

# UNIT-2

## **Introducing HTML5**

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# HTML5

- The HTML5 specification not only embraces the past, by supporting traditional HTML- and XHTML-style syntax, but also adds a wide range of new features.
- HTML5 tries to bring order to chaos by codifying common practices, embracing what is already implemented in browsers, and documenting how these user agents (browsers or other programs that consume Web pages) should deal with our imperfect markup.

# HTML5 Hello World

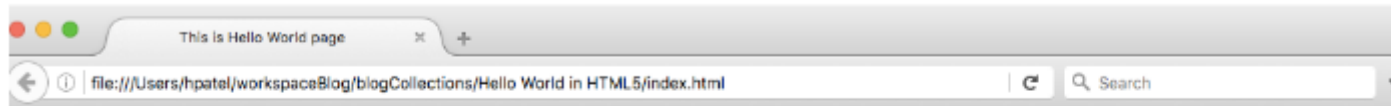
```
<!DOCTYPE html>
<html>
<head>
  <title>This is Hello World page</title>
</head>
<body>
  <h1>Hello World</h1>
</body>
</html>
```

# Explanation

1. `<!DOCTYPE html >` tells browser that given html document follows W3C HTML5 Standards.
2. Content inside `<head>` tag are not rendered but it has meta information about the page. `<title>` tag indicated title of the page and it is shown in the browser's top bar.
3. `<body>` tag contains portion of the page which is rendered to the browser.

# Output:

Go to the location where you saved index.html file and open it with any browser.



**Hello World**

# DIFFERENCES

HTML	HTML5
<ul style="list-style-type: none"><li>• It didn't support audio and video without the use of flash player support.</li></ul>	<ul style="list-style-type: none"><li>• It supports audio and video controls with the use of &lt;audio&gt; and &lt;video&gt; tags.</li></ul>
<ul style="list-style-type: none"><li>• &lt;HTML&gt;, &lt;Body&gt; , and &lt;Head&gt; tags are mandatory while writing a HTML code.</li></ul>	<ul style="list-style-type: none"><li>• These tags can be omitted while writing HTML code.</li></ul>
<ul style="list-style-type: none"><li>• Elements like nav, header were not present.</li></ul>	<ul style="list-style-type: none"><li>• New element for web structure like nav, header, footer etc.</li></ul>
<ul style="list-style-type: none"><li>• Doctype declaration is too long and complicated.</li></ul>	<ul style="list-style-type: none"><li>• Doctype declaration is quite simple and easy.</li></ul>
<ul style="list-style-type: none"><li>• It is almost impossible to get true GeoLocation of user with the help of browser.</li></ul>	<ul style="list-style-type: none"><li>• One can track the GeoLocation of a user easily by using JS GeoLocation API.</li></ul>
<ul style="list-style-type: none"><li>• It can not handle inaccurate syntax.</li></ul>	<ul style="list-style-type: none"><li>• It is capable of handling inaccurate syntax.</li></ul>

# Loose Syntax Returns

- An interesting aspect of HTML5 is the degree of syntax variability that it allows.
- Unlike , XHTML, the traditional looseness of HTML is allowed.
- To demonstrate, in the following example, quotes are not always employed, major elements like html, head, and body are simply not included, the inference of close of tags like and is allowed, case is used variably,

# This html5 works fine without proper tags:example

```
<!DOCTYPE html>
<!-- I have no html, head, or body as they are actually optional -->
<meta http-equiv=Content-Type content="text/html; charset=utf-8">
<title>HTML5 Tag Soup Test</title>
<h1 title="more sloppy markup ahead!">HTML5</H1>
<p id=p1>Back to the future of loose markup!?
<p>Yes it looks that way
<ul>
  <li>optional elements
  <LI>case is no problem
  <li id=noquotes>quotes optional in many cases
  <li>inferred close tags
</UL>
<p>Oh my
<br>
<br />
<p>Intermixing markup styles!
<!-- ok that's enough let's stop now -->
```



## To ensure that you conform to the HTML5 specification, you should be concerned primarily about the following

- Make sure to nest elements, not cross them; so  
`<b><i>is in error as tags cross</b></i>`  
whereas  
`<b><i>is not since tags nest</i></b>.`
- Quote attribute values when they are not ordinal values, particularly if they contain special characters, particularly spaces; so  
`<p id=p1>Fine with no quotes</p>`  
because it is a simple attribute value, whereas  
`<p title=trouble here with no quotes>Not ok without quotes</p>`  
is clearly messed up.
- Understand and follow the content model. Just because one browser may let you use a list item anywhere you like,  
`<li>I should be in a list!</li>`  
it isn't correct. Elements must respect their content model, so the example should read instead as  
`<ul><li>All is well I am in a list!</li></ul>`  
because it follows HTML5's content model.

