



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

200
1822 - 2022

ADDING

- Meta tags
- Links
- Images

Man Geni Addysg Uwch yng Nghymru
Where Higher Education Began in Wales

www.uwtsd.ac.uk

Recap

- How markup works and attributes
- Minimal HTML document structure
- Identifying text elements and inline
- Troubleshooting an HTML

```
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8">
<title>Black Goose Bistro</title>
</head>
<body>
<h1><br>Black Goose Bistro</h1>
<h2>The Restaurant</h2>
<p>The Black Goose Bistro offers casual lunch and dinner fare in a relaxed setting.
<h2>Catering</h2>
<p>You have fun. <em>We'll handle the cooking.</em> we handle events and parties.
<h2>Location and Hours</h2>
<p>Seekonk, Massachusetts;<br>Monday through Thursday 11am to 9pm;<br> Friday and Saturday, 11am to 10pm.
</body>
</html>
```

Recap(contd..)

← ↻ 🏠 <https://validator.w3.org/nu/#textarea>

UWTSD Sites | MyTSD | Moodle | Library & Learning... | Why UWTSD? » Hub | parking | Course: Program

Nu Html Checker

This tool is an ongoing experiment in better HTML checking, and its behavior remains sub

Showing results for contents of text-input area (checked with vnu 26.5.21)

Checker Input

Show ☐ source ☐ outline ☐ image report ☐ errors & warnings only

Check by ☐ check as CSS

```
<!DOCTYPE html>
<html>

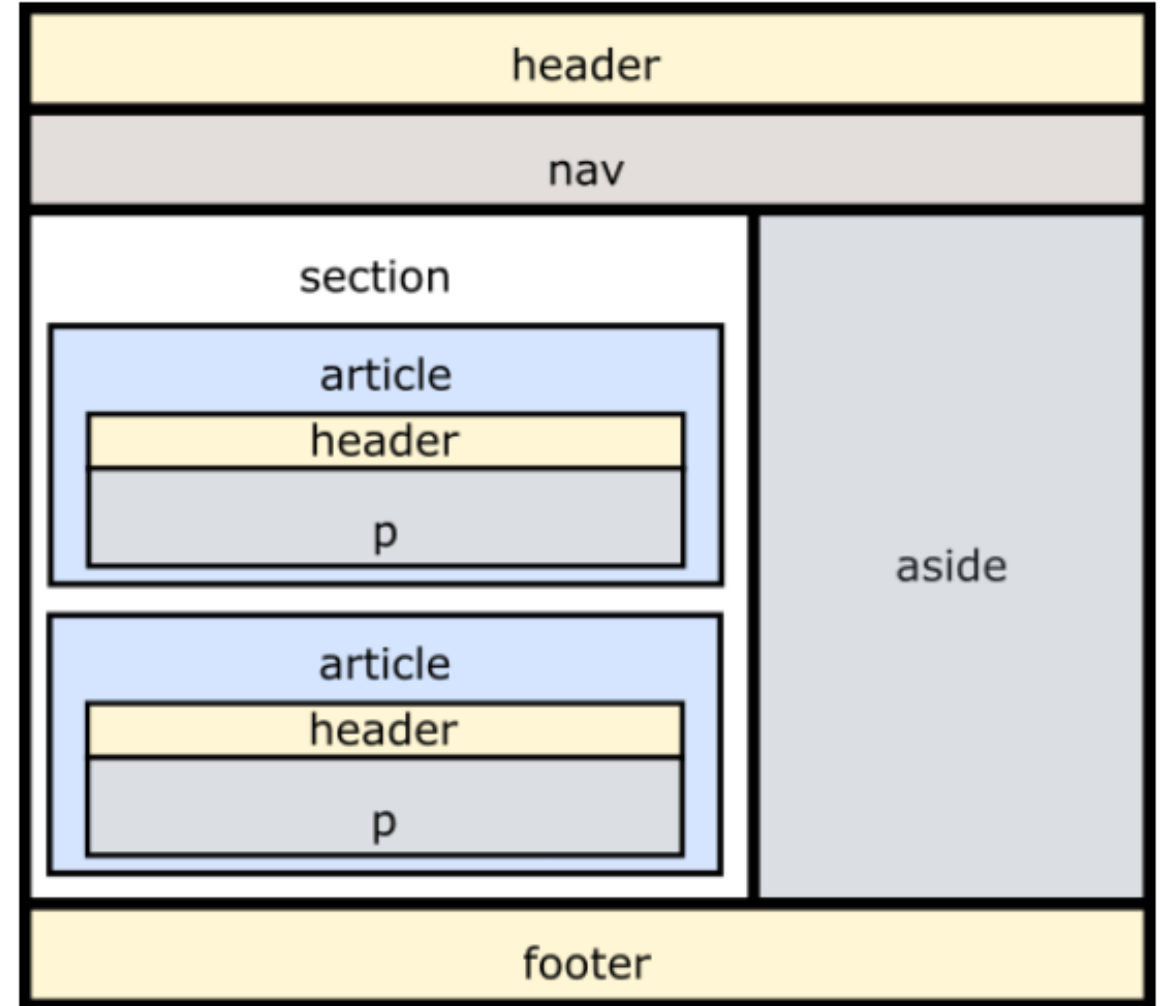
<head>
<meta charset="utf-8">
<title>Black Goose Bistro</title>
</head>

<body>

<h1><br>Black Goose Bistro</h1>

<h2>The Restaurant</h2>
<p>The Black Goose Bistro offers casual lunch and dinner fare in a relaxed atmosp
highlight the freshest local ingredients.</p>
```

Troubleshooting-Validator tool



Typical structure of a web page using semantic HTML.

OVERVIEW

- Meta tag
- The `a` element
- External links with absolute URLs
- Links with relative pathnames
- Linking within a page (fragments)
- Targeting browser windows
- Mail links

Meta tag

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
  <meta charset="UTF-8">
```

```
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
  <title>My Simple Image Gallery</title>
```

```
</head>
```

Meta tag

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
  <meta charset="UTF-8">
```

```
  <meta name="viewport" content="width=device-  
width, initial-scale=1.0">
```

```
  <title>My Simple Image Gallery</title>
```

```
</head>
```

Helps screen readers pronounce words correctly.
- Assists search engines in understanding the language of the page.

Meta tag

```
<!DOCTYPE html>  
<html lang="en">  
<head>  
  <meta charset="UTF-8">  
  <meta name="viewport" content="width=device-width, initial-scale=1.0">  
  <title>My Simple Image Gallery</title>  
</head>
```

UTF stands for Unicode
Transformation Format

Meta tag

```
<!DOCTYPE html>
```

```
<html lang="en">
```

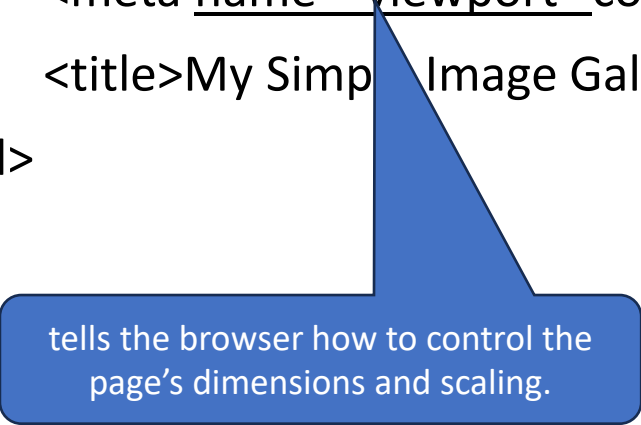
```
<head>
```

```
  <meta charset="UTF-8">
```

```
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
  <title>My Simple Image Gallery</title>
```

```
</head>
```



tells the browser how to control the page's dimensions and scaling.

