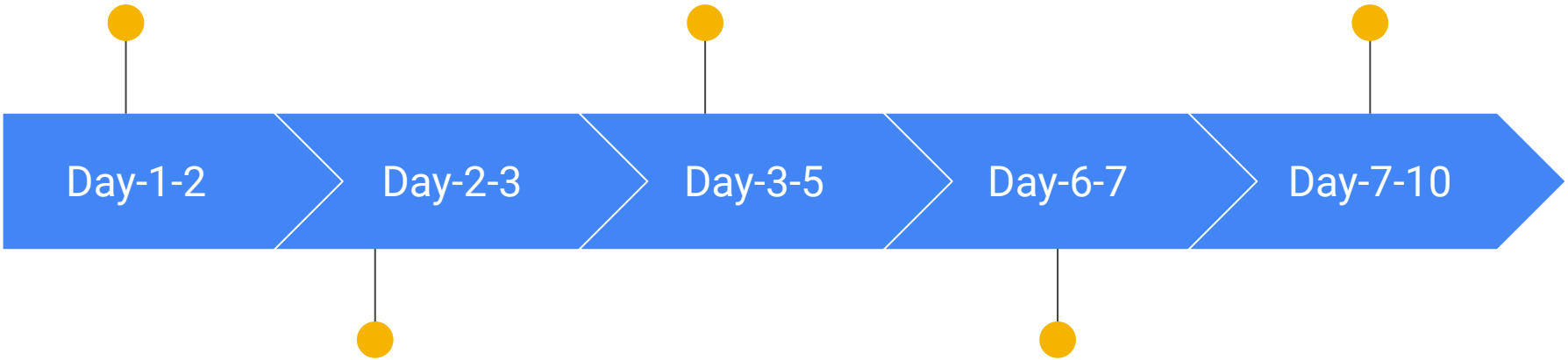
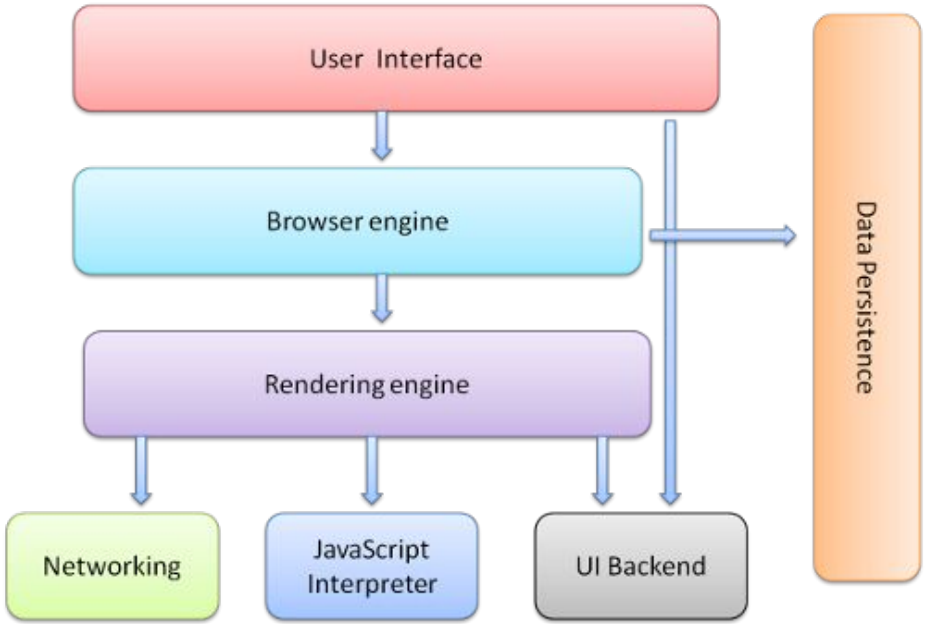
HTML5

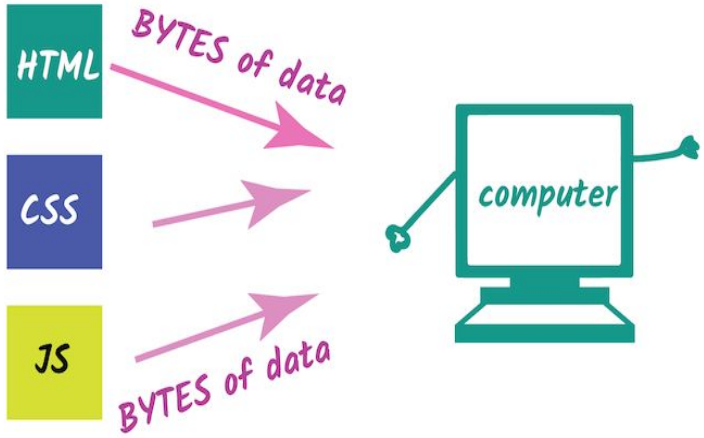
7-10 Days Training


HTML5 Introduction, Basics,File Structure, Server Name
Links,Images, Classes,
Id, Inline and Block Elements
Website layouts and Responsive Design implementation
Day-1-2
Day-2-3
Day-3-5
Day-6-7
Day-7-10
Text formatting, Comments, Quotations , Attributes
HTML forms, Input Attribute, Input types

