What is web publishing?

Web publishing is the process of publishing original content on the Internet. The process includes building and uploading websites, updating the associated WebPages, and posting content to these WebPages online. Web publishing comprises of personal, business, and community websites in addition to e-books and blogs. The content meant for web publishing can include text, videos, digital images, artwork, and other forms of media. Publishers must possess a web server, web publishing software, and an Internet connection to carry out web publishing. Web publishing is also known as online publishing.

A publisher requires three things to publish content on the Internet:

- Website development software
- Internet connection
- A web server to host the website
- Web server is basically a computer that usually runs websites. Web hosting is basically a process of using a server to host a website.
- Web Hosting is a type of internet hosting that allows one to make their website available to users through WWW using the internet.

It simply provides space to the website on a web server so that files or data of the website can be stored

Web browser

- It is a software application that is used to access the world wide web(www)
 or as known by everyone on the Internet.
- It is an interface between us and the information available on the web.

- The web browser can be called a client program as it requests the web server for the information demanded by the user.
- Some of the common browsers are Google, Mozilla Firefox, Safari, Microsoft Edge, Opera etc.

How web browser works:

- When the web browser fetches data from an internet connected server, it uses a piece of software called a rendering engine to translate that data into text and images.
- This data is written in Hypertext Markup Language (HTML) and web browsers read this code to create what we see, hear and experience on the internet.

Web Browser Definition:

• A software application used to access information on the World Wide Web is called a Web Browser. When a user requests some information, the web browser fetches the data from a web server and then displays the webpage on the user's screen.

Functions of Web Browser:

Our dependency on the Internet has massively increased. Stated below are functions of web browsers and how are they useful:

- The main function is to retrieve information from the World Wide Web and making it available for users
- Visiting any website can be done using a web browser. When a URL is entered in a browser, the web server takes us to that website

- To run Java applets and flash content, plugins are available on the web browser
- It makes Internet surfing easy as once we reach a website we can easily check the hyperlinks and get more and more useful data online
- Browsers user internal cache which gets stored and the user can open the same webpage time and again without losing extra data
- Multiple webpages can be opened at the same time on a web browser
- Options like back, forward, reload, stop reload, home, etc. are available on these web browsers, which make using them easy and convenient

Types of Web Browser

- The functions of all web browsers are the same. Thus, more than the different types there are different web browsers which have been used over the years.
- Discussed below are different web browser examples and their specific features:

1. Worldwide Web

- The first web browser ever
- Launched in 1990
- It was later named "Nexus" to avoid any confusion with the World Wide Web
- Had the very basic features and less interactive in terms of graphical interface
- Did not have the feature of bookmark
- It was named "the world's first popular browser"

2. Netscape Navigator

- It was released in 1994
- In the 1990s, it was the dominant browser in terms of usage share
- More versions of this browser were launched by Netscape
- It had an advanced licensing scheme and allowed free usage for noncommercial purposes

3. Internet Explorer

- It was launched in 1995 by Microsoft
- By 2003, it has attained almost 95% of usage share and had become the most popular browsers of all
- Close to 10 versions of Internet Explorer were released by Microsoft and were updated gradually
- It was included in the Microsoft Windows operating system
- In 2015, it was replaced with "Microsoft Edge", as it became the default browser on Windows 10

4. Firefox

- It was introduced in 2002 and was developed by Mozilla Foundation
- Firefox overtook the usage share from Internet Explorer and became the dominant browser during 2003-04
- Location-aware browsing was made available with Firefox
- This browser was also made available for mobile phones, tablets, etc.