Meta tag

```
<!DOCTYPE html>  
<html lang="en">  
<head>  
  <meta charset="UTF-8">  
  <meta name="viewport" content="width=device-width, initial-scale=1.0">  
  <title>My Simple Image Gallery</title>  
</head>
```

sets the viewport width to the device's width, meaning the content will match the screen size (whether on a desktop, tablet, or smartphone).

Meta tag

```
<!DOCTYPE html>  
<html lang="en">  
<head>  
  <meta charset="UTF-8">  
  <meta name="viewport" content="width=device-width, initial-scale=1.0">  
  <title>My Simple Image Gallery</title>  
</head>
```

sets the initial zoom level, so the page loads at 100% scale.

<head>

a sentence
describing the page

<meta name="description" content="Image Gallery">

important words about the page

<meta name="keywords" content="HTML, CSS">

<meta name="author" content="John">

<meta http-equiv="refresh" content="30">

</head>



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

200
1822 - 2022

ADDING LINKS

Man Geni Addysg Uwch yng Nghymru
Where Higher Education Began in Wales

www.uwtsd.ac.uk

Adding Links

`<a> </a>`

`<a href="URL">Link text or image</a>`

The **href** attribute provides the location (URL) of the resource.

You can link to any resource:

- HTML documents
- Images
- Movies
- PDFs
- More!

href Attributes

- **Absolute URLs** begin with the protocol (ex: **http://**).
- **Relative URLs** provide the path to a file on the same server as the document containing the link (ex: **/directory/document.html**).
- Long URLs can make the markup look complicated, but the structure is the same:

Opening anchor tag

```
<a href="https://www.amazon.com/Bequet-Gourmet-Caramel-24oz  
-Celtic/dp/B00GZEU10Y/ref=sr_1_1_a_it?ie=UTF8&qid=1467055107&s  
r=8-1&keywords=bequet">Bequet Caramels</a>
```

URL

Linked text

Closing anchor tag

External Links

- **External links** go to pages that are **not** on your server.
- An absolute URL is required, including “**http://**”

```
<li><a href="http://www.foodnetwork.com">The  
Food Network</a></li>
```

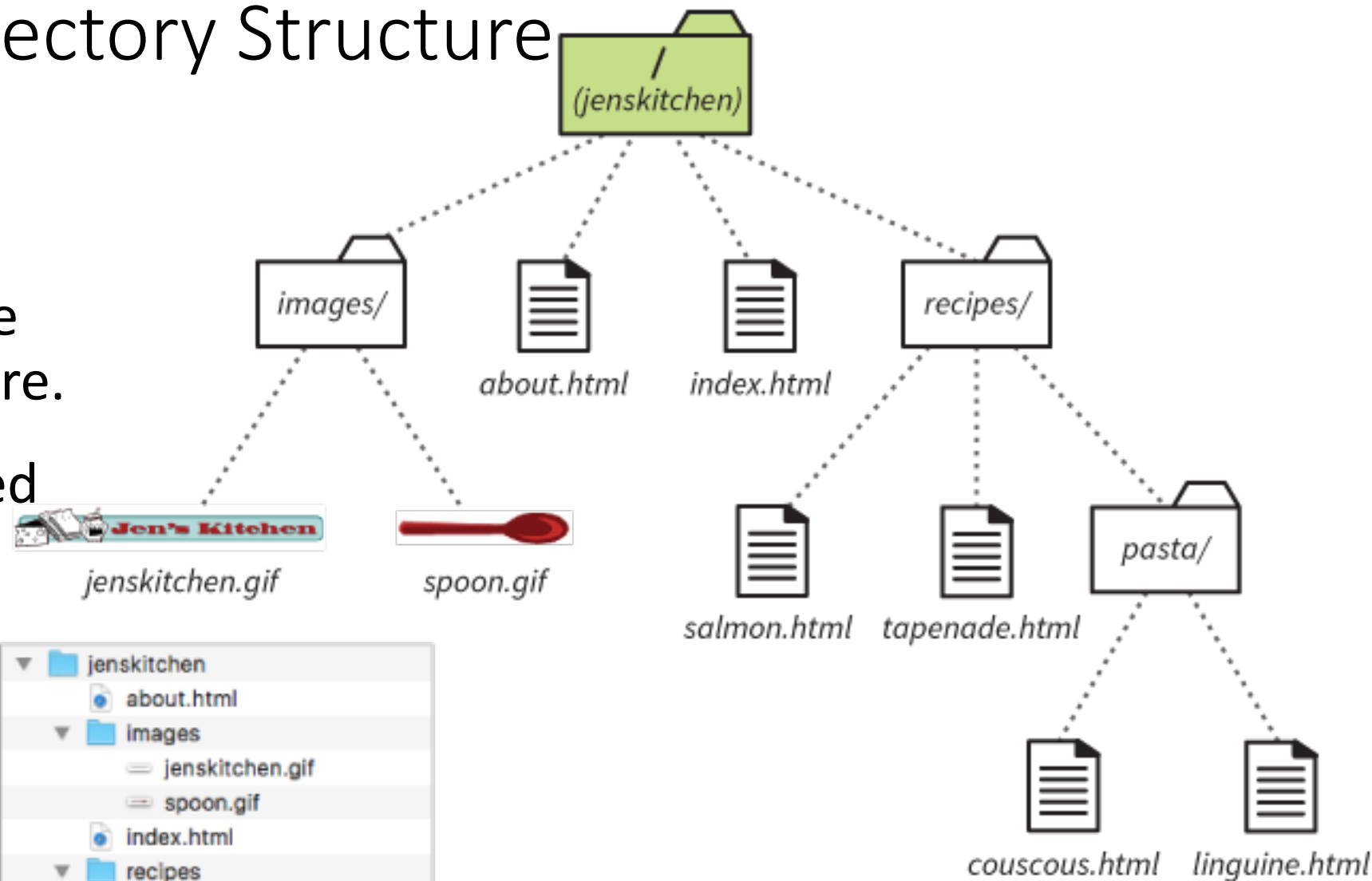
Linking on Your Own Site

- When no protocol is provided, the browser looks on the current server for the resource.
- A relative pathname describes how to get to the resource starting from the current document.
- Pathnames follow UNIX syntax conventions.

