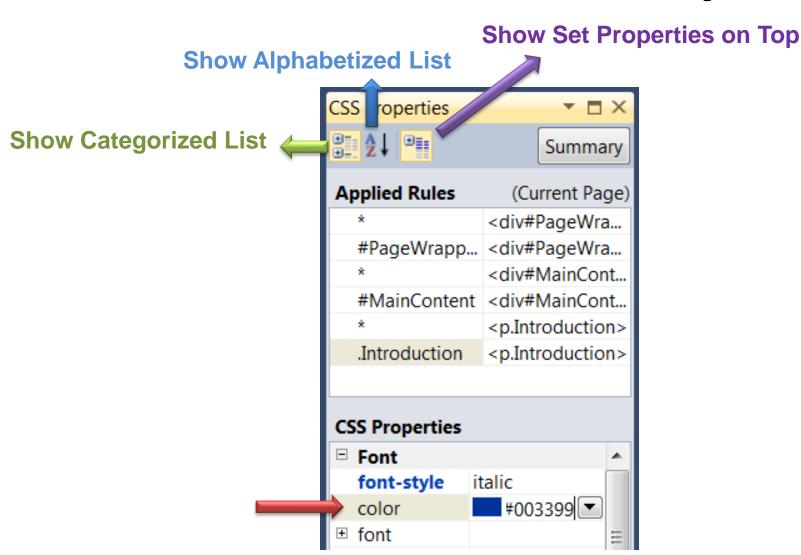




With the tag still selected







```
<head runat="server">
    <title></title>
    <style type="text/css">
        .style1
            color: #FF00FF;
        .Introduction
            font-style: italic;
            color: #003399;
        }
    </style>
    <link href="Styles/Styles.css" rel="stylesheet" type="text/css" />
</head>
```

View in browser

Header goes here.

Menu goes here.

Hi there visitor! Welcome to my Web Site :-)

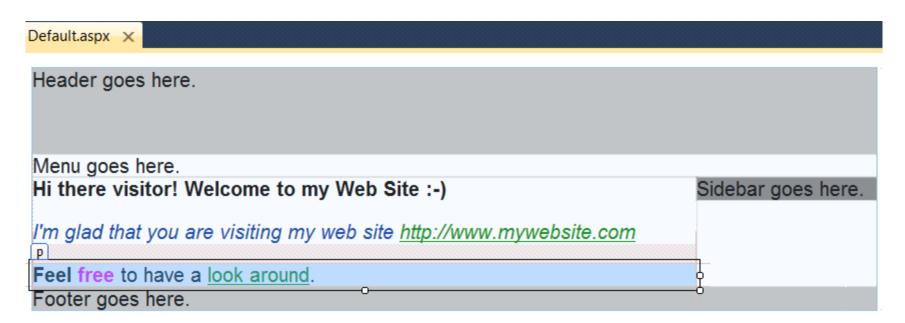
Sidebar goes here.

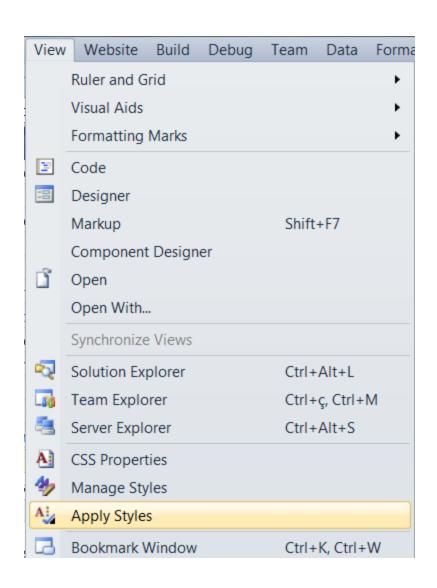
I'm glad that you are visiting my web site http://www.mywebsite.com

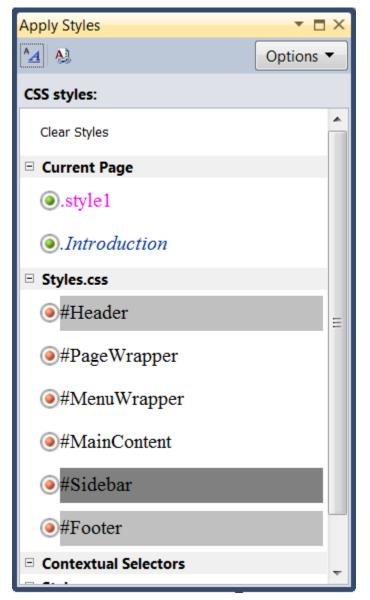
Feel free to have a look around.

