

HYPERTEXT MARKUP LANGUAGE (HTML)

Η HTML είναι η τυπική γλώσσα σήμανσης για έγγραφα που έχουν σχεδιαστεί για εμφάνιση σε πρόγραμμα περιήγησης Ιστού.

HTML HISTORY

1989: Ο Tim Berners-Lee εφευρίσκει τον Ιστό με γλώσσα δημοσίευσης την HTML

1993: Κυκλοφορεί η HTML 1.0. Δεν είναι πολλοί προγραμματιστές που δημιουργούν ιστότοπους τότε

1995: Δημοσιεύεται η HTML 2.0. Περιέχει τις δυνατότητες της HTML 1.0 καθώς και νέες δυνατότητες

1995: HTML 3 εμφανίζεται και επεκτείνει την HTML 2.0 για να υποστηρίζει πίνακες, ροή κειμένου γύρω από σχήματα και μαθηματικά (τύπους)

Το 2000, η HTML έγινε διεθνές πρότυπο (ISO/IEC 15445:2000)

Η HTML 4.01 δημοσιεύτηκε στα τέλη του 1999, με περαιτέρω διορθώσεις που δημοσιεύτηκαν μέχρι το 2001

2004: Ξεκίνησε η ανάπτυξη της HTML5 και ολοκληρώθηκε και τυποποιήθηκε στις 28 Οκτωβρίου 2014

HTML – CSS - SCRIPTING

Ως προγραμματιστής ιστού, οι τρεις κύριες γλώσσες που χρησιμοποιούμε για την κατασκευή ιστοτόπων είναι η HTML, η CSS και η JavaScript. Η JavaScript είναι η γλώσσα προγραμματισμού, χρησιμοποιούμε HTML για τη δομή του ιστότοπου και χρησιμοποιούμε CSS για το σχεδιασμό και τη διάταξη της ιστοσελίδας.

Τα Cascading Style Sheets (CSS) είναι ένας απλός μηχανισμός για την προσθήκη στυλ (π.χ. γραμματοσειρές, χρώματα, διάστημα) σε έγγραφα Ιστού

Η JavaScript είναι η Γλώσσα Προγραμματισμού για τον Ιστό. Η JavaScript μπορεί να ενημερώσει και να αλλάξει τόσο την HTML όσο και το CSS.

HTML 5

Η τρέχουσα προδιαγραφή είναι γνωστή ως HTML Living Standard. Συντηρείται από την ομάδα εργασίας Web Hypertext Application Technology Working Group (WHATWG), μια κοινοπραξία των μεγάλων προμηθευτών προγραμμάτων περιήγησης ([Apple](#), [Google](#), [Mozilla](#) και [Microsoft](#)).



HTML 5: ΤΑ ΠΙΟ ΣΗΜΑΝΤΙΚΑ ΣΤΟΙΧΕΙΑ

- Semantic Elements
- Οι ετικέτες `<audio>` και `<video>` είναι οι δύο σημαντικές προσθήκες στην HTML5. Επιτρέπει στους προγραμματιστές να ενσωματώσουν ένα βίντεο ή ήχο στον ιστότοπό τους.
- Vector Graphics, διανυσματικά γραφικά.
- HTML Nav Tag, μενού πλοήγησης
- Geolocation API
- Form enhancements
- Local Storage

HTML 5: SEMANTIC ELEMENTS

LIST 1

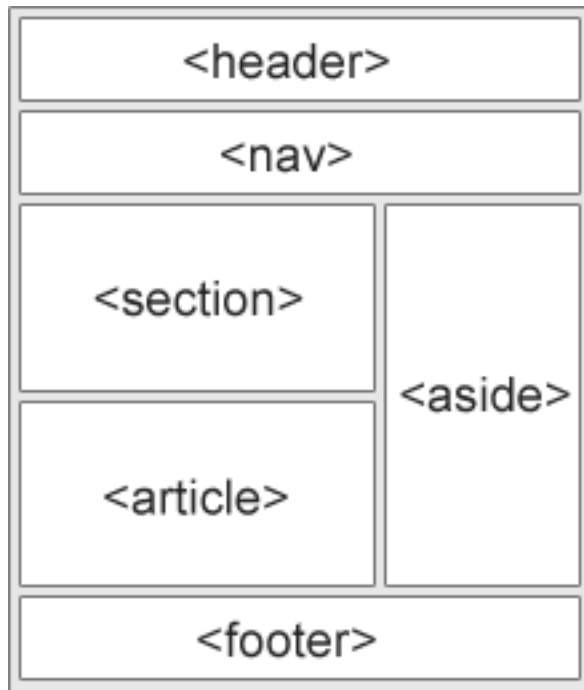
- <main>
- <nav>
- <section>
- <article>
- <aside>
- <footer>
- <header>

HTML 5: SEMANTIC ELEMENTS

LIST 2

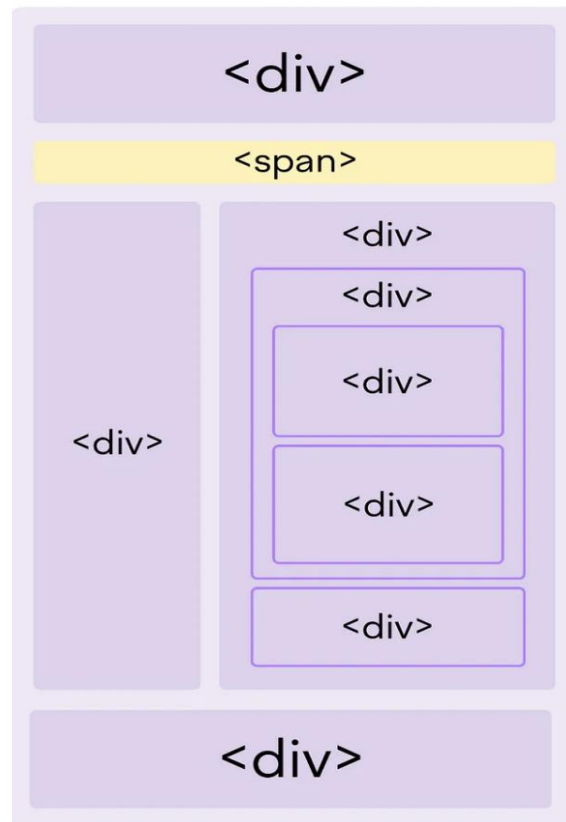
- <details>
- <figure>
- <figcaption>
- <summary>
- <time>
- <mark>
- <address>