What is browser



The computer receives bytes of data.



First step start here!!

The raw bytes of data must be converted to a form the browser understands

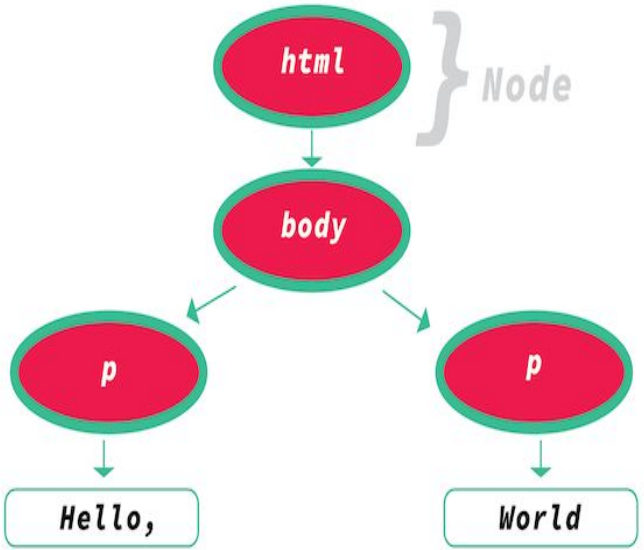
From raw bytes of HTML to DOM

1] Bytes => Characters

2] Bytes =>Characters=>Tokens

3] Bytes=>Characters=>Tokens(<p><a>)

4] Bytes=>Characters=>Tokens=>Nodes



Software, Tools

1] Editor

Notepad ++ , VS Code

2] Browser

Chrome, Firefox,Internet Explorer, safari

3] Folder structure

Angular-12/HTML/day-1/index.html

4] Anydesk

5] XAMPP, WAMP[website]

HTML4 AND HTML5

HTML4	HTML5
DOCTYPE declaration too lengthy and refers to an external resource.	DOCTYPE declaration is simple and in one line, for example: <!DOCTYPE html>
No multimedia supporting tags. Third party plugins used.	Introduced dedicated tags for multimedia like <audio>, <video>
Applet tag that was used to display applets in browsers was removed.	Object tag was added to display applet type items.
The acronym (<acronym>) tag had been removed.	A new tag <abbr> introduced in place of acronym
HTML4 is compatible with almost all web browsers.	HTML5 being a newer version is not compatible with all the browsers.

What is HTML5 ?

- HTML stands for Hyper Text Markup Language
- HTML is the standard markup language for creating Web pages
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

```
<!doctype html>

<html lang="en">

<head>

  <meta charset="utf-8">

  <title>The HTML5 Herald</title>

  <meta name="description" content="The HTML5
Herald">

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

  <link rel="stylesheet"
href="css/styles.css?v=1.0">

</head>

<body>

  <script src="js/scripts.js"></script>

</body>

</html>
```

Head tag

1] Meta tags

2] Title tag

3] Favicon icon

4] CSS Links(External Links)

```
<meta charset="utf-8">
<meta name="viewport"
content="width=device-width,
initial-scale=1, shrink-to-fit=no">
```

HTML Elements

The HTML element is everything from the start tag to the end tag:

```
<tagname>Content goes here...</tagname>
```

Examples of some HTML elements:

```
<h1>My First Heading</h1>

<p>My first paragraph</p>
```

Empty HTML Elements

HTML elements with no content are called empty elements.

The `<br>` tag defines a line break, and is an empty element without a closing tag:

```
<p>This is a <br> paragraph with a line break.</p>
```

HTML is Not Case Sensitive

HTML tags are not case sensitive: `<P>` means the same as `<p>`.

The HTML standard does not require lowercase tags, but W3C recommends lowercase in HTML, and demands lowercase for stricter document types like XHTML.

Day 2-4

7-10 Days Training

HTML Headings and Paragraph

Heading 1

Heading 2

Heading 3

Heading 4

Heading 5

Heading 6

Headings Are Important

Search engines use the headings to index the structure and content of your web pages.