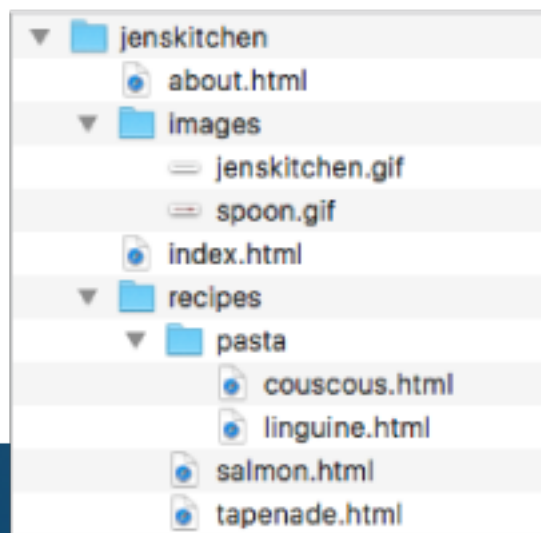
Example Server Directory Structure

The following relative pathname discussions are based on this site structure.

The root directory is called *jenskitchen*.



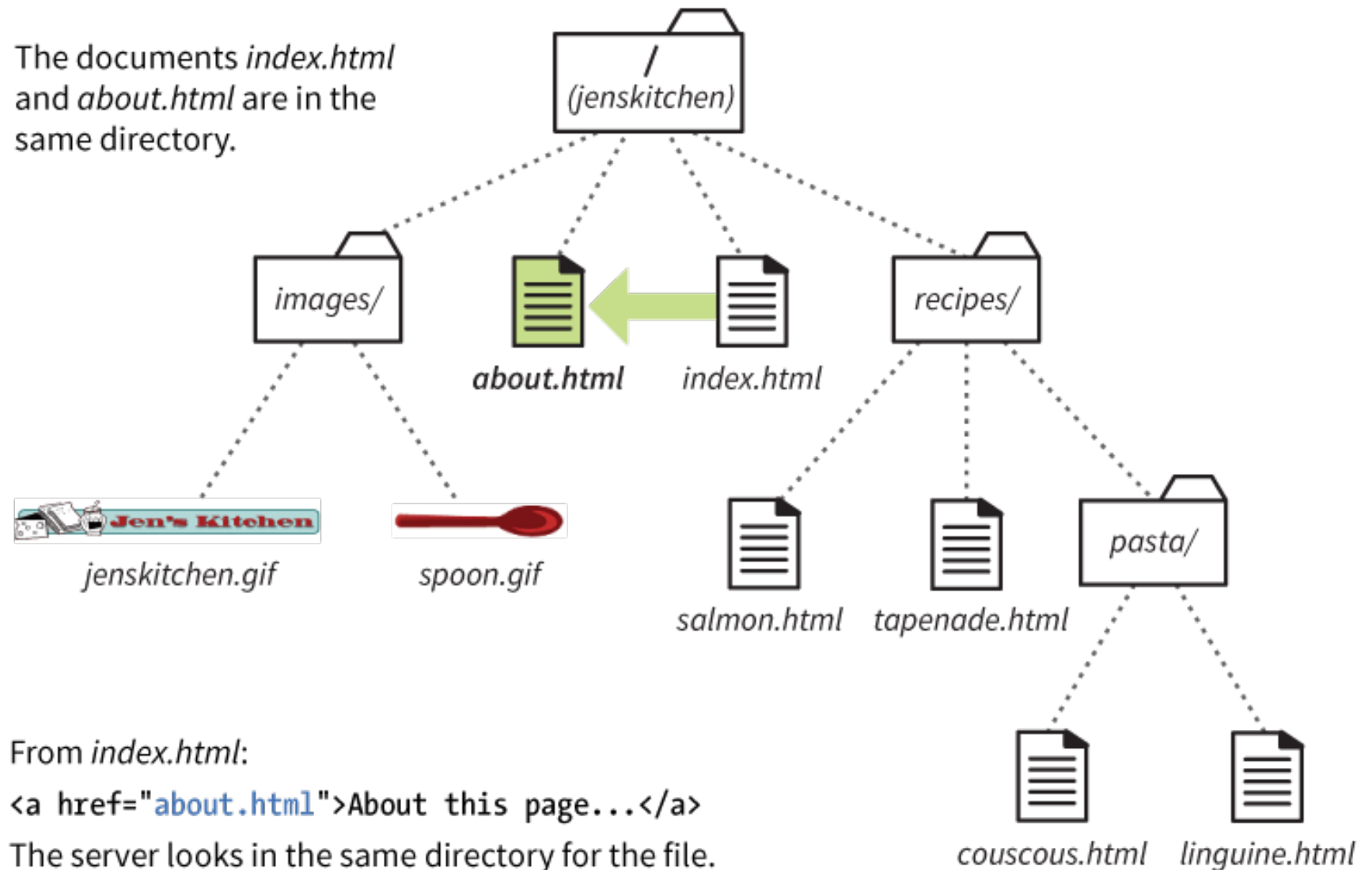
How it looks in the MacOS Finder



Linking in the Same Directory

When the linked document is in the same directory as the current document, just provide its filename:

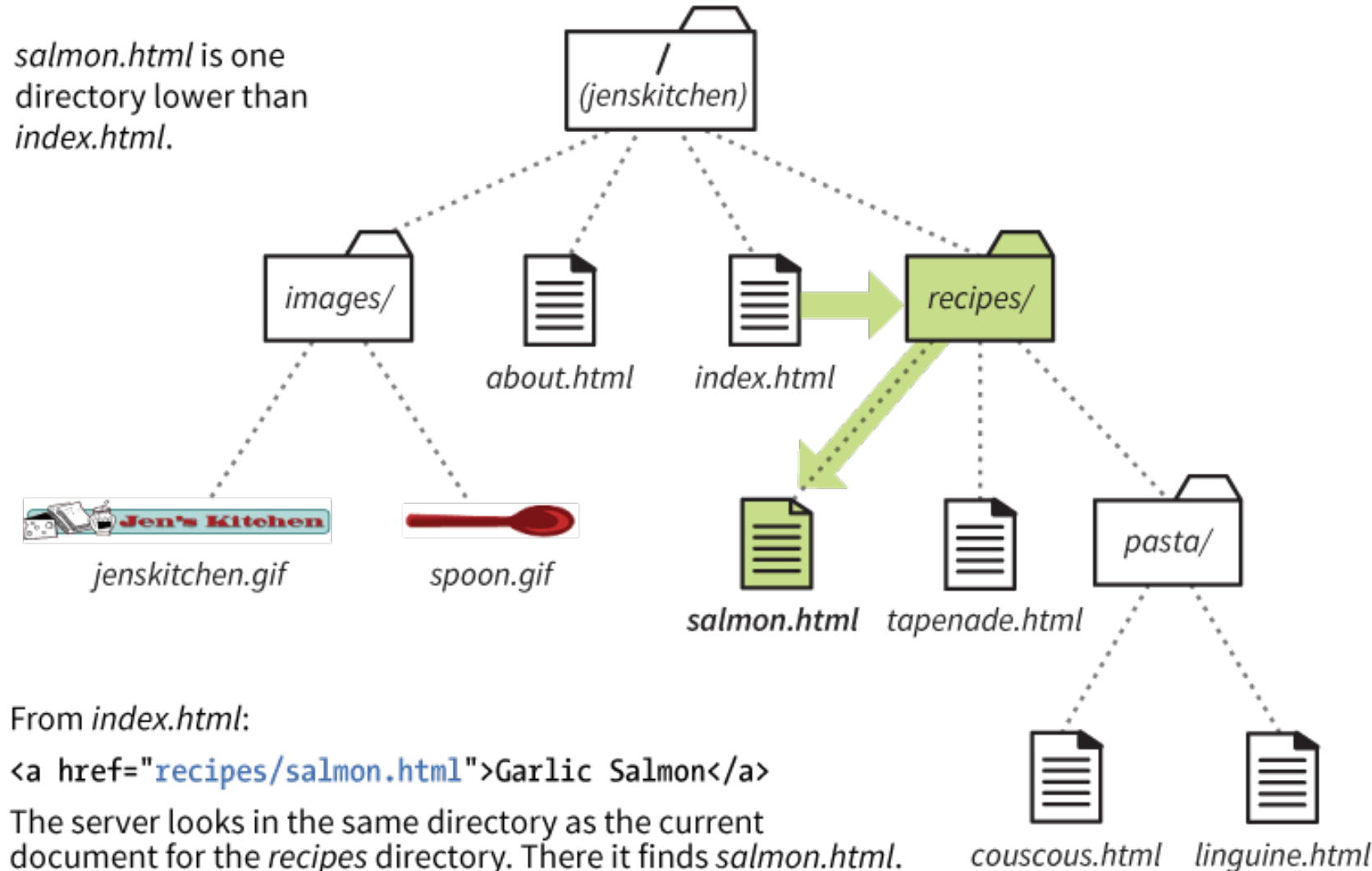
`href="about.html"`



Linking into a Lower Directory

If the linked file is in a directory, include the directory name in the path.

`href="recipes/salmon.html"`

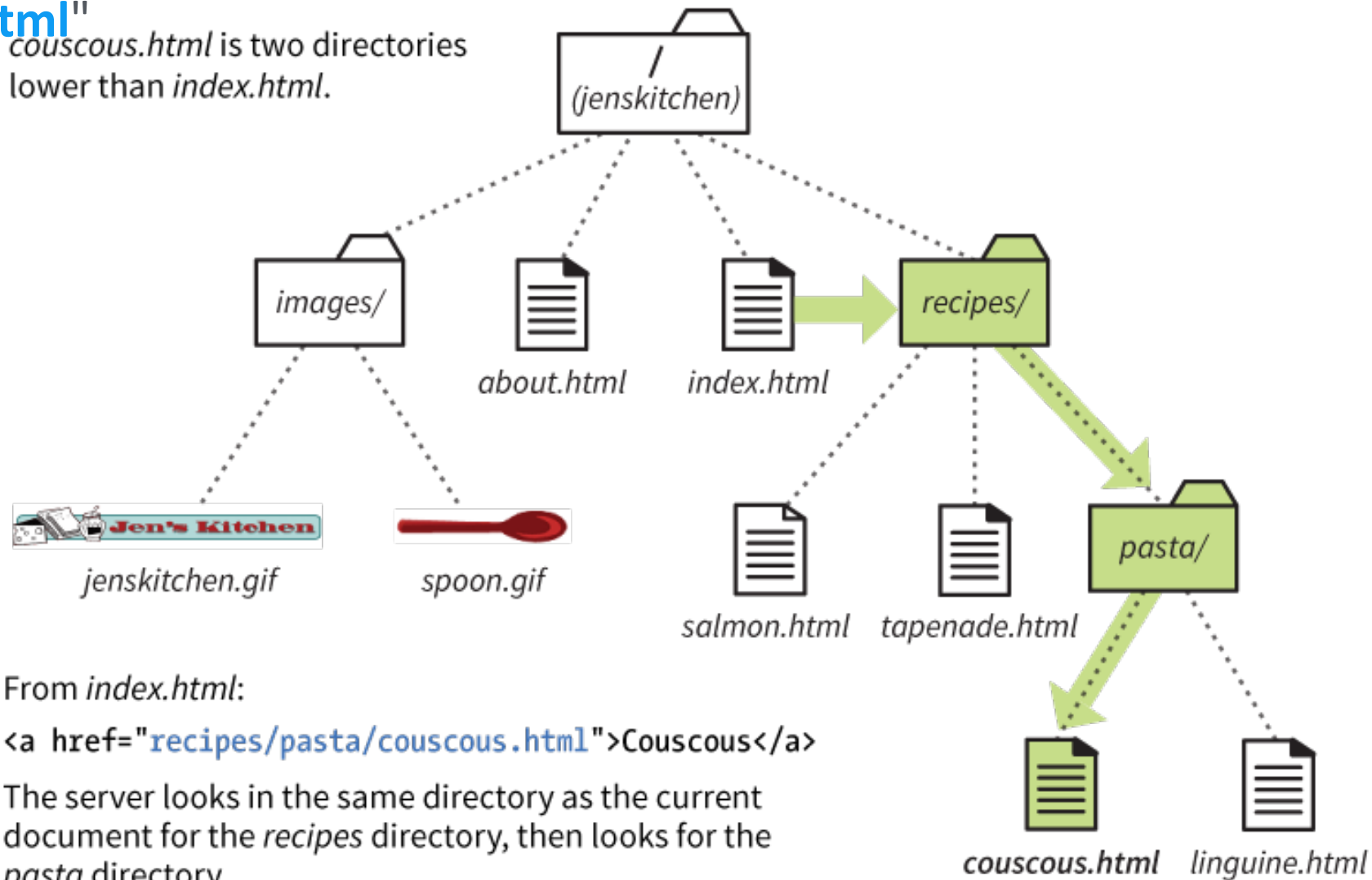


Linking into Two Directories

Include each subdirectory name in the path to the linked document:

href="[recipes/pasta/couscous.html](#)"

couscous.html is two directories lower than *index.html*.



From *index.html*:

