



Module - 2

Front-End Development Tools, Technologies and Frameworks



Units for Discussion

Unit - 1 HTML 5 Fundamentals

Unit - 2 CSS Essentials and Layout Techniques

Unit - 3 JavaScript and DOM Manipulation

Unit - 4 BootStrap Framework



Unit - 5 React F

React Fundamentals

Units for Discussion











Learning Objectives

You will learn in this lesson:

- Learn the basic structure of an HTML document.
- Understand tags, elements, and attributes in HTML.
- Acquire knowledge of HTML5 fundamentals.
- Understand the differences between HTML 4 and HTML 5

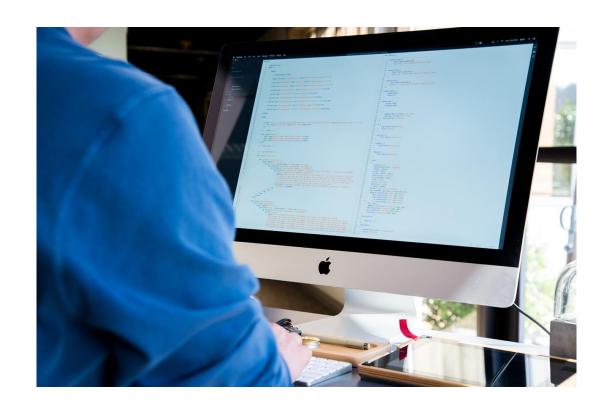




Introduction

HTML (Hypertext Markup Language) is the standard markup language used to create and design web pages and web applications. It provides the structure and content for a webpage and is essential for displaying text, images, multimedia, and interactive elements on the internet.

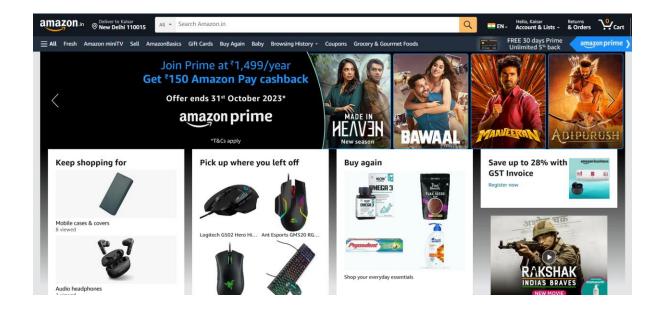
- HTML stands for Hyper Text Markup Language
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements are represented by tags





Use Case of HTML

- Scenario: Creating an Online E-commerce Store
- Creating a full-fledged online e-commerce platform requires HTML



Source: www.amazon.com/



Use Case of HTML

Structural Layout

HTML is used to define the overall structure of the product page. Elements like<header>, <main>,<section>, and<footer> are employed to create a well-organized layout.

Product Information

HTML is used to structure and present product details such as the product name, price, description, and images. Elements like <h1>, , , and help organize and information present in a readable manner

Customer Review

for customer reviews,
displaying ratings,
comments, and an option for
users to leave their reviews.
Elements like <article>,
<time>, and contribute
to a well-organized display of
reviews.



What is HTML?

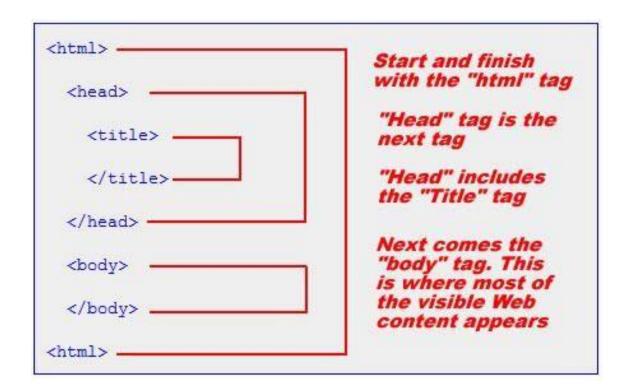
- "Hypertext" refers to the hyperlinks that an HTML page may contain.
- "Markup language" refers to the way tags are used to define the page layout and elements within the page.
- HTML page extension always will be .html