Footer goes here.

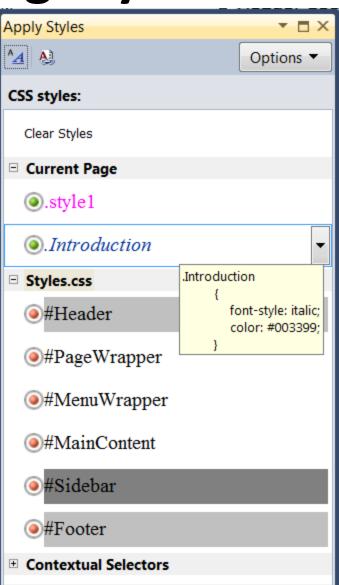
- Open Default.aspx in Design View
- Select second paragraph



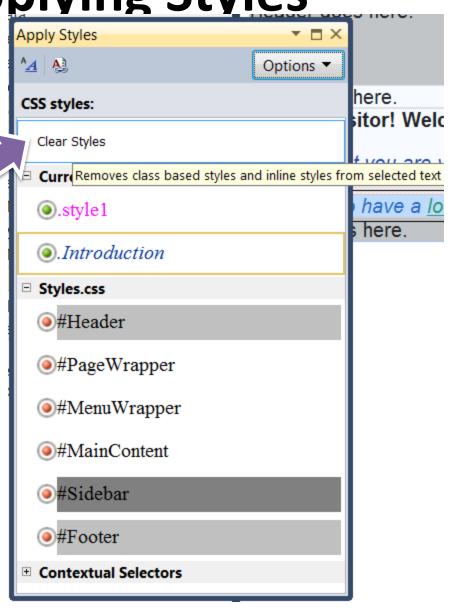




Click Introduction class



Clear Styles removes existing classes and inline styles from a tag.



• Open **Default.aspx** in Source View.

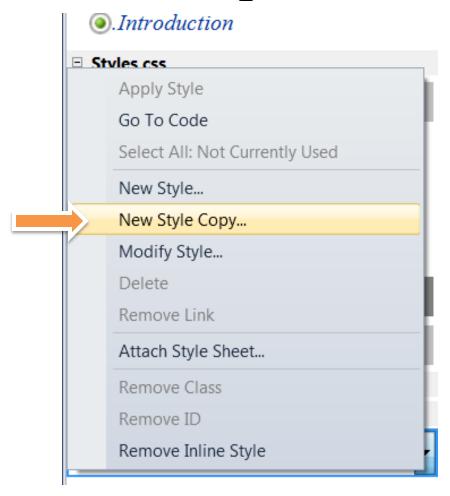
• Locate the <h1> element and click it once.