5. Google Chrome

- It was launched in 2008 by Google
- It is a cross-platform web browser
- Multiple features from old browsers were amalgamated to form better and newer features
- To save computers from malware, Google developed the ad-blocking feature to keep the user data safe and secure
- Incognito mode is provided where private searching is available where no cookies or history is saved
- Till date, it has the best user interface

Introduction to HTML

- HTML (Hyper Text Markup Language) is a simple markup language used to create or develop static web pages. A web page is a document that provides specific information to the user via a web browser (eg:Chrome, IE, etc.,). These web pages (documents) are written in HTML and are translated / executed by your web browser.
- Web pages can either be static or dynamic. Static pages display the same content every time we visit. These pages are written in HTML. In Dynamic Every time a page is accessed, its content is altered. Typically, these pages are created in scripting languages like PHP, ASP, JSP, etc.

Some other information about HTML

HTML is used to create or develop static web documents or web pages.

• HTML documents are plain text files, these are created by using text editor like notepad.

- HTML is Hypertext language because it supports font styled text, pictures, audio, video, graphics and animations.
- HTML is Markup language, which provides a set of tags suitable for making up WebPages.
- HTML is not a case-sensitive and it does not generate errors.
- HTML is a tag-based system. A tag is a special instruction for browser. A tag is made up of left operator (<), right operator (>) and a tag name between these two operators.

How to write HTML?

- HTML is an acronym of Hypertext Markup Language. It is used for creating web pages and web applications. HTML is widely used language on the web.
- Here, first, we are showing a step by step procedure to create an HTML page.
- Step 1 Open a text editor to write code.
- Although there are various text editors that can be easily downloaded for a beginner, the best text editor is Notepad (in Windows) and Text Edit (in Mac). In windows, the default text editor is Notepad, while in Mac, the default editor is Text Edit. In windows, we can open the Notepad editor by clicking the start and type notepad
- Step 2 Now, start writing HTML programs in the text editor. The HTML tags are enclosed within open tags (<>) and closed tags (</>). Suppose we have to create a paragraph, so in HTML, the paragraph is created by typing the open paragraph tag and then entering a closed paragraph tag

- Step 3: Save the file either with .html or with .htm extension, as shown in the below screenshot.
- Step 4: Now, you can execute your .html file. To do this, you have to go to the location where you have saved your file. Then select the corresponding file and right-click on it, and select the desired web browser to run the file.

After clicking the browser, a web page will be displayed showing the output of your file.

HTML Basic Tags

- HTML tags are like keywords which define that how web browser will format and display the content. With the help of tags, a web browser can distinguish between an HTML content and a simple content. HTML tags contain three main parts: opening tag, content and closing tag. But some HTML tags are unclosed tags.
- When a web browser reads an HTML document, browser reads it from top to bottom and left to right. HTML tags are used to create HTML documents and render their properties. Each HTML tags have different properties.
- An HTML file must have some essential tags so that web browser can differentiate between a simple text and HTML text. You can use as many tags you want as per your code requirement.
- All HTML tags must enclosed within < > these brackets.
- Every tag in HTML perform different tasks.
- If you have used an open tag <tag>, then you must use a close tag </tag>
 (except some tags
- HTML tags are used to structure website content (text, hyperlinks, images, media, etc).

Tags are not displayed in the browsers, they only "instruct" browsers how to show the content of the web page.

Syntax

<tag> content </tag>

Essential HTML Tags

- Every HTML document must have some essential tags so that a web browser can understand and display it correctly. These tags help web browsers distinguish between simple text and HTML text. Let's understand how many HTML tags are there.
- There are four essential HTML tags that form the basic structure for every HTML file:
- O <html></html>
- <head></head>
- <title></title>
- <body></body>
- Before we talk about the essential tags, let's learn about the HTML document declaration, i.e. <!DOCTYPE>.

<html></html>

- The <html> tag defines the document as a web page. It also specifies the beginning and end of the HTML document.
- It contains all HTML elements except the <!DOCTYPE html> declaration. All other other tags are nested between the <html> and </html> tags.

Syntax:

<html>Content</html>

<title></title>

• As the name suggests, the <title> tag specifies the title of the web page.
This tag is described in the head tag. The content in between the <title>...</title> tag appears on the tab or title bar in the browser window.