# Continued.....

- Do not use invented tags unless they are included via some other markup language:

`<p>I <danger>shouldn't</danger> conform unless I am defined in another specification and use a name space</p>`

- Encode special characters, particularly those used in tags (< >), either as an entity of a named form, such as `&lt;`, or as a numeric value, such as `&#60;`. Appendix A covers this topic in some depth.

# What is XHTML?

- XHTML stands for **EX**tensible **H**yper**T**ext **M**arkup **L**anguage
- XHTML is a stricter, more XML-based version of HTML
- XHTML is HTML defined as an XML application
- XHTML is supported by all major browsers

# Why XHTML?

- XML is a markup language where all documents must be marked up correctly (be "well-formed").
- XHTML was developed to make HTML more extensible and flexible to work with other data formats (such as XML). In addition, browsers ignore errors in HTML pages, and try to display the website even if it has some errors in the markup. So XHTML comes with a much stricter error handling.

# XHTML5

```
<?xml version="1.0" encoding="UTF-8"?>
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>Hello XHTML5 World</title>
<!-- Simple hello world in XHTML5 -->
</head>
<body>
<h1>Welcome to the World of XHTML5</h1>
<hr />
<p>XHTML5 <em>really</em> isn't so hard either!</p>
<p>HTML5 likes XML syntax too.</p>
<p>Make sure to serve it with the correct MIME type!</p>
<!-- IE users you will get a render error.
      Please read on to learn why. -->
</body>
</html>
```

# The Most Important Differences from HTML

- `<!DOCTYPE>` is **mandatory**
- The `xmlns` attribute in `<html>` is **mandatory**
- `<html>`, `<head>`, `<title>`, and `<body>` are **mandatory**
- Elements must always be **properly nested**
- Elements must always be **closed**
- Elements must always be in **lowercase**
- Attribute names must always be in **lowercase**
- Attribute values must always be **quoted**
- Attribute minimization is **forbidden**

# XHTML - <!DOCTYPE ....> Is Mandatory

An XHTML document must have an XHTML <!DOCTYPE> declaration.

The <html>, <head>, <title>, and <body> elements must also be present, and the xmlns attribute in <html> must specify the xml namespace for the document.

## Example

Here is an XHTML document with a minimum of required tags:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <title>Title of document</title>
  </head>
  <body>

    some content here...

  </body>
</html>
```

# Important features of xhtml



# NESTING

## XHTML Elements Must be Properly Nested

In XHTML, elements must always be properly nested within each other, like this:

Correct:

```
<b><i>Some text</i></b>
```

Wrong:

```
<b><i>Some text</b></i>
```

# XHTML Elements Must Always be Closed

In XHTML, elements must always be closed, like this:

Correct:

```
<p>This is a paragraph</p>  
<p>This is another paragraph</p>
```

Wrong:

```
<p>This is a paragraph  
<p>This is another paragraph
```

# XHTML Elements Must be in Lowercase

In XHTML, element names must always be in lowercase, like this:

Correct:

```
<body>  
<p>This is a paragraph</p>  
</body>
```

Wrong:

```
<BODY>  
<P>This is a paragraph</P>  
</BODY>
```

# XHTML Attribute Names Must be in Lowercase

In XHTML, attribute names must always be in lowercase, like this:

Correct:

```
<a href="https://www.w3schools.com/html/">Visit our HTML tutorial</a>
```

Wrong:

```
<a HREF="https://www.w3schools.com/html/">Visit our HTML tutorial</a>
```

# XHTML Attribute Values Must be Quoted

In XHTML, attribute values must always be quoted, like this:

Correct:

```
<a href="https://www.w3schools.com/html/">Visit our HTML tutorial</a>
```

Wrong:

```
<a href=https://www.w3schools.com/html/>Visit our HTML tutorial</a>
```

# XHTML Attribute Minimization is Forbidden

In XHTML, attribute minimization is forbidden:

Correct:

```
<input type="checkbox" name="vehicle" value="car" checked="checked" />  
<input type="text" name="lastname" disabled="disabled" />
```

Wrong:

```
<input type="checkbox" name="vehicle" value="car" checked />  
<input type="text" name="lastname" disabled />
```