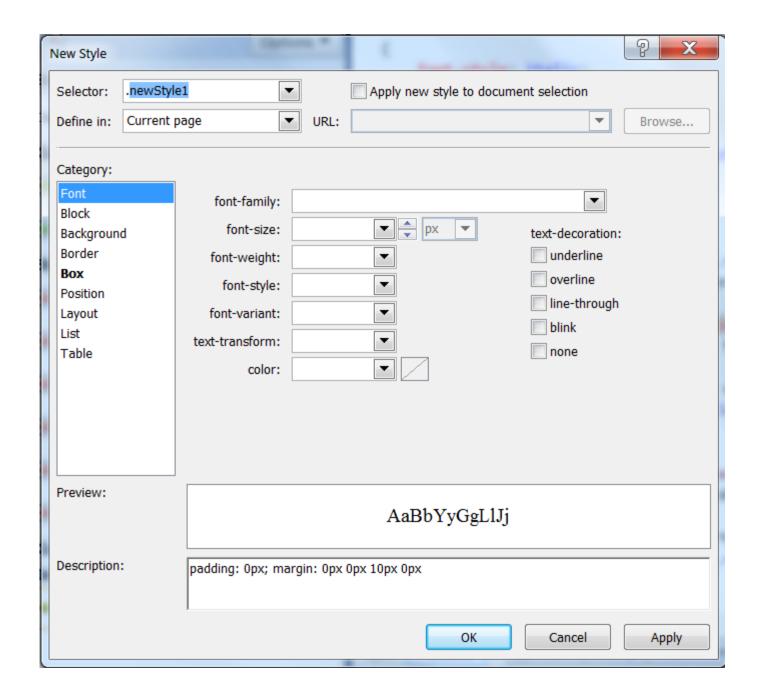
```
<h1 style="padding: 0px; margin: 0px 0px 10px 0px">
   Hi there visitor! Welcome to my Web Site :-)</h1>
```

View	Website	Build	Debug	Team	Data	Forma
¥	Code					
-8	Designer			Shift+F7		
	Markup					
	Component Designer					
ľ	Open					
	Open With					
	Synchronize	e Views		Ctrl+	Shift+Y	
₽ Q	Solution Explorer			Ctrl+Alt+L		
_66g	Team Explorer			Ctrl+ç, Ctrl+M		
4	Server Explorer			Ctrl+Alt+S		
A:	CSS Properties					
4	Manage Sty	les				
A:	Apply Style	s				