Syntax:

<title>Webpage Title</title>

<body></body>

- This tag contains all the information and other visible content that we want to display on the web page. All the images, links, plain text, videos, etc. go between the <body> and </body> tags.
- The body tag contains other tags such as the tag for paragraph, tag for bold text, <a> tag for images, tag for ordered list, etc.

Syntax:

<body> Content </body>

Basic HTML Tags

Apart from essential tags, an HTML document can have as many tags as you want to display your content properly. Using the basic tags, you can format content, add heading, align content, add sections, and do a lot more on a website. Here is the list of some of the commonly used basic HTML tags.

1. <h1></h1>

• This tag defines the HTML headings. The heading tag makes the text bigger and bold compared to the plain text. There are six heading tags in HTML: h1, h2, h3, h4, h5, h6. The <h1> tag represents the most important heading while <h6> is for the least important ones.

Example:

```
<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<h4>Heading 4</h4>
<h5>Heading 5</h5>
<h6>Heading 6</h6>
```

2.

This tag defines a paragraph. When we use the tag, the web browser automatically inserts a single blank line before and after each element to make the text more readable.

Example:

```
My first paragraph.
```

3.

- The image tag allows us to insert images into a web page. It has no closing tag. The attributes of the image tag include:
- src: the source file (src)

- alt: alternative text
- width
- height

Example:

```
<img src="naukrilearning.jpg" alt="naukri learning" width="100"
height="100">
```

Text Formatting Tags in HTML

• HTML provides many predefined elements that are used to change the formatting of text. The formatting can be used to set the text styles (like – bold, italic, or emphasized, etc.), highlight the text, make text superscript and subscript, etc.

Text tags

Page 4
Represents a paragraph

Example :This is a paragragh

O Defines bold text

Example: This is bold text.

• Defines emphasized text

Example:Content Goes Here.

Example :<i>Content Goes Here.</i>

Example :<small>Content Goes Here.</small>

Strong>Defines important text

Example: Important Content Goes Here.

Sub>Defines subscripted text

Example: X₂

Sup>Defines superscripted text

Example: X²

Example: <ins>Content Goes Here.</ins>

O Defines deleted text

Example :Content Goes Here.

• <mark>Defines marked/highlighted text

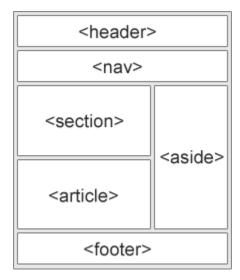
Example: <mark>Content Goes Here.</mark>

Semantic Elements in HTML5

Semantic elements: A semantic element clearly describes its meaning to both the browser and the developer. E.g.:<header>, <footer>, and <form> can tell the type of content by tag name.

Non-semantic elements: Unlike semantic elements, they don't have any meaning. They don't tell anything about the content they contain. They can be used with different attributes to mark up semantics common to a group. Following is the list of some non-semantic elements: div and span.

• A Semantic tag clearly describes its meaning to both the browser and the developer. For example, a developer knows content inside <navbar> is of the navigation bar, and the browser knows how to display it.



Example:

```
<article>
<h2>Today's highlights</h2>
First story
</article>
```

Example:

```
<aside>
<h4>India</h4>
India is a country in South Asia
</aside>
```

Example:

```
<details>
this is a detail tag. 
</details>
```

- <figcaption> Defines a caption for a <figure> element
- <figure>Specifies self-contained content, like illustrations, diagrams, photos, code listings, etc.

