

# HTML Links

- Links are found in nearly all web pages. Links allow users to click their way from page to page.

# HTML Links - Hyperlinks

- HTML links are hyperlinks.
- You can click on a link and jump to another document.
- When you move the mouse over a link, the mouse arrow will turn into a little hand.
- **Note:** A link does not have to be text. A link can be an image or any other HTML element!

# HTML Links - Syntax

- The HTML `<a>` tag defines a hyperlink. It has the following syntax:

```
<a href="https://www.w3schools.com/">Visit W3Schools.com!</a>
```

- The most important attribute of the `<a>` element is the `href` attribute, which indicates the link's destination.
- The link text is the part that will be visible to the reader.
- Clicking on the link text, will send the reader to the specified URL address.

```
<a href="url">Link text</a>
```

# HTML Links - The target Attribute

- By default, the linked page will be displayed in the current browser window. To change this, you must specify another target for the link.
- The **target** attribute specifies where to open the linked document.
- The **target** attribute can have one of the following values:
  - **\_self** - Default. Opens the document in the same window/tab as it was clicked
  - **\_blank** - Opens the document in a new window or tab
  - **\_parent** - Opens the document in the parent frame
  - **\_top** - Opens the document in the full body of the window

```
<a href="https://www.w3schools.com/" target="_blank">Visit W3Schools!</a>
```

# Absolute URLs vs. Relative URLs

- Both examples above are using an **absolute URL** (a full web address) in the href attribute.
- A local link (a link to a page within the same website) is specified with a **relative URL** (without the "https://www" part):

```
<h2>Absolute URLs</h2>
<p><a href="https://www.w3.org/">W3C</a></p>
<p><a href="https://www.google.com/">Google</a></p>

<h2>Relative URLs</h2>
<p><a href="html_images.asp">HTML Images</a></p>
<p><a href="/css/default.asp">CSS Tutorial</a></p>
```

# HTML Links - Use an Image as a Link

- To use an image as a link, just put the <img> tag inside the <a> tag:

```
<a href="default.asp">  
  
</a>
```

# Link to an Email Address

- Use **mailto**: inside the href attribute to create a link that opens the user's email program (to let them send a new email):

```
<a href="mailto:someone@example.com">Send email</a>
```



# Button as a Link

- To use an HTML button as a link, you have to add some JavaScript code.
- JavaScript allows you to specify what happens at certain events, such as a click of a button:

```
<button onclick="document.location='default.asp'">HTML Tutorial</button>
```

# Link Titles

- The **title** attribute specifies extra information about an element. The information is most often shown as a tooltip text when the mouse moves over the element.

```
<a href="https://www.w3schools.com/html/" title="Go to W3Schools HTML section">Visit our HTML Tutorial</a>
```

# HTML Link Colors

- By default, a link will appear like this (in all browsers):
  - An unvisited link is underlined and blue
  - A visited link is underlined and purple
  - An active link is underlined and red

- You can change the link state colors, by using CSS:

```
<style>
a:link {
    color: green;
    background-color: transparent;
    text-decoration: none;
}

a:visited {
    color: pink;
    background-color: transparent;
    text-decoration: none;
}

a:hover {
    color: red;
    background-color: transparent;
    text-decoration: underline;
}

a:active {
    color: yellow;
    background-color: transparent;
    text-decoration: underline;
}
</style>
```

# Link Buttons

- A link can also be styled as a button, by using CSS:

## Example

```
<style>
a:link, a:visited {
  background-color: #f44336;
  color: white;
  padding: 15px 25px;
  text-align: center;
  text-decoration: none;
  display: inline-block;
}

a:hover, a:active {
  background-color: red;
}
</style>
```

# Bookmarks

- HTML links can be used to create bookmarks
- so that readers can jump to specific parts of a web page

# Create a Bookmark in HTML

- Bookmarks can be useful if a web page is very long.
- To create a bookmark - first create the bookmark, then add a link to it.
- When the link is clicked, the page will scroll down or up to the location with the bookmark.

First, use the `id` attribute to create a bookmark:

```
<h2 id="C4">Chapter 4</h2>
```

Then, add a link to the bookmark ("Jump to Chapter 4"), from within the same page:

## Example

```
<a href="#C4">Jump to Chapter 4</a>
```

Try it Yourself »

You can also add a link to a bookmark on another page:

```
<a href="html_demo.html#C4">Jump to Chapter 4</a>
```



# HTML Image

- Images can improve the design and the appearance of a web page.



## Example

```

```

# HTML Images Syntax

- The HTML <img> tag is used to embed an image in a web page.
- Images are not technically inserted into a web page; images are linked to web pages. The <img> tag creates a holding space for the referenced image.
- The <img> tag is empty, it contains attributes only, and does not have a closing tag.
- The <img> tag has two required attributes:
  - src - Specifies the path to the image
  - alt - Specifies an alternate text for the image

```

```

# The src Attribute

- The required src attribute specifies the path (URL) to the image.

