

Web Development Tasks

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Semantic and it's important for SEO & Screen readers?

Semantic HTML means using elements that describe their purpose. Instead of stuffing everything into `<div>`, you use elements like `<article>` for blog posts, `<nav>` for navigation, and `<section>` for grouped content.

- **Without semantics:** A soup of `<div>` elements that tell you nothing.
- **With semantics:** Clear, structured, and easy-to-read HTML that benefits both users and search engines.

Bad (Non-Semantic HTML):

```
<div class="container">
  <div class="nav">Home | About | Contact</div>
</div>
```

Better (Semantic HTML):

```
<nav>
  <a href="index.html">Home</a> |
  <a href="about.html">About</a> |
  <a href="contact.html">Contact</a>
</nav>
```

Why Should You Care About Semantic HTML?

1. SEO Benefits

Search engines like Google love structure. Proper HTML helps them understand and rank your content better.

- Better indexing → Your pages get discovered faster.
- Rich snippets support → Boosts visibility in search results.
- Improved keyword relevance → Helps with rankings.

Accessibility Matter

Using semantic tags improves screen reader navigation, making your site inclusive for visually impaired users.

- Easier navigation for screen reader
- Better support for assistive technologies
- Improved keyboard accessibility

The Power of Metadata & Social Sharing?






Metadata → Definition & Usage

A meta description in HTML is a short summary of a web page's content, intended for search engines and other web services **to understand the page's purpose**. It is defined within the `<head>` section of an HTML document using the `<meta>` tag with the `name` attribute set to "description".

Metadata is used by browsers (how to display content or reload page), search engines (keywords), and other web services.

There is a method to let web designers take control over the viewport (the user's visible area of a web page), through the `<meta>` tag (See "Setting The Viewport" example below).

Browser Support

Element					
<code><meta></code>	Yes	Yes	Yes	Yes	Yes

Example

`<meta name="keywords" content="HTML, CSS, JavaScript">` : → Define keyword for search engines

`<meta name="description" content="Free Web tutorials for HTML and CSS">` : →

Define a description of your web page

`<meta name="author" content="John Doe">` :➔ Define the author of a page

`<meta name="viewport" content="width=device-width, initial-scale=1.0">` :➔

Setting the viewport to make your website look good on all devices



Without using viewport meta tag



with using viewport meta tag

The Role of Meta Tags in Social Media Link Previews➔

When a website link is shared on social media platforms such as Facebook, LinkedIn, or WhatsApp, the platform automatically tries to generate a preview card that includes a title, description, and image. These previews help users understand what the webpage is about before clicking on it.



Meta Tags inside the `<head>` of an HTML document play a major role in controlling how this preview looks.

Open Graph Meta Tags (OG Tags)

The **Open Graph Protocol** is a standard created by **Facebook** that allows websites to define how their content appears **when shared on any social platform**.

Example

`<head>`

```
<meta property="og:title" content="Custom Page Title">
```

```
<meta property="og:description" content="A description that will appear in the preview card.">
```

```
<meta property="og:image" content="https://example.com/preview-image.jpg">
```

```
<meta property="og:url" content="https://example.com">
```

```
<meta property="og:type" content="website">
```

`</head>`

Purpose:

- Improve click-through rate because the preview looks professional
- Help platforms understand the page content more accurately

Twitter Cards:

Twitter uses its own metadata standard called **Twitter Cards**. They work similarly to Open Graph but are designed specifically for Twitter.

Example:

```
<meta name="twitter:card" content="summary_large_image">
<meta name="twitter:title" content="My Custom Title">
<meta name="twitter:description" content="Short description for Twitter
preview.">
<meta name="twitter:image" content="https://example.com/image.jpg">
```



Types of Twitter Cards:

There are 5 types of Twitter Cards:

- **Summary Card** → used for blog posts, news, product pages or any other business news
- **Summary Card with large image** → it allows to feature a more compelling image in full-width to better attract viewers on your website.
- **Player Card** → created in order to promote streaming media like video or audio player inside your tweet.
- **App Card** → used to promote mobile apps on Twitter and increase installs.

How to Make a Specific Image & Custom Title Appear in the Preview Card?

- Add OG Tags in `<head>`
- (Optional) Add Twitter Card Tags
- Make Sure the Image URL Is Public

The preview image must be:

- hosted online
- accessible by anyone
- at least **1200×630 pixels** (for best results)

Test Your Preview

Tools:

- Facebook Sharing Debugger
- Twitter Card Validator
- LinkedIn Post Inspector
- These tools show you how your page will look when shared.



The Logic of File Paths:

→ A file path describes the location of a file in a web site's folder structure.

Absolute File Paths:

→ An absolute file path is the full URL to a file

```

```

Relative File Paths:

→ A relative file path points to a file relative to the current page.

```

```

↓
The file path points to a file in the images folder located at the root of the current website

```

```

↓
The file path points to a file in the images folder located in the current folder

```
|
```

↓
The file path points to a file in the images folder located in the folder one level up from the current folder

When to use ./ and when to use ../?

use ./ → when the file you want to reach is in the **same folder** as your current HTML file.