Users often skim a page by its headings. It is important to use headings to show the document structure.

`<h1>` headings should be used for main headings, followed by `<h2>` headings, then the less important `<h3>`, and so on.

HTML Text Formatting

Formatting elements were designed to display special types of text:

- `<b>` - Bold text
- `<strong>` - Important text
- `<i>` - Italic text
- `<em>` - Emphasized text
- `<mark>` - Marked text
- `<small>` - Smaller text
- `<del>` - Deleted text
- `<ins>` - Inserted text
- `<sub>` - Subscript text
- `<sup>` - Superscript text

HTML Quotation

```
<blockquote>
<q>
<abbr>
<address>
<cite>
<bdo>
```

Day 3

5 Days Training

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.

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

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

HTML Image types

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, .pjp
PNG	Portable Network Graphics	.png
SVG	Scalable Vector Graphics	.svg

List

Tag	Description
	Defines an unordered list
	Defines an ordered list
	Defines a list item
<dl>	Defines a description list
<dt>	Defines a term in a description list
<dd>	Describes the term in a description list

HTML Attributes

The attribute provides additional information about the specific element, and they are always specified in the opening tag. Here's an example – let's say you want to create a link. The link element is specified by the <a> tag and the destination-address is specified in the href-attribute.

```
<a href="https://claritechsolutions.com/">This is a website link</a>
```

- Some HTML elements can have attributes
- The pattern for an attributes is attribute="value"
- Attributes provide additional information about an element
- Attributes are always specified in the start tag

```
Core Attribute

1] Class 2] Id 3] Title 4] Style
```

Attribute	Options	Function
align	right, left, center	Horizontally aligns tags
valign	top, middle, bottom	Vertically aligns tags within an HTML element.
bgcolor	numeric, hexidecimal, RGB values	Places a background color behind an element
background	This property is depricate dont use this	ind an element
id	User Defined	Names an element for use with Cascading Style Sheets.
class	User Defined	Classifies an element for use with Cascading Style Sheets.
width	Numeric Value	Specifies the width of tables, images, or table cells.
height	Numeric Value	Specifies the height of tables, images, or table cells.
title	User Defined	"Pop-up" title of the elements.

The form Attribute

The input `form` attribute specifies the form the `<input>` element belongs to.

The value of this attribute must be equal to the id attribute of the <form> element it belongs to.

```
<form action="/action_page.php" id="form1">

  <label for="fname">First name:</label>

  <input type="text" id="fname" name="fname">

<input type="submit" value="Submit">

</form><label for="lname">Last name:</label>

<input type="text" id="lname" name="lname"
form="form1">
```

HTML Headings

Heading 1

Heading 2

Heading 3

Heading 4

Heading 5

Heading 6

HTML Paragraphs

The HTML `<p>` element defines a paragraph.

A paragraph always starts on a new line, and browsers automatically add some white space (a margin) before and after a paragraph.

Input Attributes

The input `value` attribute specifies an initial value for an input field.

```
 <input type="text" id="fname" name="fname"
value="John">
```

The readonly Attribute

```
<input type="text" id="fname" name="fname"
value="John" readonly>
```

The disabled Attribute

```
<input type="text" id="fname" name="fname"
value="John" disabled><br>
```

The size Attribute

```
  <input type="text" id="fname" name="fname"
size="50"><br>
```

The maxlength Attribute

```
<input type="text" id="pin" name="pin" maxlength="4"
size="4">
```

The min and max Attributes

The input `min` and `max` attributes specify the minimum and maximum values for an input field.

The `min` and `max` attributes work with the following input types: number, range, date, datetime-local, month, time and week.

Tip: Use the max and min attributes together to create a range of legal values.

The pattern Attribute

The input `pattern` attribute specifies a regular expression that the input field's value is checked against, when the form is submitted.

The placeholder Attribute

The input `placeholder` attribute specifies a short hint that describes the expected value of an input field (a sample value or a short description of the expected format).

The short hint is displayed in the input field before the user enters a value.

The `placeholder` attribute works with the following input types: text, search, url, tel, email, and password.

```
<input type="tel" id="phone" name="phone"
  placeholder="123-45-678"
  pattern="[0-9]{3}-[0-9]{2}-[0-9]{3}">
```

The required Attribute

The input `required` attribute specifies that an input field must be filled out before submitting the form.

The `required` attribute works with the following input types: text, search, url, tel, email, password, date pickers, number, checkbox, radio, and file.

```
<input type="text" id="username" name="username"
required>
```

The step Attribute

The input `step` attribute specifies the legal number intervals for an input field.

