

# "WEB DEVELOPMENT"

WEB IS A SMALL ENTITY THAT BELONGS TO A BIGGER ENTITY CALLED INTERNET. SO , WEB CONSISTS OF VARIOUS INTERCONNECTED RESOURCES SUCH AS DOCUMENTS, TEXT ETC.. WHICH CAN BE ACCESSED USING INTERNET.

- Web development is a process by which you can create websites(webpages containing static content or that are read only eg...WIKIPEDIA OF MAHARANAPRATAP) and webapps(Dynamic in nature eg.. LINKED IN).
- Creating a web application involves three parts:- Frontend (which defines UI using html,css and js) , Backend (Brain of web app where all the logic is defined eg.. changing video quality) and database layers.

→ SOME IMPORTANT TERMS.

- **Network:-** A system which is a collection of various devices connected with each other for the purpose of sharing or exchanging resources. They are of various types PAN(Wifi hotspot of your mobile), LAN(Ethernet in schools),MAN(network connecting multiple cities), WAN(A bank and its branch offices)
- **INTERNET:-** Network of networks(Global system of various interconnected networks) eg..www(world wide web) is a subset of internet.
- **IP ADDRESS:-** Refers to unique address assigned to each device or system so that the data reaches to its intended destination. Command to find ip address

" nslookup google.com "

IPv4 (Internet Protocol version 4)

IPv6 (Internet Protocol version 6)

"The main difference between IPv4 and IPv6 is the address size of IP addresses."

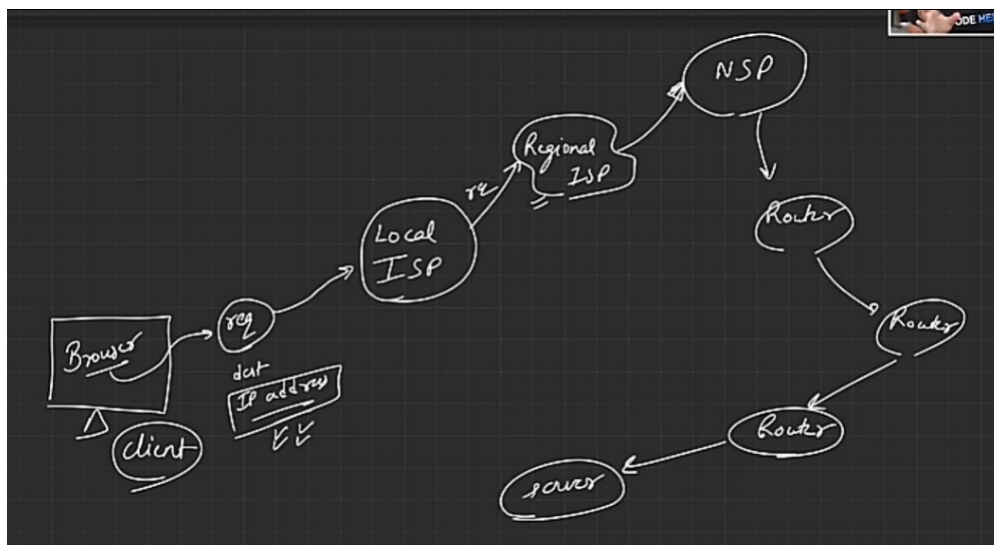


- **BROWSER:-** Tool which is used to access all the resources available on internet.
- **BROWSER ENGINE:-** Engine to run web applications, it makes the execution work possible. eg.. chrome used "**blink**" engine.
- **CLIENTS/SERVERS:-** The source computer or device which requests a service and receive response is called client while the one which sends response or fulfills request is called servers eg.. DB servers. (The Domain name "www.facebook.com" is converted into IP Address through domain name system with the help of DNS Servers and ISPS and the requested website is accessed.)
- The history of internet begins from 1960s by the creation of ARPANET in which data is sent by breaking it into smaller units called packets. In 1980s DNS came into picture leading to www.

NETWORK DEVICES:-

1. Router: Routes data between different networks.
2. Switch: Connects devices within a local network, forwarding data based on MAC addresses.
3. Hub: Connects multiple devices in a network, broadcasting data to all connected devices.
4. Firewall: Monitors and controls incoming/outgoing network traffic to enhance security.
5. Modem: Converts digital data from a computer into analog signals for transmission over communication lines.
6. Bridge: Connects two separate network segments, forwarding traffic between them.
7. Repeater: Extends the range of a wireless network by amplifying and retransmitting signals.
8. Gateway: Connects different types of networks, facilitating communication between them.