Structure of an HTML Document

- The <!DOCTYPE html> declaration defines this document to be HTML5
- The <html> element is the root element of an HTML page
- The <head> element contains meta information about the document
- The <title> element specifies a title for the document
- The <body> element contains the visible page content





HTML Layout

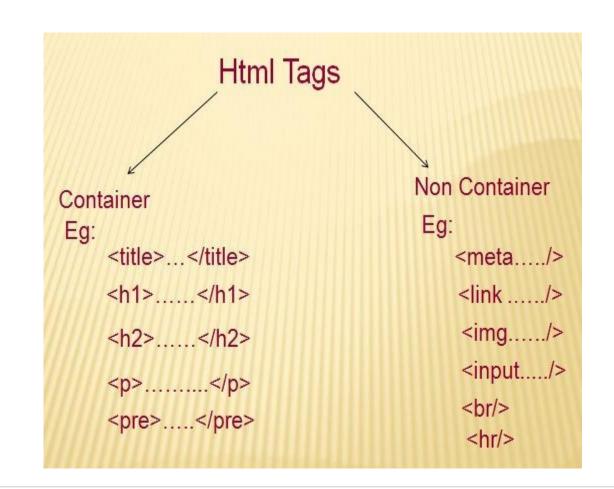
- Page layout is the part of graphic design that deals with the arrangement of visual elements on a page. Page layout is used to make the web pages look better.
- It establishes the overall appearance, relative importance, and relationships between the graphic elements to achieve a smooth flow of information and eye movement for maximum effectiveness or impact

	Header Section
	Navigation Bar
Index	Content section
	Footer Section



HTML Tags

- Heading
- Formatting
- Texts and Images
- Linking
- Table
- Div and Span
- Lists
- Audio and Videos
- HTML Forms and Input





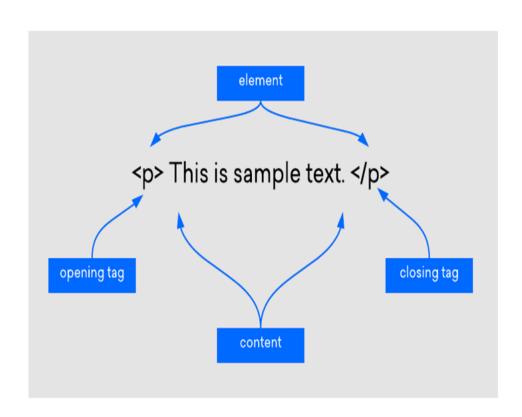
HTML Elements

 An HTML element is defined by a starting tag. If the element contains other content, it ends with a closing tag, where the element name is preceded by a forward slash.



Types of HTML Elements

- Empty elements
- Block-level elements
- Inline elements





HTML Attributes

HTML attributes provide additional information about HTML elements.

- All HTML elements can have attributes.
- Attributes are always specified in the start tag
- Attributes usually come in name/value pairs like: name= "value"

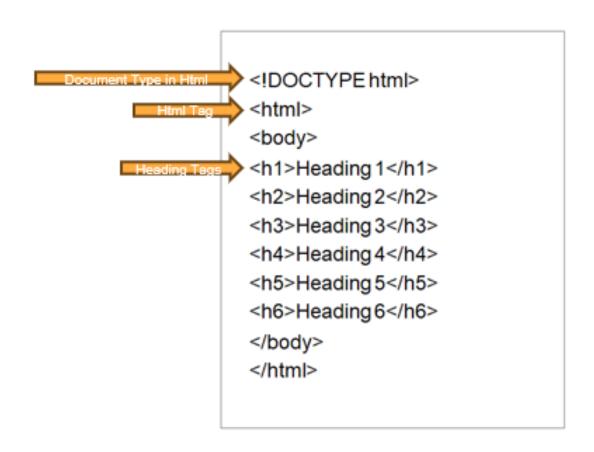
Syntax

<element attribute name="value">content</element>



Heading

- Headings are defined with the <h1> to <h6> tags.
- <h1> defines the most important heading.
- <h6> defines the least important heading.