Example: if step="3", legal numbers could be -3, 0, 3, 6, etc.

HTML Forms

- `<input type="button">`
- `<input type="checkbox">`
- `<input type="color">`
- `<input type="date">`
- `<input type="datetime-local">`
- `<input type="email">`
- `<input type="file">`
- `<input type="hidden">`
- `<input type="image">`
- `<input type="month">`
- `<input type="number">`
- `<input type="password">`
- `<input type="radio">`
- `<input type="range">`
- `<input type="reset">`
- `<input type="search">`
- `<input type="submit">`
- `<input type="tel">`
- `<input type="text">`
- `<input type="time">`
- `<input type="url">`
- `<input type="week">`

HTML JavaScript

The HTML `<script>` tag is used to define a client-side script (JavaScript).

The `<script>` element either contains script statements, or it points to an external script file through the `src` attribute.

Common uses for JavaScript are image manipulation, form validation, and dynamic changes of content.

To select an HTML element, JavaScript most often uses the `document.getElementById()` method.

This JavaScript example writes "Hello JavaScript!" into an HTML element with id="demo":

```
<script>document.getElementById("demo").innerHTML = "Hello JavaScript!";</script>
```

File Path Examples

<img src="picture.jpg">

The "picture.jpg" file is located in the same folder as the current page

<img src="images/picture.jpg">

The "picture.jpg" file is located in the images folder in the current folder

<img src="/images/picture.jpg">

The "picture.jpg" file is located in the images folder at the root of the current web

<img src="../picture.jpg">

The "picture.jpg" file is located in the folder one level up from the current folder

Day 4

5 Days Training

HTML Table

- Use the HTML `<table>` element to define a table
- Use the HTML `<tr>` element to define a table row
- Use the HTML `<td>` element to define a table data
- Use the HTML `<th>` element to define a table heading
- Use the HTML `<caption>` element to define a table caption
- Use the CSS `border` property to define a border
- Use the CSS `border-collapse` property to collapse cell borders
- Use the CSS `padding` property to add padding to cells
- Use the CSS `text-align` property to align cell text
- Use the CSS `border-spacing` property to set the spacing between cells
- Use the `colspan` attribute to make a cell span many columns
- Use the `rowspan` attribute to make a cell span many rows
- Use the `id` attribute to uniquely define one table

HTML Block and Inline Elements

A block-level element always starts on a new line.

A block-level element always takes up the full width available (stretches out to the left and right as far as it can).

A block level element has a top and a bottom margin, whereas an inline element does not.

<address><article><aside><blockquote><canvas><dd> <dl><dt><fieldset><figcaption><figure><footer><form><h1>-<h6><header><hr>
<main><nav><noscript>
<p><pre><section><table><tfoot>
<video>

HTML class Attribute

- The HTML `class` attribute is used to specify a class for an HTML element.
- Multiple HTML elements can share the same class.

```
<style>

.note {

  font-size : 120%;

  color : red;

}

</style>

<p>This is some  <span class="note">important</span>
text.</p>
```

HTML id Attribute

The HTML `id` attribute is used to specify a unique id for an HTML element.

You cannot have more than one element with the same id in an HTML document.

Semantic Elements

Semantic elements = elements with a meaning.

A semantic element clearly describes its meaning to both the browser and the developer.

Examples of non-semantic elements: `<div>` and `<span>` - Tells nothing about its content.

Examples of semantic elements: `<form>`, `<table>`, and `<article>` - Clearly defines its content.

- <article>
- <aside>
- <details>
- <figcaption>
- <figure>
- <footer>
- <header>
- <main>
- <mark
- <nav>
- <section>
- <summary>
- <time>

HTML Iframes

The HTML `<iframe>` tag specifies an inline frame.

An inline frame is used to embed another document within the current HTML document.

```
<iframe src="url" title="description">
```

Iframe - Set Height and Width

Use the `height` and `width` attributes to specify the size of the iframe.

The height and width are specified in pixels by default:

Day 5

5 Days Training

HTML Canvas Graphics

The HTML <canvas> element is used to draw graphics on a web page.

The graphic to the left is created with <canvas>. It shows four elements

a red rectangle, a gradient rectangle, a multicolor rectangle, and a mult

What is HTML Canvas?

The HTML <canvas> element is used to draw graphics, on the fly, via JavaScript.

The <canvas> element is only a container for graphics. You must use JavaScript to actually draw the graphics.

<canvas id="myCanvas" width="200" height="100" style="border:1px solid #000000;">

Your browser does not support the HTML canvas tag.

