

Tutorial 1: Getting Started with HTML5

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1 Objectives

- Explore the history of the web
- Create the structure of an HTML document
- Insert HTML elements and attributes
- Insert metadata into a document
- Define a page title
- Mark page structures with sectioning elements
- Organize page content with grouping elements
- Mark content with text-level elements
- Insert inline images
- Insert symbols based on character codes
- Mark content using lists
- Create a navigation list
- Link to files within a website with hypertext links
- Link to e-mail addresses and telephone numbers

2 Exploring the World Wide Web

1. What is a network?

A network is a structure in which information and services are shared among devices. A host or a node can be any device that is capable of sending and/or receiving data electronically.

2. What is a server and a client?

A server is a host that provides information or a service to other devices on the network. A computer or other device that receives a service is called a client. In a client-server network, clients access information provided by one or more users.

3. Types of Networks

- **Local Area Network (LAN):** A network confined to a small geographic area, such as within a building or department.
- **Wide Area Network (WAN):** A network that covers a wide area, such as several buildings or cities. The largest WAN in existence is the Internet.

3 Introducing HTML

1. What is HTML?

A Web page is a text file written in HTML (Hypertext Markup Language). A markup language describes the content and structure of a document by identifying, or tagging, different document elements.

2. The History of HTML

In the early years of HTML, browser developers were free to define and modify the language as no rules or syntax were defined. The World Wide Web Consortium (W3C) created a set of standards for all browser manufacturers to follow.

3. Differences between HTML and XHTML

XHTML (Extensible Hypertext Markup Language) is a different version of HTML enforced with a stricter set of standards. HTML5 was developed as the de facto standard for the next generation of HTML.

4 The Structure of an HTML5 Document

1. Document Type Declaration

The first line in an HTML file is the document type declaration, or doctype, that indicates the type of markup language used in the document:

```
<!DOCTYPE html>
```

2. Element Tags

An element tag is the fundamental building block in every HTML document that marks an element in the document. The general syntax of a two-sided element tag is:

```
<element>content</element>
```

3. The Element Hierarchy

An HTML document is divided into two main sections: the head and the body. The head element marks information about the document, while the body element marks the content that will appear in the web page.

```
<!DOCTYPE html>
<html>
<head>
  head content
</head>
<body >
  body content
</body>
</html>
```

4. Element Attributes

Element attributes provide additional information to the browser about the purpose of the element. The general syntax of an element attribute is:

```
<element attr1="value1" attr2="value2">content</element>
```

5. Handling White Space

HTML file documents are composed of text characters and white space. A white-space character is any empty or blank character such as a space, tabs, or a line break. You can use white space to make your file easier to read by separating one code block from another.

5 Creating the Document Head

1. Metadata

The document head contains metadata, which is the content that describes or provides information about how the document should be processed by the browser.

2. Setting the Page Title

To set the page title, use the following code:

```
<title>Your Page Title</title>
```

3. Adding Metadata

To add metadata, you can use the meta element:

```
<meta name="description" content="A brief description of the page.">
```

4. Adding Comments

A comment is descriptive text that is added to the HTML file but does not appear in the browser window:

```
<!-- This is a comment -->
```

6 Writing the Page Body

1. Sectioning Elements

HTML marks the major topical areas of a page using sectioning elements, also referred to as semantic elements. Examples include:

- **<header>**: Represents introductory content or a set of navigational links.
- **<nav>**: Contains navigation links.
- **<section>**: Defines a section in a document.
- **<article>**: Represents a self-contained piece of content.
- **<aside>**: Contains content that is tangentially related to the content around it.
- **<footer>**: Represents the footer for its nearest sectioning content or sectioning root element.

2. Grouping Elements

Grouping elements are used to group content together for styling or layout purposes. The most common grouping elements are:

- **<div>**: A generic container for flow content.
- ****: A generic inline container for phrasing content.
- **<figure>**: Represents self-contained content, often with a caption.
- **<figcaption>**: Represents a caption or legend for a figure.

3. Text-Level Elements

Text-level elements are used to mark content within a block of text. Examples include:

- ****: Indicates that its contents have strong importance.
- ****: Indicates emphasis that subtly changes the meaning of the sentence.

- `<a>`: Defines a hyperlink.
- `<code>`: Represents a fragment of computer code.
- `<mark>`: Represents text that has been highlighted for reference purposes.
- `<small>`: Represents side comments such as small print.
- `<time>`: Represents a specific period in time.

7 Working with Lists

1. Creating Lists

To create an unordered list:

```
<ul>
  <li>Item 1</li>
  <li>Item 2</li>
</ul>
```

To create an ordered list:

```
<ol>
  <li>First Item</li>
  <li>Second Item</li>
</ol>
```

2. Description Lists

A description list is created using:

```
<dl>
  <dt>Term</dt>
  <dd>Description of the term.</dd>
</dl>
```

8 Working with Hypertext Links

1. Creating Hyperlinks

Hypertext is created by enclosing content within a set of opening and closing `<a>` tags:

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

2. Linking to E-Mail Addresses

To create a link to an email address:

```
<a href="mailto:example@example.com">Email Us</a>
```

3. Linking to Phone Numbers

To create a link to a phone number:

```
<a href="tel:+1234567890">Call Us</a>
```