→ WORKING OF INTERNET:-

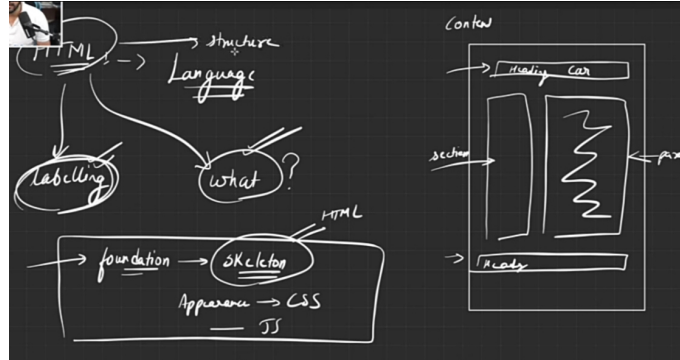


HTML (HYPER TEXT MARKUP LANGUAGE)

CSS (CASCADING STYLE SHEET)

# HTML (HYPER TEXT MARKUP LANGUAGE)

- HTML defines "what" or what is in the website. It defines the structure or skeleton of the webpage.

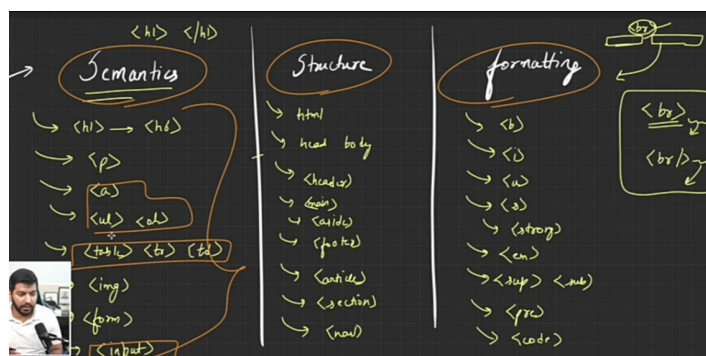


```
<!DOCTYPE html>
<!-- Defines types and version of documents : Html 5.0 -->
<html lang="en">
  <!-- Defines languages of content : English -->
  <head>
    <!-- Information about website and creator such as meta data , seo data and title-->
    <meta charset="UTF-8"> <!--Character encoding in which characters are mapped to numeric
    values in order to show them in digital form-->
    <meta http-equiv="X-UA-Compatible" content="IE=edge"><!--For standardization purpose
    so that the website looks similar in all webbrowsers-->
    <!-- Defines the compatibility of version with browser -->
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <!-- for make website responsive -->
    <meta name="author" content="Mr.X">
    <meta name="Linkedin profile" content="www.linkedin.com/Mr.X_123" >
    <!-- To give information about author or owner -->
    <meta name="description "
    content="A better place to learn computer science">
    <!-- to explain about website in few words -->
    <title>html page</title>
    <!-- Name of website or content to display -->
  </head>
  <body>
    <!-- Main content of website (the content which the user sees) -->
    <h1>html page</h1> <!--This full line is called html element and
    "<h1>" is called a tag-->
    <p>A demo version of html</p>
  </body>
</html>
```

## → TAGS:

Markup entities that defines structure ,meaning (semantics) and formatting to your content. Tags can be classified into two categories self-closing tags and closing tags.

## → Important basic tags:



```

<!--Heading tag (h1,h2,h3,h4,h5,h6) consecutive h7,h8....etc
are considered as paragraph.-->
<h1>This is my first biggest Heading having highest significance or importance.</h1>
<h2>Heding 2</h2>

<!--Anchor tag used to create hyperlinks to move from
one page to another-->
<a href="https://www.google.com">Click here</a>
<a href="#top">Jump to top section</a>
<a href="mailto:tejth@gmail.com">EMAIL</a>
<a href="tel:0082918331">Phone</a>

<!--Lists (ordered or unordered)-->
<ul style="list-style-type: none;">
  <li>MANGO</li>
  <li>BANANA</li>
  <li>GUAVA</li>
</ul>

<ol type="i"> <!--"type" is an attribute used to adjust
behaviour of an html element (Default type is (1.))-->
  <li>Step 1</li>
  <li>Step 2</li>
</ol>

<!--TABLE(data arranged in rows and columns or cells)-->
<table border="1">
  <thead>
    <th></th> <!--column-->
    <th></th>
    <th></th>
  </thead>

  <tbody>
    <tr> <!--row-->
      <td></td> <!--column-->
      <td></td>
      <td></td>
    </tr>
    <tr>
      <td></td>
      <td></td>
      <td></td>
    </tr>
  </tbody>

  <tfoot>
    <tr>
      <td></td>
      <td></td>
      <td></td>
    </tr>
  </tfoot>
</table>

<!--IMAGE-->


<!--PARAGRAPH-->
<p> <b>hy</b> <strong>bye</strong> </p>
"Strong is preffered as it works on text-to-speech"
<p> 2<sup>5</sup> is <br> 32 </p>