</canvas>

HTML SVG Graphics

- SVG stands for Scalable Vector Graphics
- SVG is used to define graphics for the Web
- SVG is a W3C recommendation

SVG is a language for describing 2D graphics in XML.

Canvas draws 2D graphics, on the fly (with a JavaScript).

SVG is XML based, which means that every element is available within the SVG DOM. You can attach JavaScript event handlers for an element.

In SVG, each drawn shape is remembered as an object. If attributes of an SVG object are changed, the browser can automatically re-render the shape.

Canvas is rendered pixel by pixel. In canvas, once the graphic is drawn, it is forgotten by the browser. If its position should be changed, the entire scene needs to be redrawn, including any objects that might have been covered by the graphic.

Comparison of Canvas and SVG

The table below shows some important differences between Canvas and SVG:

Canvas	SVG
• Resolution dependent • No support for event handlers • Poor text rendering capabilities • You can save the resulting image as .png or .jpg • Well suited for graphic-intensive games	• Resolution independent • Support for event handlers • Best suited for applications with large rendering areas (Google Maps) • Slow rendering if complex (anything that uses the DOM a lot will be slow) • Not suited for game applications

HTML Multi-media

What is Multimedia?

Multimedia comes in many different formats. It can be almost anything you can hear or see, like images, music, sound, videos, records, films, animations, and more.Web pages often contain multimedia elements of different types and formats.

Browser Support

The first web browsers had support for text only, limited to a single font in a single color.

Later came browsers with support for colors, fonts, images, and multimedia!

Multimedia Formats

Multimedia elements (like audio or video) are stored in media files.

The most common way to discover the type of a file, is to look at the file extension.

Video and Audio

The HTML <video> Element

To show a video in HTML, use the `<video>` element:

The `controls` attribute adds video controls, like play, pause, and volume.

It is a good idea to always include `width` and `height` attributes. If height and width are not set, the page might flicker while the video loads.

The `<source>` element allows you to specify alternative video files which the browser may choose from. The browser will use the first recognized format.

The text between the `<video>` and `</video>` tags will only be displayed in browsers that do not support the `<video>` element.

HTML Audio

The HTML <audio> Element

The `controls` attribute adds audio controls, like play, pause, and volume.

The `<source>` element allows you to specify alternative audio files which the browser may choose from. The browser will use the first recognized format.

The text between the `<audio>` and `</audio>` tags will only be displayed in browsers that do not support the `<audio>` element.

HTML Geolocation API

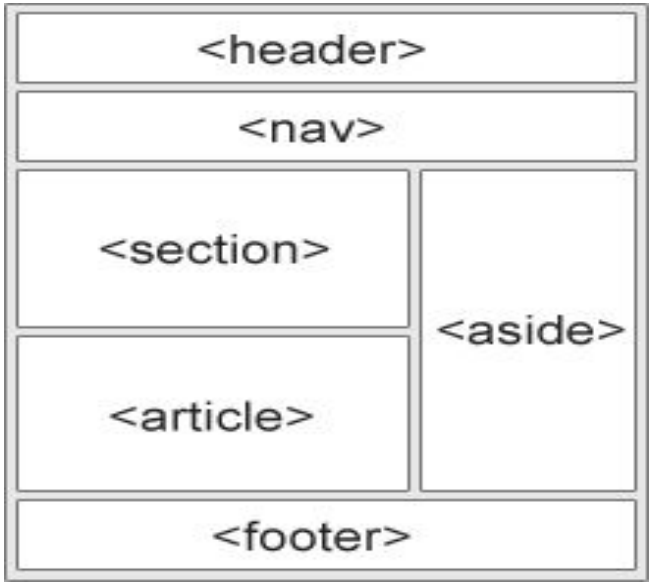
Locate the User's Position

The HTML Geolocation API is used to get the geographical position of a user.

Since this can compromise privacy, the position is not available unless the user approves it.

Map integration in html

HTML Layout Elements and Techniques



- `<header>` - Defines a header for a document or a section
- `<nav>` - Defines a set of navigation links
- `<section>` - Defines a section in a document
- `<article>` - Defines an independent, self-contained content
- `<aside>` - Defines content aside from the content (like a sidebar)
- `<footer>` - Defines a footer for a document or a section
- `<details>` - Defines additional details that the user can open and close on demand
- `<summary>` - Defines a heading for the `<details>` element

HTML Drag and Drop API

Drag and drop is a very common feature. It is when you "grab" an object and drag it to a different location.

HTML Quiz

https://www.w3schools.com/html/html_quiz.asp

Thank You !!!

HTML5 Training