# The alt Attribute

- The required alt attribute provides an alternate text for an image, if the user for some reason cannot view it (because of slow connection, an error in the src attribute, or if the user uses a screen reader).

# Image Size - Width and Height

- You can use the **style** attribute to specify the width and height of an image.

## Example

```

```

- Alternatively, you can use the **width** and **height** attributes.
- The width and height attributes always define the width and height of the image in pixels.

```

```



- The width, height, and style attributes are all valid in HTML.
- However, we suggest using the style attribute. It prevents styles sheets from changing the size of images:

```
<!DOCTYPE html>
<html>
<head>
<style>
img {
  width: 100%;
}
</style>
</head>
<body>
```

```

```

```

```

```
</body>
</html>
```

The first image uses the width attribute (set to 128 pixels), but the style in the head section overrides it, and sets the width to 100%.



The second image uses the style attribute to set the width to 128 pixels, this will not be overridden by the style in the head section:



# Images in Another Folder

- If you have your images in a sub-folder, you must include the folder name in the src attribute:

```

```

# Images on Another Server/Website

- Some web sites points to an external image on another server.
- To point to an image on another server, you must specify an absolute (full) URL in the src attribute:

```

```

# Animated Images

- HTML allows animated GIFs:

```

```

# Image Floating

- Use the CSS float property to let the image **float** to the right or to the left of a text:

```
<p>  
The image will float to the right of the text.</p>
```

```
<p>  
The image will float to the left of the text.</p>
```

# Common Image Formats

- Here are the most common image file types, which are supported in all browsers (Chrome, Edge, Firefox, Safari, Opera):

Abbreviation	File Format	File Extension
APNG	Animated Portable Network Graphics	.apng
GIF	Graphics Interchange Format	.gif
ICO	Microsoft Icon	.ico, .cur
JPEG	Joint Photographic Expert Group image	.jpg, .jpeg, .jfif, .pjpeg, .jpp
PNG	Portable Network Graphics	.png
SVG	Scalable Vector Graphics	.svg

# Image Maps

- The HTML <map> tag defines an image map. An image map is an image with clickable areas. The areas are defined with one or more <area> tags.

```


<map name="workmap">
  <area shape="rect" coords="34,44,270,350" alt="Computer" href="computer.htm">
  <area shape="rect" coords="290,172,333,250" alt="Phone" href="phone.htm">
  <area shape="circle" coords="337,300,44" alt="Coffee" href="coffee.htm">
</map>
```

# Background Image on a HTML element

- To add a background image on an HTML element, use the HTML style attribute and the CSS background-image property:

```
<div style="background-image: url('img_girl.jpg');">
```



- You can also specify the background image in the `<style>` element, in the `<head>` section:

```
<style>
div {
  background-image: url('img_girl.jpg');
}
</style>
```

# Background Image on a Page

- If you want the entire page to have a background image, you must specify the background image on the `<body>` element:

```
<style>
body {
  background-image: url('img_girl.jpg');
}
</style>
```

# Background Repeat

- If the background image is smaller than the element, the image will repeat itself, horizontally and vertically, until it reaches the end of the element:



```
<style>  
body {  
  background-image: url('example_img_girl.jpg');  
}  
</style>
```

- To avoid the background image from repeating itself, set the background-repeat property to **no-repeat**.

```
<style>
body {
  background-image: url('example_img_girl.jpg');
  background-repeat: no-repeat;
}
</style>
```

# Background Cover

```
<style>
body {
  background-image: url('img_girl.jpg');
  background-repeat: no-repeat;
  background-attachment: fixed;
  background-size: cover;
}
</style>
```

- If you want the background image to cover the entire element, you can set the background-size property to cover.
- Also, to make sure the entire element is always covered, set the background-attachment property to fixed:
- This way, the background image will cover the entire element, with no stretching (the image will keep its original proportions):

# Background Stretch

- If you want the background image to stretch to fit the entire element, you can set the background-size property to 100% 100%:

```
<style>
body {
  background-image: url('img_girl.jpg');
  background-repeat: no-repeat;
  background-attachment: fixed;
  background-size: 100% 100%;
}
</style>
```

# The HTML `<picture>` Element

- The HTML `<picture>` element allows us to display different pictures for different devices or screen sizes.
- The HTML `<picture>` element gives web developers more flexibility in specifying image resources.
- The `<picture>` element contains one or more `<source>` elements, each referring to different images through the `srcset` attribute. This way the browser can choose the image that best fits the current view and/or device.
- Each `<source>` element has a `media` attribute that defines when the image is the most suitable.

```
<picture>  
  <source media="(min-width: 650px)" srcset="img_food.jpg">  
  <source media="(min-width: 465px)" srcset="img_car.jpg">  
    
</picture>
```