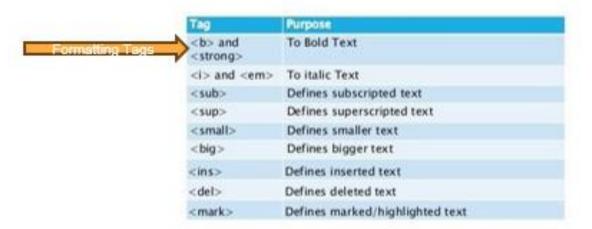
Formatting

• HTML also defines special **elements** for defining tex with a special **meaning**.

The formatting tags are divided into two categories:

- Physical tags, used for text styling (visual appearance of the text)
- Logical or semantic tags used to add semantic value to the parts of the text.

HTML TEXT FORMATTING





Images

- Images can improve the design and the appearance of a web page.
- Images are defined with the tag.
- It is an empty tag, means it does not have end tag.



Links

- HTML links are hyperlinks.
- When you move the mouse over a link, the mouse arrow will turn into a little hand.
- Internal Links
- An "Internal Link" is a link in your site that navigates the visitor to another page in your website.

Examples

- Internal link:

 my resume
 - Local Link:
 - * Go to page 2
 - Global link:
 - * Yahoo!
 - Link to email:
 - * E-mail at
 HTML.net



Tables

- The HTML tables allow displaying the data (e.g. image, text, link) in columns and rows of cells.
- The tag defines an HTML table.
- An HTML table consists of the
 element and one or more
 , , and
 - elements.

th tag usage	First_Name	Last_Name	Marks
tr tag usage	Sonoo	Jaiswal	60
	James	William	80
td tag usage	Swati	Sironi	82
	Chetna	Singh	72

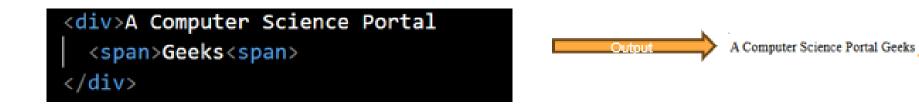


Span tag usage

HTML Tags and Attributes

Div and Span

<div> tag is used as a block part of the webpage tag is used as an inline part of the webpage.





Lists

A list is a record of short pieces of information.

For example:

- A shopping list
- To-do list





Type of Lists

- Unordered HTML List
- Ordered HTML List
- HTML Description Lists
- Nested HTML Lists





HTML Forms

- HTML form contains form elements.
- Form elements are different types of input elements, like:text fields, checkboxes, radio buttons, submit buttons and more.



	First name:
	John
	Last name:
Output	Doe
,	
	Submit



HTML Input

The <input> element is displayed in several ways, depending on the type attribute.

	Туре	Description
Input text tag	<input type="text"/>	Defines a single-line text input field
	<input type="radio"/>	Defines a radio button (for selecting one of many choices)
	<input type="submit"/>	Defines a submit button (for submitting the form)



HTML 5

HTML 5 is the latest standard for browsers to display and interact with web pages.

Features:

- Semantic elements
- Graphic elements
- Attributes of form elements
- Multimedia elements



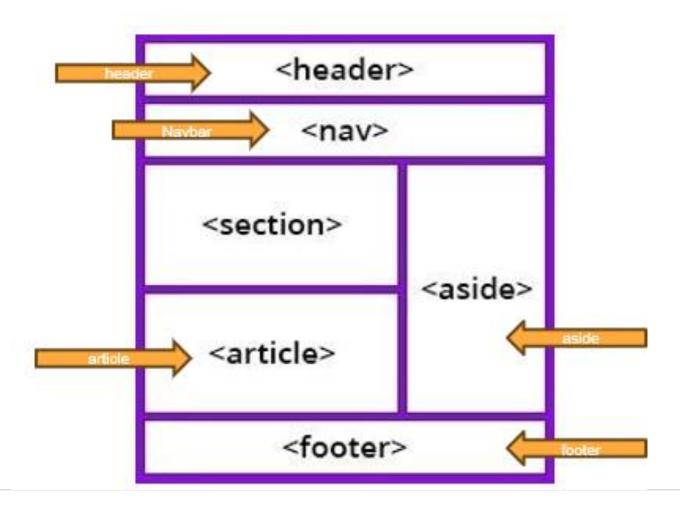


Page Layout-Semantic Elements

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

Semantic Elements:

- <header>
- <nav>
- <article>





Page Layout-Semantic Elements (Continued)

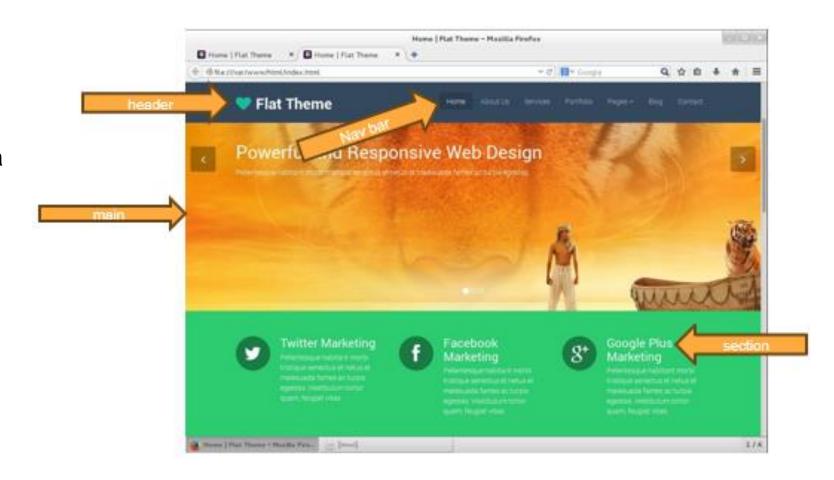
- <section>
- <aside>
- <footer>
- <address>
- <main>

```
<header>
 <h1>Welcome to Web123.com</h1>
  <nav>
    Home |
      About us |
      Contact us
      </nav>
</header>
<footer>
  © Copyright 2019. All rights reserved. 
</footer>
```



Page Layout

Page layout is the part of graphic design that deals with the arrangement of visual elements on a page.



Source: https://i.stack.imgur.com/hziSS.jpg



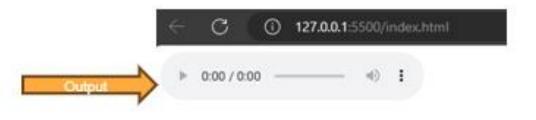
HTML5 Web Forms

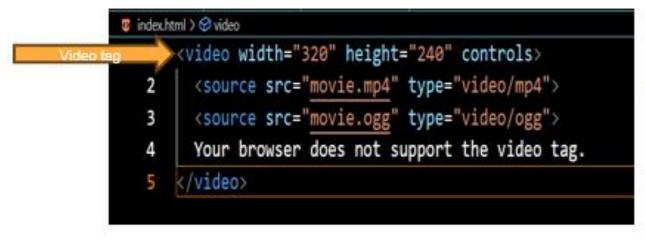
- HTML 5 Web Forms are used to design the web forms
- HTML 5 introduces several attributes, input types and elements for markup tool kit.