Example:

```
<figure>
<img src="HTML.jpg" style="width:100%">
<figcaption>HTML logo.</figcaption>
</figure>
```

• <footer>Defines a footer for a document or section

Example:

```
<footer>
<i>Written by:</i>XYZ
```

```
<i>Email id:</i><a href="mailto:XYZ@gmail.com</p"></a></a>
```

</footer>

• <header>Specifies a header for a document or section

Example:

```
<h2>HTML</h2>
Web site creation
```

</header

• <main>Specifies the main content of a document

Example:

```
<main>
<h1>Title</h1>
Content related to title.
</main>
```

• <mark>Defines marked/highlighted text

Example:

```
Highlighted text = <mark>HTML tips</mark>
```

• <nav>Defines navigation links

Example:

```
<nav>
<a href="htmltutorial.html">HTML</a> |
<a href="javatutorial.java">Java</a> |
<a href="phptutorial.php">PHP</a> |
<a href="csstutorial.css">CSS</a>
</nav>
```

Section > Defines a section in a document

Example:

```
<section>
<h2>HTML</h2>
Web site Creation
</section>
```

● <summary>Defines a visible heading for a <details> element

Example:

```
<details>
<summary>Summary goes here</summary>
</details>
```

<ti><time>Defines a date/time

Example:

```
Our flight is scheduled on
<time datetime="2021-12-20">December 20th, 2021</time>
at<time datetime="18:00">6:00pm</time>.
```

Link tags

- HTML links or hyperlinks connect one resource on the web to another. The resource may be an image, a web page, a program, a video clip, an audio clip, an element within a web page, etc, or anything that can be hosted on the internet.
- HTML <link> tag is used to specify the relationship between the current document and external source.
- The tag is commonly used to link the external Style sheet for the current document, but it can also use with link site icons. It is placed on the head section of the document.
- The HTML <a> tag defines a hyperlink.
- It has the following syntax:link text
- Use the <a> element to define a link
- Use the href attribute to define the link address.
- The link text is the part that will be visible to the reader.
- Use the target attribute to define where to open the linked document
- By default, the linked page will be displayed in the current browser window.

Use an Image as a Link

• To use an image as a link, just put the tag inside the <a> tag:

Link to an Email Address

• Use the mailto: scheme inside the href attribute to create a link that opens the user's email program

Image Tag in HTML

- Images play an important role in webpages. The total look of a webpage is improved using images.
- Images can be embedded inside html document using tag. Minimum it requires a parameter i.e "src", which indicates source of image.
- tag is used to display image on the web page. tag is an empty tag that contains attributes only, closing tags are not used in HTML image element.

```
<img src="download.jpg" alt="HTML" width="200px" height="150px">
```

Attributes of tag:

- The src and alt are important attributes of HTML img tag. All attributes of HTML image tag are given below.
- src: It is a necessary attribute that describes the source or path of the image.
 It instructs the browser where to look for the image on the server. The location of image may be on the same directory or another server.

 alt: The alt attribute defines an alternate text for the image, if it can't be displayed. The value of the alt attribute describes the image in words.

- width: It is an optional attribute which is used to specify the width to display the image. It is not recommended now. You should apply CSS in place of width attribute.
- height: It specifies the height of the image. The HTML height attribute also supports iframe, image and object elements. It is not recommended now. You should apply CSS in place of height attribute.

Hyperlinks in HTML

- A hyperlink, also called a link or web link, contains an address for a destination and acts as a reference to data. A user can easily follow, jump to, and be directed to the destination by clicking, tapping on, or hovering over the link.
- A hyperlink can be a piece of text, an image, an icon, or a graphic that, when you click on it, points to and navigates you to a different webpage or document. It can also point to a specific section or element within the same webpage or document.

Example:

 Home Page

Let's break it down:

• The link element has an opening <a> and closing tag.

- The text the users see and can click on is between the opening and closing a tags − in this case freeCodeCamp Home Page. It's called link text and it should be descriptive of where the link goes.
- On the opening tag, <a>, an href attribute is added, which is short for hypertext reference. The value of the href attribute specifies the desired URL you want the link to take users to when the link text is clicked.
- Don't forget the equals sign = and quotation marks "" that go along with the href attribute.
- By default, the text will have a blue color with an underline. You can change this, however, by adding different CSS styles.

