

Advanced HTML Guide

A Comprehensive Guide to Mastering HTML

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1. Advanced HTML Overview

Role of HTML in modern web apps (SPA, PWA)

HTML5 and beyond

Difference between HTML4, XHTML, and HTML5

Browser rendering engines

2. Semantic HTML & Accessibility

Deep dive into semantic tags: <main>, <figure>, <figcaption>, <mark>, <time>, <meter>, <progress>

ARIA roles and attributes

Screenreader accessibility

WCAG standards integration

3. Complex Form Elements & Validation

Custom input types: date, color, range, search, etc.

HTML5 form validation without JavaScript

Input masking and pattern attributes

AutoComplete and Autofocus

4. Multimedia Embedding Techniques

<video> and <audio> with multiple sources

Subtitles, captions with <track> tag

Fallback strategies for unsupported formats

Lazyloading of media

5. Meta Tags and SEO Optimization

All meta tags and their purposes (viewport, robots, http-equiv, etc.)

Open Graph (OG) and Twitter Cards

Canonical tags, structured data basics

6. Performance Optimization

Defer vs async in <script>

Preloading, prefetching, preconnect

Optimizing HTML structure for faster rendering

Lazyloading using loading="lazy"

7. Embedded Content and Integration

Advanced use of <iframe>, sandboxing, security

Embedding third-party widgets (Google Maps, Twitter, Calendar)

Responsive embeds

8. HTML APIs Overview (Brief but Advanced Use)

Drag and Drop API

Web Storage (localStorage/sessionStorage)

Geolocation API

Canvas (advanced interactions)

9. Custom Elements & Web Components

Introduction to Shadow DOM

Creating custom HTML tags

Templates with <template> and <slot>

10. Advanced Attributes & Global Properties

Full list of global attributes (data-*, hidden, tabIndex, contentEditable, translate, etc.)

Full list of events that HTML elements support (oninput, onchange, onblur, etc.)

Boolean attributes and edge cases

11 HTML + CSS+ JS Integration Tips

HTML's role in React, Vue, Angular templating

Scoped CSS with <style> inside HTML

Inline JS DOM script linking

12 Security Considerations

Avoiding XSS vulnerabilities

CSP headers and meta security

Sandbox attributes on embeds

13 Cheat Sheet / Appendices

Complete HTML Tag Reference (with supported attributes)

Void elements list

Deprecated tags and what to use instead

14. Code Blocks, Syntax Highlighting & Examples

Include sample use cases with color-coded code

Annotated HTML snippets

15. Further Reading & References

MDN Web Docs

HTML Living Standard (WHATWG)

W3C Validator, Can I use

Real-world projects on CodePen/ GitHub