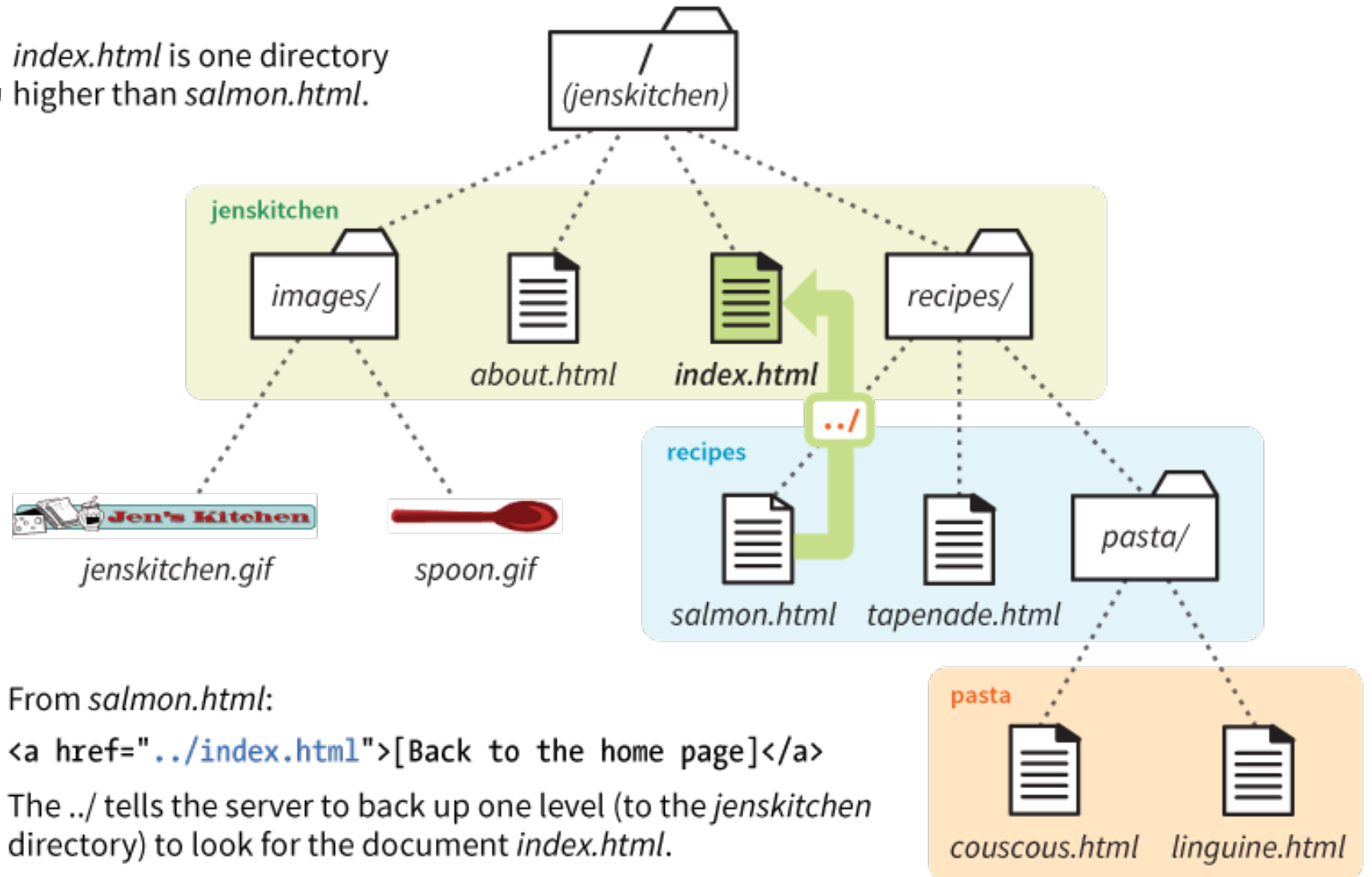
```
<a href="recipes/pasta/couscous.html">Couscous</a>
```

The server looks in the same directory as the current document for the *recipes* directory, then looks for the *pasta* directory.

Linking to a Higher Directory

To back up a level, the `../` stands in for the name of the higher directory:

`href=" ../index.html "` *index.html* is one directory higher than *salmon.html*.



From *salmon.html*:

```
<a href=" ../index.html ">[Back to the home page]</a>
```

The `../` tells the server to back up one level (to the *jenskitchen* directory) to look for the document *index.html*.

Linking Up Two Directory Levels

Include a `../` for each level you need to back up to:

`href=".../.../index.html"`

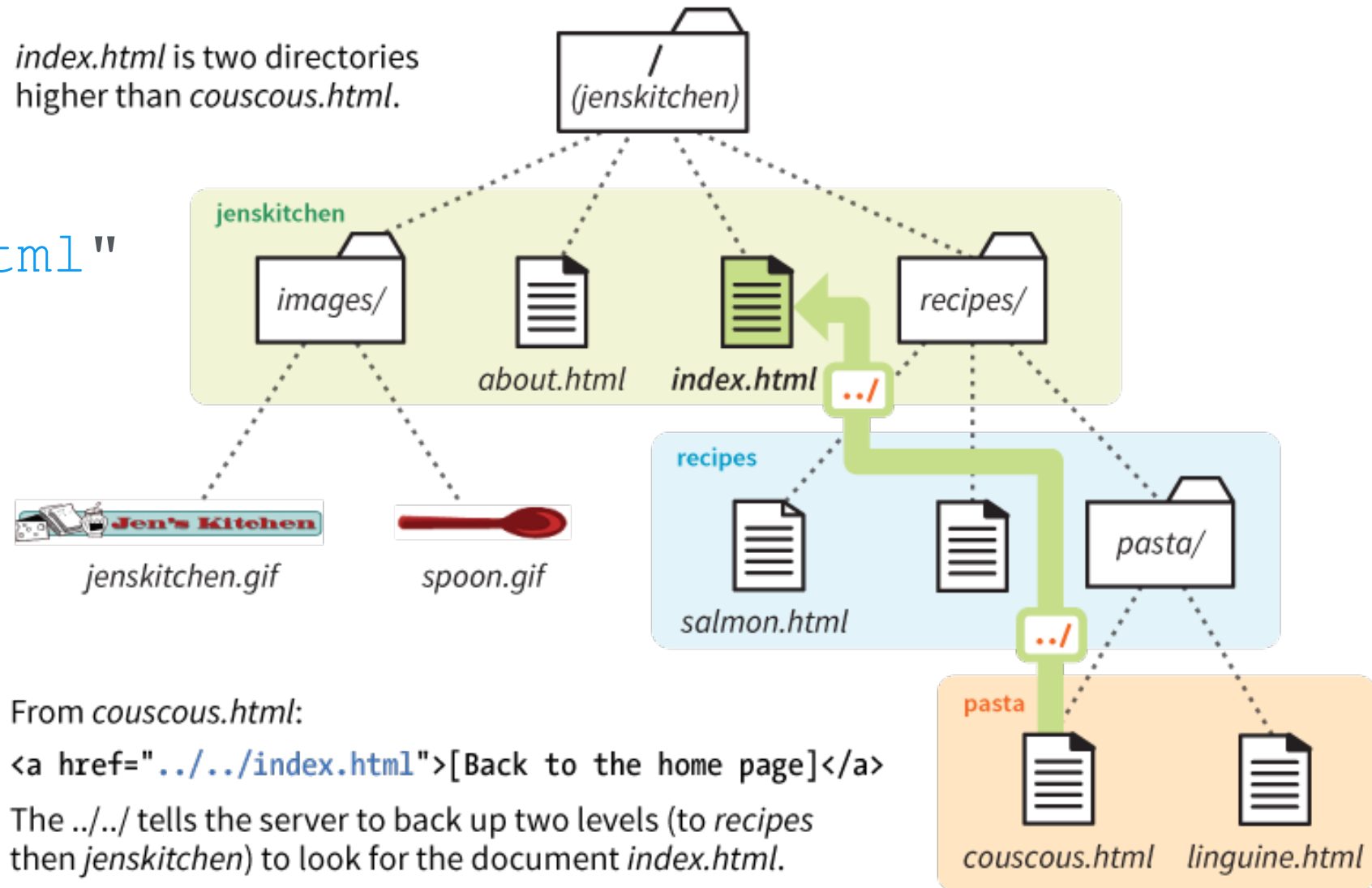


Image src Pathnames

Relative pathnames are also commonly used to point to image files with the **src** attribute:

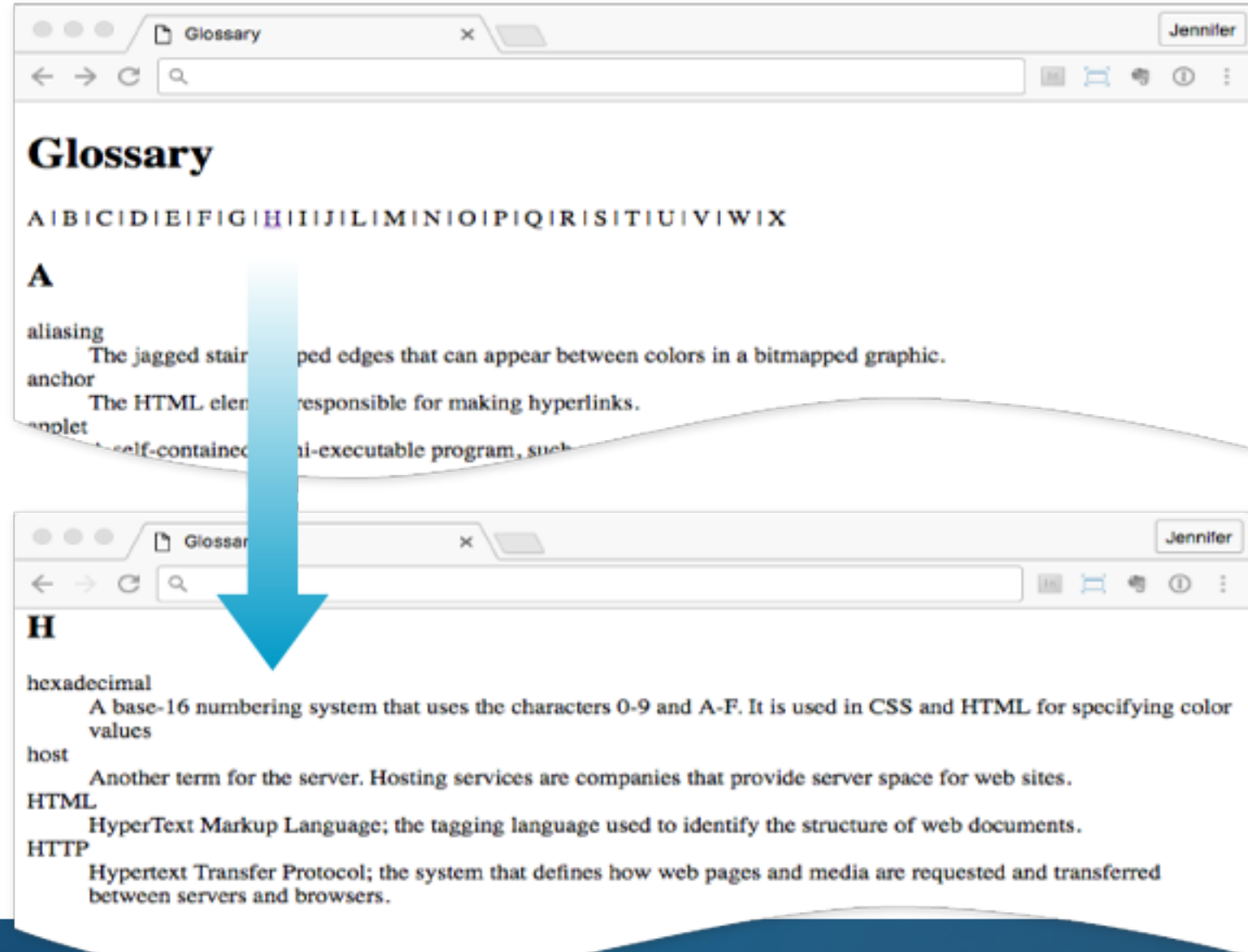
```

```

Linking Within a Page (Fragments)

Linking to a specific point on a web page is called linking to a document fragment.

This is useful for providing links down to content from the top of a long document.



Linking to a Fragment

For example, to create a link from the letter H in a list at the top of the page to the “H” heading farther down in the document:

Step 1: Identify the target destination.

Use the **id** attribute to give the target element a unique name:

```
<h2 id="startH">H</h2>
```

Step 2: Link to the target (#).

The **#** symbol before the name indicates that the link goes to a fragment:

```
<p>... F | G | <a href="#startH">H</a> | I | ...  
</p>
```

Targeting Browser Windows

The **target** attribute in the a tag tells the browser the name of the window in which you want the linked document to open:

```
<a  
href="https://www.wikipedia.org" target="_blank">Wikipedia  
</a>
```

target="_blank"

Always opens a new browser window.

Link embedded inside a line

```
<p>Visit <a  
href="https://www.wikipedia.org">Wikipedia  
</a> to learn more about various topics.</p>
```

It may also open in an embedded frame (iframe) with that name.

```
<iframe src="https://en.wikipedia.org/wiki/Web_development" width="600"
height="400">
</iframe>
```

Visit My Favourite Website

Check out this awesome site:

[Wikipedia](#)

Visit [Wikipedia](#) to learn more about various topics.

[Open OT page](#)



Mail Links

Use the “mailto” protocol to make a linked email address open in a mail program:

```
<a href="mailto:wonderwoman@example.com">Email  
WonderWoman</a> (wonderwoman@example.com)
```

NOTE: Most browsers are configured to open the computer’s primary email program, but this may not work for some users. Be sure the email address is included on the page and use the `mailto` link as progressive enhancement.



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

200
1822 - 2022

ADDING IMAGES

Man Geni Addysg Uwch yng Nghymru
Where Higher Education Began in Wales

www.uwtsd.ac.uk

OVERVIEW

- Web image formats
- The **img** element
- Attributes for the img element

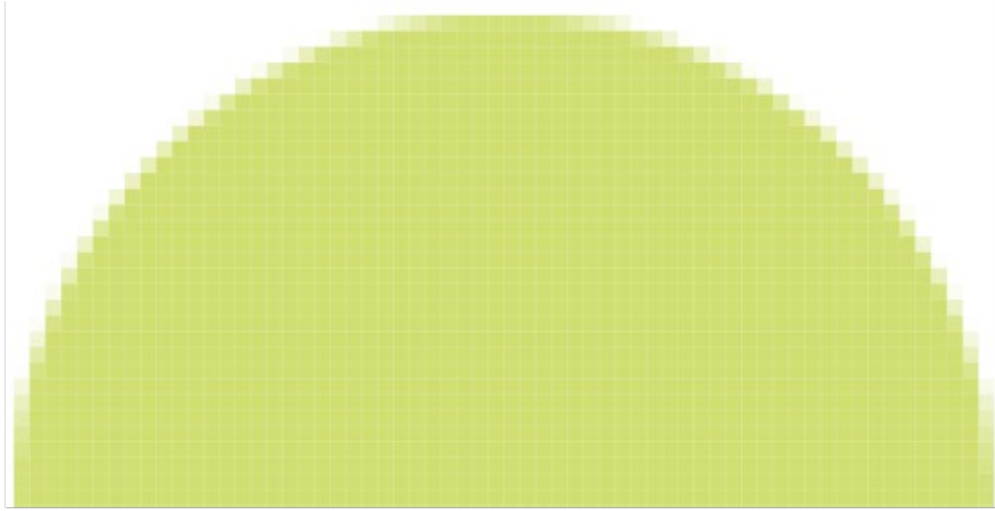
Web Image Formats

Image formats appropriate for web pages:

- PNG
- JPEG
- GIF
- SVG
- WebP

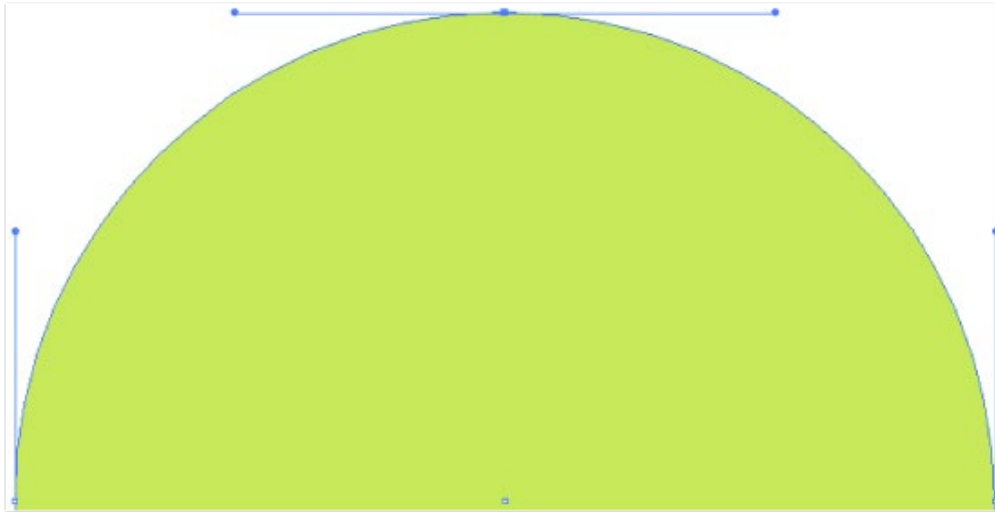
Bitmapped vs. Vector Formats

Bitmapped images are made up of a grid of colored pixels.



PNG, JPEG, GIF, and WebP are bitmapped formats.

Vector images contain paths that are defined mathematically.



SVG is a vector format.

The img Element

```
<img src="" alt="">
```

- Embed images on the page with the empty **img** element.
- The **src** and **alt** attributes are required.
- **img** can be used for PNG, JPEG, GIF, and SVG.

NOTE: Special markup is recommended for experimenting with cutting-edge image formats like WebP.

The img Element (cont'd)

The **img** element tells the browser to make a server request for the image and display it in its place:

```
<p>This summer, try making pizza   
on your grill.</p>
```



This summer, try making pizza on your grill.

The src attribute

```

```

- The value is the location (URL) of the image file.
- Use the relative pathname conventions to point to the image on the server.

PERFORMANCE TIP: Take advantage of caching (temporary storage). For the same image used repeatedly, using the same pathname reduces the number of calls to the server.

The alt Attribute

<p> If you're and you know it, clap your hands.</p>

- The **alt** attribute provides **alternative text** for those who are not able to see it.
- It is **required** for every **img** element in order for the HTML to be valid.
- It is used by screen readers, search engines, and graphical browsers when the image fails to load.

With image displayed



If you're and you know it clap your hands.

Firefox

If you're happy and you know it clap your hands.

Chrome (Mac & Windows)

If you're  happy and you know it clap your hands.

MS Edge (Windows)

If you're  happy and you know it clap your hands.

Alternative Text Tips

- Alternative text (alt text) should convey the same information and function as the image.
- If the image is purely decorative and shouldn't be read aloud, include the **alt** attribute with an empty value:

```

```

- Consider what the alt text would sound like when read aloud by a screen reader. Is it helpful or a hindrance?
- When an image is used as a link, the alt text serves as the linked text. Write what you'd want the link to say, don't just describe the image.
- Avoid starting alt text with "An image of" or "Graphic of".

width and height Attributes

```

```

- The **width** and **height** attributes set the dimensions of the image on the page in number of pixels.
- They help the browser maintain space for the image in the layout while the files load.
- Don't use **width** and **height** attributes if you are sizing the image with style sheets or if the size changes in a responsive layout.
- If the attribute values do not match the dimensions of the image, the image will resize and may be distorted or blurry.



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

200
1822 - 2022

ADDING TABLES

Man Geni Addysg Uwch yng Nghymru
Where Higher Education Began in Wales

www.uwtsd.ac.uk

OVERVIEW

- How tables are structured
- Table headers
- Cell spanning (rows and columns)
- Table captions
- Row and column groups

Tabular Data

HTML table markup is for data arranged into rows and columns.

PM	7:30	8:00	8:30	9:00	9:30	10:00	10:30
ABC	<i>The Adventures of Ozzie and Harriet</i>	The Patty Duke Show	<i>Gidget</i>	<i>The Big Valley</i>		Amos Burke — Secret Agent*	
CBS	Lost in Space		<i>The Beverly Hillbillies</i> #8 25.9 rating	<i>Green Acres</i> #11 24.6 rating	The Dick Van Dyke Show #16 23.6 rating	<i>The Danny Kaye Show</i>	
NBC	<i>The Virginian</i> #25 22.0 rating			<i>Bob Hope Presents the Chrysler Theatre</i> / <i>Chrysler Presents a Bob Hope Special</i>		<i>I Spy</i>	

wikipedia.org



Providence/Stoughton Line

[Print this Schedule](#)
[Service Alerts](#)
[Holiday Schedule Information](#)

[Providence/Stoughton Line Schedule](#)
[South Station and Back Bay Schedule](#)

Direction:

Inbound

Timing:

Weekday

Redisplay Time

PROVIDENCE/STOUGHTON LINE INBOUND : Weekday Effective 11/14/11

Train Number	800 AM	802 AM	902 AM	804 AM	904 AM	806 AM	832 AM	808 AM	906 AM	810 AM	908 AM	812 AM	834 AM	910 AM	814 AM	912 AM	816 AM	818 PM	914 PM	916 PM
TF Green Airport		05:05				06:13		06:52		07:15					09:23		11:45			
Providence	05:07	05:25		06:07		06:33		07:12		07:35		08:10			09:43		12:05	01:30		
South Attleboro	05:17	05:35		06:16		06:42		07:22		07:45		08:20			09:52		12:15	01:42		
Attleboro	05:27	05:45		06:28		06:52		07:32		07:55		08:30	09:00		10:02		12:25	01:51		
Mansfield	05:36	05:55		06:38		07:04	07:26	07:44		08:05		08:38	09:09		10:10		12:33	01:58		
Sharon	05:44	06:04		06:48		07:13	07:35			08:14		08:47	09:17		10:19		12:42	02:06		
Stoughton			06:28		06:56				07:48		08:28			09:40		10:40			02:20	03:23
Canton Center			06:36		07:04				07:57		08:36			09:49		10:49			02:27	03:30
Canton Junction	05:51	06:11	06:39		07:08		07:41		08:01	08:24	08:40	08:54	09:24	09:52	10:26	10:52	12:50		02:30	03:33
Route 128	05:58	06:16	06:44	06:58	07:14	07:24	07:47		08:07	08:30	08:45	08:59	09:26	09:57	10:31	10:57	12:55	02:16		03:38
Hyde Park	06:01	06:21	06:49		07:19		07:52		08:13	08:36	08:49	09:04		10:02	10:36	11:02	01:00		02:39	03:43



HTML Table Structure

Tables are made up of cells arranged into rows.

