



## **Topic: Web Application & HTML Basics**

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## **Agenda:**

- What is web application?
- What is HTML?
- HTML Uses
- HTML Tags

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## What is web application?

A **web application** is a software program that you use through a web browser (like Chrome or Firefox) by visiting a website. Unlike traditional apps that you install on your computer, web apps run on remote servers and are accessed online. Examples include Gmail, Facebook, and online shopping sites.

We open a web browser, enter the web app's URL, and start using it. We interact with buttons and forms to perform tasks like shopping. The app processes our input and provides results, like account access. Since it's online, we can **use** it from any device with internet access.

**Frontend:** HTML, CSS, JavaScript.

**Backend:** Python, JavaScript (Node.js), PHP, Java, C#(Handle data and logic), SQL or NoSQL(Manage the database).

APIs: Help the frontend and backend communicate.

A web application is **made** by first planning what it should do and designing its look. Next, the user interface is built using HTML, CSS, and JavaScript. The backend is then set up, including the server, database, and logic. After integrating the frontend and backend, the app is launched online. Ongoing maintenance involves fixing bugs and updating the app as needed.

## What is HTML?

HTML (Hypertext Markup Language) is the standard language used to structure and display content on the web. It was invented by Tim Berners-Lee in 1993 to help share documents and data across the internet. HTML is essential for creating and organizing web pages, allowing text, images, and links to be shown in web browsers. You can write HTML using various text editors like Visual Studio Code, Sublime Text, or even basic ones like Notepad. To verify or validate HTML code, you can use online tools such as the [W3C Markup Validation Service](https://validator.w3.org/).

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## HTML Uses:

- Structuring web pages.
- Displaying text, images, and multimedia.
- Creating links and organizing content.
- Embedding videos, forms, and interactive elements.
- Supporting accessibility and SEO.
- Integrating with CSS, JavaScript, and web APIs.
- Providing metadata for search engines.

## HTML Tags:

1. `<!DOCTYPE html>`: Declares HTML5 version.
2. `<html lang="en">`: Root element, sets document language to English.
3. `<head>`: Contains meta-information about the page.
4. `<meta charset="UTF-8">`: Sets character encoding to UTF-8.
5. `<meta name="viewport" content="width=device-width, initial-scale=1.0">`:  
Ensures responsive design for mobile devices.
6. `<title>Document</title>`: Defines the title shown in the browser tab.
7. `<body>`: Contains all visible content on the page.
8. `<!-- Content -->`: HTML comment for developer notes.
9. `</html>`: Closes the HTML document.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Document</title>
</head>
<body>
  <!-- Content -->
</body>
</html>
```

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## HTML Tags:

- `<p>`: Paragraph of text.
  - `<strong>`: Important text, bold with semantic meaning.
  - `<span>`: Inline container for styling.
  - `<b>`: Bold text, no semantic importance.
  - `<br>`: Line break.
  - `<em>`: Emphasized text, italic with semantic meaning.
  - `<h1>` - `<h6>`: Headings, `<h1>` most important, `<h6>` least.
  - `<ul>`: Unordered list (bullets).
  - `<ol>`: Ordered list (numbers).
  - `<li>`: List item in `<ul>` or `<ol>`.
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## HTML Tags:

- `<nav>`: Defines navigation links or menus.
  - `id`: Unique identifier for an HTML element.
  - `class`: Assigns one or more classes to an element for styling or scripting.
  - `<div>`: Block-level container for grouping content.
  - `<section>`: Defines a section of content.
  - `<a>`: Creates a hyperlink.
  - `href`: Attribute specifying the URL for a link (`<a>`).
- ⇒ `<a href="img/img.jpg" download>`: Downloads a file.
- `<a href="mailto:hmsmiraz64729@gmail.com">`: Opens the email client.
- `<a href="tel:+8801835964977">`: Initiates a phone call.
- `<a href="https://www.google.com" target="_blank">`: Opens in a new tab.
- `<a href="https://www.google.com" target="">`: Opens in the same tab.



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## HTML Tags:

- `<link>`: Links external resources, such as stylesheets, to the HTML document.
- `<table>`: Creates a table.
- `<tr>`: Table row.
- `<th>`: Header cell.
- `<td>`: Data cell.
- `rowspan`: Merges a cell across rows.
- `border`: Sets table border.
- `caption`: Adds a table title.

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## HTML Tags:

- `<form>`: Container for form elements.
- `<label>`: Defines a label for form elements.
- `<input>`: Input field.
- `<select>`: Drop Down list.
- `<option>`: Option in a `<select>`.
- `<optgroup>`: Groups options in a `<select>`.
- `<datalist>`: Provides a list of predefined options for an `<input>`.
- `<fieldset>`: Groups related elements in a form.
- `<legend>`: Defines a caption for a `<fieldset>`.

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# Thank You