Frames in HTML

- Generally the browser window can be used to display the one or more documents at a time. The window can be divided into rectangular areas, each of which is a "frame".
- By using <frameset> tag, we can specify the number of frames and their layout.i.e,A set of frames are defined using <frameset> tag which ends with </frameset> tag.
- A < frameset > tag takes the place of the < body > tag.i.e a HTML document
 has either a < body > or < frameset > tag, but can't both.
- The <frameset> tag must have either a "rows" or "cols" attribute and they often have both
- rows: This attribute specifies the number of rows of frames that will occupy the window.

 cols: This attribute specifies the number of columns of frames that will occupy the window.

Example:

```
<frameset rows="20%,80%">
<frame src="form1.html" name="f1" />
<frame src="form2.html" name="f2"/>
</frameset>
```

HTML iframes

- HTML Iframe is used to display a nested webpage (a webpage within a webpage). The HTML <iframe> tag defines an inline frame, hence it is also called as an Inline frame.
- An HTML iframe embeds another document within the current HTML document in the rectangular region.
- The webpage content and iframe contents can interact with each other using JavaScript.
- Iframe is an inline frame and it is also used as <iframe> tag in HTML.
- Inline frame means it is used to embed some other document within the current HTML document.
- It can appear anywhere in your document.
- <iframe> tag defines a rectangular region within the document in which the browser can display a separate document.

Iframe Syntax

An HTML iframe is defined with the <iframe>

<iframe src="URL"></iframe>

- Here, "src" attribute specifies the web address (URL) of the inline frame page.
- The purpose of iFrames is to allow content to be shared from other websites. If you wish to provide the readers with context about a certain topic, you can include an iframe tag. <iframe> tags can be used to insert an iframe element into an HTML document. In notepad, copy and paste the following code, then save the page as a .html file:

Example:

<iframe src="https://www.youtube.com" width="100"height="100"> I-Frame Video></iframe>

List Tags in HTML

• HTML List is a collection of items and they may be ordered or unordered. All lists may contain one or more list elements. In other words a list is a record of short pieces of information, such as people's names, fruit's names and etc.

Example:

- Apple
- Mango

Banana

HTML provides 3 types of lists, those are

- Ordered List (----)
- Output
 Unordered List (-----)
- Openition List (<dl> -----</dl>)

1. Ordered List (----):

- This is used to display the list of items in a order. An order can be the numbers or roman numbers or alphabets.
- This list has one inbuilt tag i.e ---- , it used to specify the list items.
- In this list the default order is numeric, and we can able to specify the order by
 using type attribute.

```
Ex: type="A" (or) type="I" (or) type="a"
```

Example:

< 0 |>

Orange

Grape

</01>

2. Unordered List (----) :

- This is used to display the list of items by using different symbols.
- This list has one inbuilt tag i.e <Ii> ---- </Ii>, it used to specify the list items.
- In this list the default symbol is dot(.), and we can able to specify the symbol by
 using type attribute.

```
Ex: type="square" (or) type="star"
```

Example:

```
Orange
Grape
```

3. Definition List (<dl> ---- </dl>) :

- The definition list is used to specify list of terms and their definitions.
- It has the following inbuilt tags

```
<dl> tag specifies the definition list.
```

<dt> tag specifies the defined term.

<dd> tag specifies the definition for term.

Example:

Table Tags in HTML

- A table is a matrix of rows and columns. The HTML table provides a highly readable way of presenting many kinds of information .i.e by using table we can present information in structuring format.
- HTML tables are used to manage the layout of the page e.g. header section, navigation bar, body content, footer section etc. but it is recommended to use div tag over table to manage the layout of the page.

The basic table tags:

It indicates the starting of the table. The most common attribute for tag is border, And it has different attributes like height, width....,

It is used to give table heading(column header).

• ----

It is used to start a table row.

It indicates a table data or a cell.