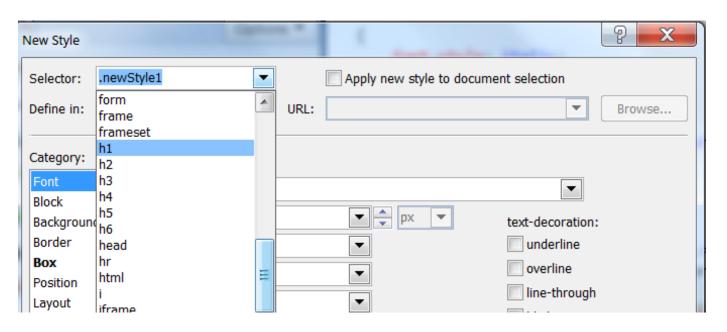


Right-click Inline Style

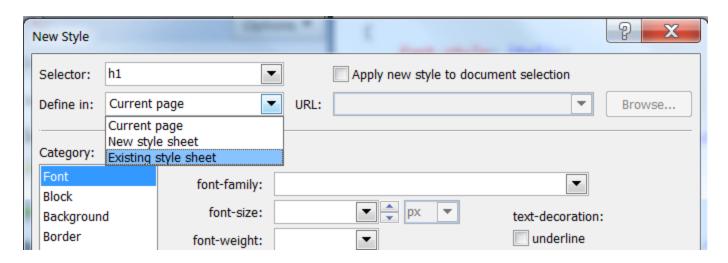




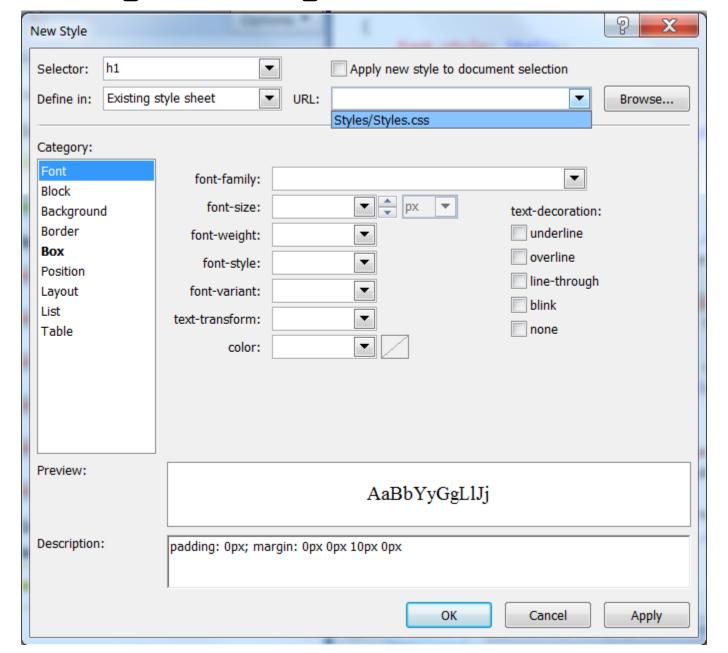
Choose h1 from the Selector



Choose Existing Style Sheet from Define in



URL → Styles/Styles.css

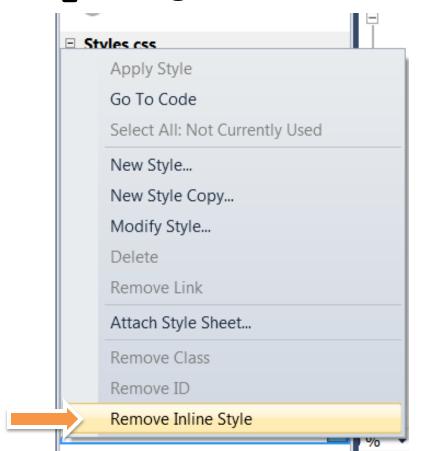


• Check out Styles.css

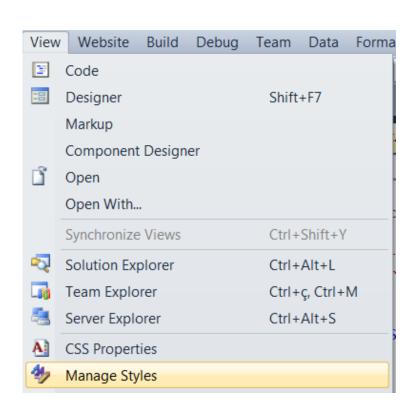
A copy of h1 style is created

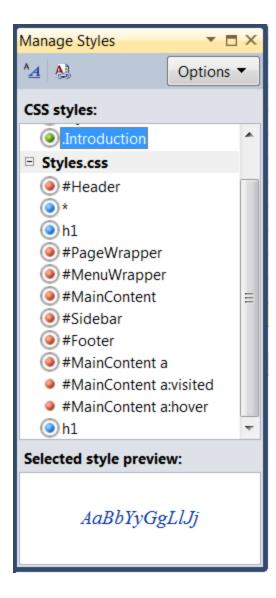
```
h1
{
    padding: 0px;
    margin: 0px 0px 10px 0px;
}
```

• In the Apply Styles window, right-click Inline Style again

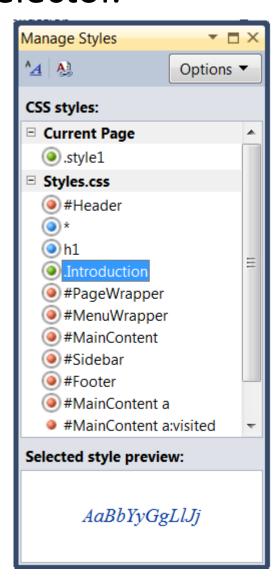


Removes the style attribute from the h1 element.





• Click the .Introduction selector and drag it into the area for Styles.css, for example after the h1 selector.



View in browser

Header goes here.

Menu goes here.

Hi there visitor! Welcome to my Web Site :-)

Sidebar goes here

I'm glad that you are visiting my web site http://www.mywebsite.com

Feel free to have a look around.

Footer goes here.

NOTE

 Try to create smaller and reusable rule sets that you can combine if required, rather than creating large, monolithic rules that can only be used on a single UI element.

```
.ImportantHeading
{
  font-size: 20px;
  font-weight: bold;
  color: red;
}
```

```
h1
{
  font-size: 20px;
}

.Attention
{
  font-weight: bold;
  color: red;
}
```

<h1 class="Attention">