```

```

<!--Pre (spaces and lines are counted)-->
<pre>  hy
      hello
      bye
</pre>

<!--DIV TAG (NON-SEMANTIC TAG USED TO CREATE DIVISIONS
BASICALLY USED AS A CONTAINER FOR WRAPPING)-->
<div>
  <article> </article>
  <section> </section>
</div>

<!--FORMS:- Structure used to collect user input
(id attribute of input tag and for attribute of label tag must be equal)-->
<form>
  <fieldset>
    <legend>Dumy form</legend>
    <br>
    <label for="email">Enter email id:</label>
    <input type="text" placeholder="Enter email" id="email">
    <br>
    <br>
    <label for="date">Choose date:</label>
    <input type="date" id="date">
    <br>
    <br>
    <label for="password">Enter password:</label>
    <input type="password" placeholder="Enter password" id="Password">
    <br>
    <br>
    <label for="selector1">Choose your dish:</label>
    <select name="dishes" id="selector1">
      <option value="Maggie">Maggie</option>
      <option value="Kurdure">Kurdure</option>
      <option value="Chips">Chips</option>
    </select>
    <br>
    <br>
    <textarea name="write" id="write" placeholder="Give your d
escription..." id="" cols="30" rows="10"></textarea>
    <br>
    <br>
    <label for="radio1">Radio Button 1:</label>
    <input type="radio" name="radio" id="radio1">
    <label for="radio2">Radio Button 2:</label>
    <input type="radio" name="radio" id="radio2">
    <label for="radio3">Radio Button 3:</label>
    <input type="radio" name="radio" id="radio3">
    <br>
    <br>
    <label for="ck1">Hindi:</label>
    <input type="checkbox" name="chk" id="chk1">
    <label for="ck2">English:</label>
    <input type="checkbox" name="chk" id="ck2">
    <label for="ck3">others</label>
    <input type="checkbox" name="chk" id="ck3">
    <br>
    <br>
    <label for="file">Upload File:</label>
    <input type="file">
    <br>
    <br>
    <input type="Submit" value="Submit">
    <button>Click here</button>
    <input type="image" name="imagebt" id="imagebt" alt="click here" src="button.jpg">
    <br>
    <br>
  </fieldset>
</form>

<!--Media (Audio and Video and iframe for loading external document)-->
<audio src="" controls></audio>
<video src="https://www.youtube.com/embed/0oe7CF-TY_U?autoplay=1" height="100px" controls></video>
<iframe src="../../../Project 1/Project1.html" frameborder="0"></iframe> ("Load external Document")


<!--Adding fevicon, CSS AND JAVASCRIPT INSIDE HEAD TAG-->

```


```
<link rel="shortcut icon" href="/logo.png" type="image/x-icon">
<link rel="stylesheet" href="style.css">
<script src="script.js"></script>
```

Dummy form

Enter email id:

Choose date:  

Enter password:


Choose your dish:  

Give your description...

Radio Button 1: ☐ Radio Button 2: ☐ Radio Button 3: ☐

Hindi: ☐ English: ☐ others ☐

Upload File:  No file chosen

 click here

- **EMMET:-** Plugin or extension which is used to generate large code by writing short notations. eg.. " `p>p>p` " means paragraph inside paragraph inside paragraph , `article+section` will generate one article tag and one section tag, `p(this is my para)` will generate a paragraph with following text inside it , `table>(tr>td*5)*2` . " It is inbuilt in vscode.
- **CLASS AND ID ATTRIBUTES:-** "ID " Attribute (represented by #)uniquely identifies each html element such as roll number identifying different students. "CLASS" (represented by .)is use to identify a group of elements uniquely such as section-a of class identifies section a students uniquely. "AN element can have multiple classes but it should have only one unique key."
- **BLOCK AND INLINE ELEMENTS:-** "BLOCK" elements are elements which comes in next line or takes full width of a particular block from left to write eg.. `<div>`, `<p>`. " INLINE " elements takes the width required width needed by them eg.. `<span>`. "You can use background-color property to distinguish between block and inline elements." Remember height and width property of css doesnt works on inline elements.

**NOTE:-** YOU can convert a block element to inline element and vice-versa using display tag.

- **S.E.O(Search engine optimization):-** Helps you to keep your websites on top using meta tags.