★ Using ./ is optional.

use ../ → when the file you want is in the **parent folder** (one level above the current folder)

What happens if you move your HTML file to a different folder while using relative paths?

Moving **HTML file** to a different folder **while using relative paths**, your links will **break** unless you update the paths because Relative paths depend on the **current location** of your HTML file. So when the HTML file moves, the *starting point* of all your paths changes.

Example:

From this

```
project/  
index.html  
images/  
photo.jpg
```

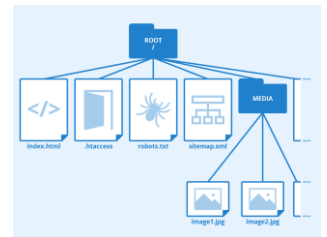
To this

```
project/  
pages/  
index.html  
images/  
photo.jpg
```

No longer works → Because from inside the **pages** folder, there is **no folder called images**.

What is root Directory?

Definition → is the top-level directory in a computer's file system, acting as the starting point for all other files and folders, contains all other directories and files on a system and is marked by a slash (/)



```
my-website/  
index.html  
images/  
photo.jpg  
css/  
style.css  
js/  
script.js
```

→ my-website/ is the root directory

→ All other folders (images, css, js) are inside the root

Web Image Formats :

Abbreviation	File format	MIME type	File extension(s)	When to use
GIF	Graphics Interchange Format	image/gif	.gif	<p>-Good choice for basic images and animations.</p> <p>-Basic icons or simple diagrams (although PNG/SVG are better)</p>
JPEG / JPG	Joint Photographic Experts Group	image/jpeg	jpg, .jpeg, .jfif, .pjpeg, .jpp	<p>- Real-world photos</p> <p>- Product images</p> <p>- Background images with complex color gradients</p> <p>Not support → Transparency&Animation</p>
PNG	Portable Network Graphics	image/png	.png	<p>It's a lossless image file format that supports transparency and millions of colors. It can also create animations, but few applications support this feature. PNGs are ideal for colorful illustrations and graphics.</p>

SVG	Scalable Vector Graphics	image/svg+xml	.svg	Vector image format; ideal for user interface elements, icons, diagrams, illustration, etc., that must be drawn accurately at different sizes
WebP	Web Picture format	image/webp	.webp	Excellent choice for both images and animated images. WebP offers much better compression than PNG or JPEG with support for higher color depths, animated frames, transparency etc

Lie Detection (HTML Validation):

What is the W3C Markup Validation Service? How can you use it to find invisible errors?

The **W3C (World Wide Web Consortium)** is the international organization responsible for creating the official standards of the web, including HTML, CSS, and accessibility guidelines.

One of its most important tools is the **W3C Markup Validation Service**, an online validator that checks whether your HTML code follows the official W3C standards.

How can you use it to find invisible errors?

The validator analyzes your HTML and detects:

- Missing closing tags
- Incorrect nesting (e.g., placing a `<div>` inside a `<p>`)
- Wrong or deprecated attributes
- Structural issues that browsers silently
- Invisible errors that do not appear to the eye but break standards

Why Do Professional Companies Insist on “Valid HTML”?

Professional companies strongly insist on writing **valid HTML** because it guarantees the reliability, performance, and long-term maintainability of their websites. Valid HTML is not just a “clean code” preference — it directly affects how the website behaves, how fast it loads, and how consistent the user experience is across all browsers and devices.

Experiment:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Invalid HTML Example<title>
  </head>
  <body>
    <h1>Welcome to my site</h2>
    <p>This is a paragraph.
    <div>Oops, nested incorrectly</p></div>
  </body>
</html>
```

Non valid code

1. **Warning** Consider adding a `lang` attribute to the `html` start tag to declare the language of this document.
From line 1, column 16; to line 2, column 6
TYPE: `html` → `<html>` → `<html>`
For further guidance, consult [Declaring the overall language of a page](#) and [Choosing language tags](#).
If the HTML checker has misidentified the language of this document, please [file an issue report](#) or [send e-mail to report the problem](#).
2. **Error** End of file seen when expecting text or an end tag.
At line 12, column 1
`></html>></p>`
3. **Error** Unclosed element `title`.
From line 4, column 5; to line 4, column 11
`head><title>Invalid`

What validator say



Resources:

https://www.w3schools.com/html/html_filepaths.asp

https://developer.mozilla.org/en-US/docs/Web/Media/Guides/Formats/Image_types

<https://validator.w3.org/>

<https://frontenddogma.com/posts/2025/mastering-html-the-art-of-minimal-and-valid-code-in-professional-web-development/>

<https://wordpress.org/plugins/wonderm00ns-simple-facebook-open-graph-tags/>

https://www.seobility.net/en/wiki/Root_Directory

https://www.w3schools.com/tags/tag_meta.asp#gsc.tab=0&gsc.q=open%20graph

<https://weblifter.com.au/developer-training/semantic-html-best-practices>

https://youtu.be/gVVTHn247Io?si=XTWuVrT_rXxvMITJ

<https://youtu.be/5CVLqbyaPtM?si=hHA-5tpZuDNP7edj>