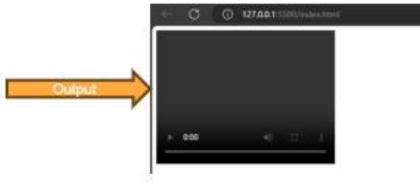














Lab Activity

Hands On

Lab 1 -

HTML Fundamentals





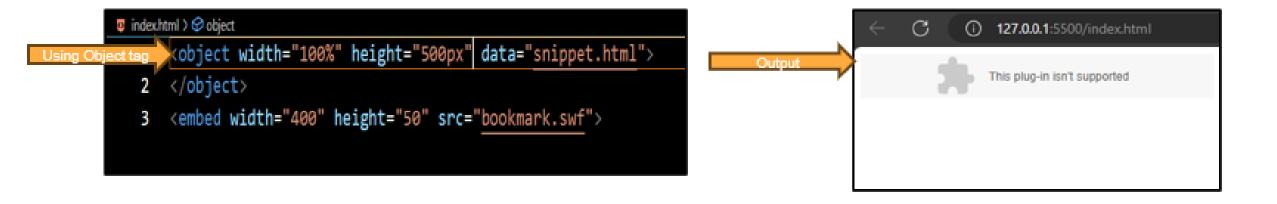
Scalable Vector Graphics

- SVG defines vector-based graphics in XML format.
- SVG stands for Scalable Vector Graphics.
- Every element and every attribute in SVG files can be animated



HTML Plug-ins

- Plug-ins can be added to web pages with the <object> tag or the <embed> tag.
- Plug-ins can be used for many purposes: display maps, scan for viruses, verify your bank id etc.





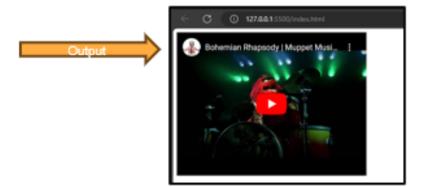
HTML5 Media

YouTube

 The easiest way to play videos in HTML is to use YouTube.

```
Using Norme tag

1 <iframe width="420" height="315"
2 | src="https://www.youtube.com/embed/tgbNymZ7vqY?
3 | autoplay=1"}
4 |
5 </iframe}
```





Lab Activity

Hands On

Lab 2 -

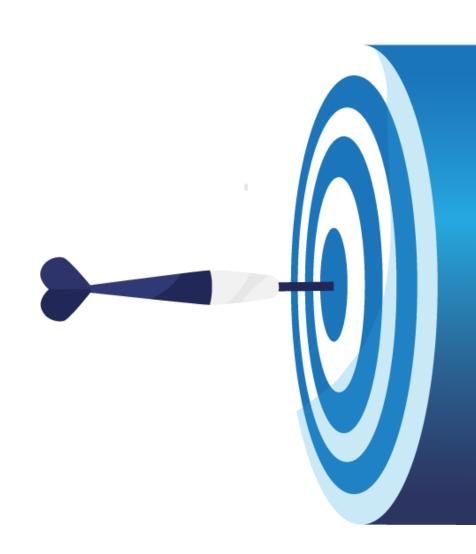
HTML Fundamentals





Summary

The "Introduction to HTML" provides a comprehensive overview of HTML, covering its fundamental concepts and practical applications. It begins with an introduction to HTML and its use cases, followed by an exploration of the structure of an HTML document. Students will learn about HTML tags and attributes through hands-on practice with basic HTML structures and tags. The unit also delves into the features of HTML5, offering practical experience with multimedia elements, semantic elements, and canvas elements. Additionally, students will engage in coding practice on online platforms to reinforce their understanding and proficiency in HTML.









1. What does HTML stand for?

- A) HyperText Markup Language
- B) Hyper Transfer Markup Language
- C) Hyperlink and Text Markup Language
- D) Home Tool Markup Language



Answer: A

HyperText Markup Language



2. What is the correct HTML tag for creating a hyperlink?

- A) <url>
- B) <link>
- C) <a>
- D) <hyperlink>



Answer: C

<a>>



3. Which HTML tag is used to define the main heading of a page?

- A) <header>
- B) <h1>
- C) <heading>
- D) <main>



Answer: B

<h1>



4. What is the correct HTML tag for inserting an image?

- A) <image>
- B)
- C) <picture>
- D) <src>



Answer: b



5. Which tag is used to create an unordered list in HTML?

- A)
- B) < 0 !>
- C) <list>
- D) <unordered>



Answer: A

<l



References

- https://www.w3schools.com/
- https://www.tutorialspoint.com/index.htm



Thank you!