<caption>----</caption>

It is used to insert caption into table.

Commonly used Attributes in table

- align: It specifies alignment of table.i.e, left or center or right.
- border: It specifies border of table in pixels.
- height: It sets amount of screen that table will use in the factor of height.
- width: It sets amount of screen that table will use in the factor of width.
- cellpadding: It specifies the space between content of cell and its border.
- cellspacing: It specifies the space between content of cells.
- colspan: It is used combine two or more columns.
- rowspan: It is used to combine two or more rows.

Forms in HTML

Form is the most common way for a user to communicate the information from a web browser to server.

- <form> tag is used to create a HTML form. This tag has several attributes and important among them are "method" and "action".
 - Action: This attribute specifies the URL of the application, which is to be called when the user clicks the submit button (or) submitting the form.
- Method: This attribute specifies how the entered data in form is sent to destination. There are two methods of sending information, one is "post" and other is "get".
- An HTML form is a section of a document which contains controls such as text fields, password fields, checkboxes, radio buttons, submit button, menus etc.
- An HTML form facilitates the user to enter data that is to be sent to the server for processing.
- HTML forms are required if you want to collect some data from of the site visitor.
- An HTML form is used to collect user input. The user input is most often sent to a server for processing.
- <form> is an HTML element to collect input data containing interactive controls.

Form is a container that contains input elements like text, email, number, radio buttons, and checkboxes, submit buttons, etc.

- Forms are generally used when you want to collect data from the user. For example, a user wants to buy a bag online, so he/she has to first enter their shipping address in the address form and then add their payment details in the payment form to place an order.
- HTML form elements are used to capture user input. There are many different types of form elements such as the text box, check box, drop down, submit button, and much more.

• HTML <input> tag

The HTML <input> tag defines the field where the user can enter data.

Example:

```
<input type="text" name="firstname">

Here,

type - determines the type of input the <input> tag takes

name - specifies the name of the input
```

• HTML <button> tag

The HTML <button> element is an interactive element that is activated by a user with a mouse, keyboard, finger, voice command, or other assistive technology. It performs a programmable action, such as submitting a form or opening a dialog when clicked. For example,

Example:

<button type="button">Click me</button>

• HTML <textarea> tag

The HTML <textarea> tag is used to define a customizable multiline text input field. For example,

Example:

<textarea rows="10" cols="30"> Type something...</textarea>

Password Input

The password input is essentially the same thing as the Text Box input; however, it does not show the text as the user types.

Example:

<input type="password" name="password">

Oheck Box

A check box is exactly what it sounds like, it's a box that you can click and it can be checked or unchecked. When the check box is checked you are setting the check box to true. Otherwise if it is unchecked you are saying that it is false. Take a look at how we can create an HTML check box below:

Example:

```
<input type="checkbox" name="html">HTML
<input type="checkbox" name="Python">PYTHON
```

• Radio Input

A radio select input allows a user a specific amount of options to select from. You can think of this like a multiple choice select. The user can only select one of the options. Take a look at how to create Radio Select Inputs in HTML:

Example:

```
<input type="radio" name="name1" value="gender">Male<br>
<input type="radio" name="name2" value="gender">Female<br>
```

HTML Date

The **date** is the value of the **type** attribute of an **<input>** element. It creates a calendar that allows a user to choose the date. The resulting value includes the **day, month**, and **year**.

Syntax:

```
<input type="Date">
```

Example:

Date of Joining: <input type = "date">

• HTML Time

The <input> tag with a type="time" attribute creates an input field that accepts a time value.

Inside this field is a clock icon. Clicking this icon opens a time picker.

Example:

Select Time: <input type="time" name="time">

• Email

The <input> tag with a type="email" attribute creates a text field for email addresses.

The input will be validated when the form is submitted.

Example:

```
<input type="email" name="email"

placeholder="Enter a gmail address"

pattern=".+@gmail.com">
```