A simple table

Menu item	Calories	Fat (g)
Chicken noodle soup	120	2
Caesar salad	400	26

table

row	Menu item header cell	Calories header cell	Fat header cell
row	Chicken noodle soup data cell	120 data cell	2 data cell
row	Caesar salad data cell	400 data cell	26 data cell

HTML Table Structure (cont'd.)

How it looks using markup (**table**, **tr**, **th**, and **td**):

<table>			
<tr>	<th>Menu item</th>	<th>Calories</th>	<th>Fat</th></tr>
<tr>	<td>Chicken noodle soup</td>	<td>120</td>	<td>2</td></tr>
<tr>	<td>Caesar salad</td>	<td>400</td>	<td>26</td></tr>
</table>			

NOTE: Columns are implied by the number of cells in each row (not created with column elements).

HTML Table Structure (cont'd)

The same table written in code:

```
<table>
  <tr>
    <th>Menu item</th>
    <th>Calories</th>
    <th>Fat (g)</th>
  </tr>
  <tr>
    <td>Chicken noodle soup</td>
    <td>120</td>
    <td>2</td>
  </tr>
  <tr>
    <td>Caesar salad</td>
    <td>400</td>
    <td>26</td>
  </tr>
</table>
```

Default browser display:

Menu item	Calories	Fat (g)
Chicken noodle soup	120	2
Caesar salad	400	26

The table Element

`<table> </table>`

- Identifies tabular material
- Contains some number of row (**tr**) elements
- Optionally, may also have a **caption** element and row and column group elements

Table Row (tr) Element

`<tr> </tr>`

- tr stands for “table row.”
- The only thing that can go between **tr** tags is some number of **th** (header) and **td** (data cell) elements.
- There may be no text content in a row that is not contained within a header or data cell.

Table Cells

`<td> </td>`

- td stands for “table data.”
- Cells can contain any type of web content.
- All content in a table must be contained in **td** tags.

Table Headers

`<th>` `</th>`

- th stands for “table header.”
- Headers provide information about the cells in the row or column they precede.
- They are key tools for making table content accessible. Screen readers may read headers aloud before each data cell, providing context that is missing when you can’t see the table.
- Headers are often rendered in a bold font by default.

Table Columns Are Implied

This table would have 2 rows and 3 columns (because there are 3 cells defined in each row):

```
<table>
  <tr>
    <th>Burgers</th>
    <td>Organic Grass-fed Beef</td>
    <td>Black Bean Veggie</td>
  </tr>
  <tr>
    <th>Fries</th>
    <td>Hand-cut Idaho potato</td>
    <td>Seasoned sweet potato</td>
  </tr>
</table>
```

Spanning Cells

Spanning

Stretching a cell to cover several rows or columns

Column span

Stretching a cell *to the right* over subsequent columns

Row span

Stretching a cell *downward* over several rows

Column Spans

Use the **colspan** attribute to specify the number of columns the cell should span over:

```
<table>
<tr>
  <th colspan="2">Fat</th>
</tr>
<tr>
  <td>Saturated Fat (g)</td>
  <td>Unsaturated Fat (g)</td>
</tr>
</table>
```

Fat	
Saturated Fat (g)	Unsaturated Fat (g)

Notice that the first **tr** element only has one cell in it now. Every row s have the same number of cells or equivalent **colspan** values.

Row Spans

The **rowspan** attribute specifies the number of rows the cell spans:

```
<table>
  <tr>
    <th rowspan="3">Serving Size</th>
    <td>Small (8oz.)</td>
  </tr>
  <tr>
    <td>Medium (16oz.)</td>
  </tr>
  <tr>
    <td>Large (24oz.)</td>
  </tr>
</table>
```

Serving Size	Small (8oz.)
	Medium (16oz.)
	Large (24oz.)

Table Caption

`<caption> </caption>`

- Provides a title or description for the table
- Improves table accessibility
- The **caption** element must appear first in the table element.
- The caption displays above the table by default.

Table Caption (cont'd)

```
<table>
  <caption>Nutritional Information</caption>
  <tr>
    <th>Menu item</th>
    <th>Calories</th>
    <th>Fat (g)</th>
  </tr>
  ...table continues...
</table>
```

Menu item	Calories	Fat (g)
Chicken noodle soup	120	2
Caesar salad	400	26

Row and Column Groups

- For complicated tables, you can create semantic groups of rows and/or columns that describe the table's structure.
- Row group and column group elements also provide more “hooks” for scripting and styling.

Row Groups

`<thead> </thead>`

`<tbody> </tbody>`

`<tfoot> </tfoot>`

- Provide additional semantic structure
- Row group elements may contain one or more **tr** elements (no direct text content).
- Some browsing agents may repeat the header and footer rows on tables that span multiple pages.

Tables in html

```
<body>
```

```
  <h2>Basic Table Example</h2>
```

```
  <table border="1">
```

```
    <!-- Table header -->
```

Comment line

```
    <thead>
```

```
      <tr>
```

```
        <th>Name</th>
```

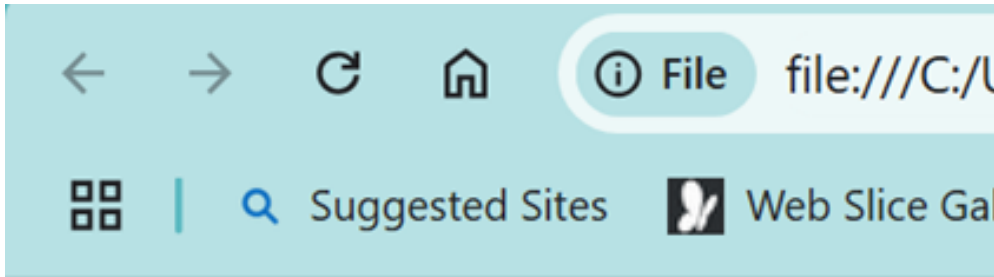
```
        <th>Age</th>
```

```
        <th>City</th>
```

```
      </tr>
```

```
    </thead>
```

Tables in html



Basic Table Example

Name	Age	City
John Smith	30	London
Emily Brown	25	Manchester
Oliver Jones	22	Birmingham

```
<tbody>
<tr> <td>John Smith</td>
  <td>30</td>
  <td>London</td> </tr>
<tr> <td>Emily Brown</td>
  <td>25</td>
  <td>Manchester</td> </tr>
<tr>
  <td>Oliver Jones</td>
  <td>22</td>
  <td>Birmingham</td>
</tr>
</tbody>
</table>
```

Further Reading :

- Part II: HTML Markup for Structure

Robbins, J., 2018, Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics, O'Reilly Media