HTML 5: SEMANTIC ELEMENTS ΣΕ ΑΠΕΙΚΟΝΙΣΗ

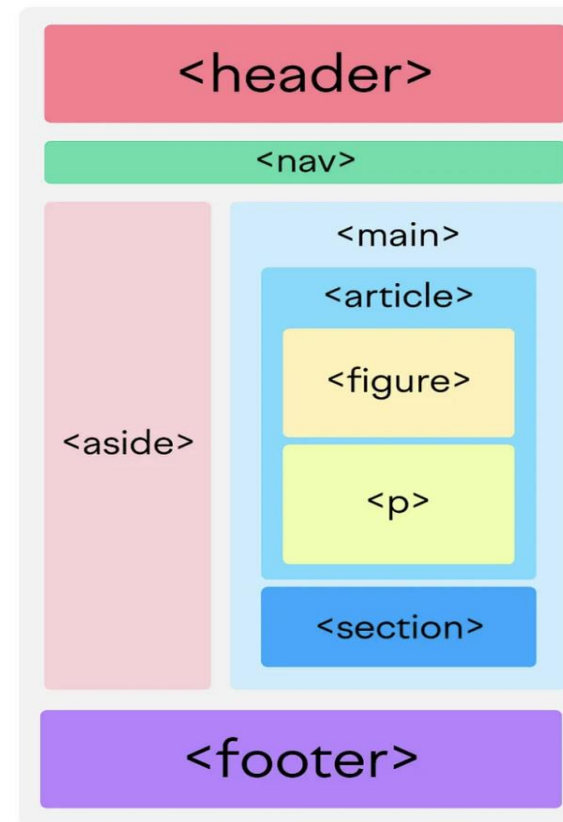


HTML 5: SEMANTIC VS NON-SEMANTIC

Non-Semantic HTML



Semantic HTML



HTML 5: SEMANTIC ELEMENTS

“HEADER - FOOTER”

```
<header>
  <h1>What Does WWF Do?</h1>
  <p>WWF's mission:</p>
</header>
```

```
<footer>
  <p>Author: Mike Dukakis<br>
  <a href="mailto:mymail@example.com">mymail@example.com<
/a></p>
</footer>
```

HTML 5: SEMANTIC ELEMENTS

“HEADER - FOOTER”

What Does WWF Do?

WWF's mission:

Author: Mike Dukakis
mymail@example.com

HTML 5: SEMANTIC ELEMENTS

“NAV”

`<nav>`

```
<a href="/java/">JAVA</a> |
```

```
<a href="/js/">JavaScript</a> |
```

```
<a href="/python/">Python</a>
```

`</nav>`

[JAVA](#) | [JavaScript](#) | [Python](#)

HTML 5: SEMANTIC ELEMENTS

“SECTION”

```
<section>
```

```
  <h2>Wild Life</h2>
```

```
  <p>Wildlife refers to undomesticated animals and  
uncultivated plant species that can exist in their natural habitat.
```

```
  </p>
```

```
</section>
```

Wild Life

Wildlife refers to undomesticated animals and uncultivated plant species that can exist in their natural habitat.

HTML 5: SEMANTIC ELEMENTS

“ARTICLE”

```
<article>
```

```
  <h1>C Programming</h1>
```

```
  <p>C is a Procedural language</p>
```

```
</article>
```

```
<article>
```

```
  <h1>C++ Programming</h1>
```

```
  <p>C++ programming is a Object oriented Programming.</p>
```

```
</article>
```

HTML 5: SEMANTIC ELEMENTS

“ARTICLE”

C Programming

C is a Procedural language

C++ Programming

C++ programming is a Object oriented Programming.

HTML 5: SEMANTIC ELEMENTS

“ASIDE”

<aside>

<h3>Did You Know?</h3>

<p> HTML stands for HyperText Markup Language. </p>

</aside>

Did You Know?

HTML stands for HyperText Markup Language.

HTML 5: SEMANTIC ELEMENTS

“ASIDE IN AN ARTICLE”

```
<article>
  <h2>Learning HTML</h2>
  <p> HTML is the standard markup language for creating web pages.
  </p>
  <aside>
    <h3>Did You Know?</h3>
    <p> HTML stands for HyperText Markup Language. </p>
  </aside>
  <p> It is easy to learn and widely used in web development. </p>
</article>
```

HTML 5: SEMANTIC ELEMENTS

“ASIDE IN AN ARTICLE”

Learning HTML

HTML is the standard markup language for creating web pages.

Did You Know?

HTML stands for HyperText Markup Language.

It is easy to learn and widely used in web development.

HTML 5: SEMANTIC ELEMENTS

“ASIDE CSS”

```
<style>
  aside {
    width: 30%;
    padding-left: 15px;
    margin-left: 15px;
    float: right;
    font-style: italic;
    background-color: lightgray;
  }
</style>
```

HTML 5: SEMANTIC ELEMENTS

“ASIDE CSS”

Learning HTML

HTML is the standard markup language for creating web pages.

It is easy to learn and widely used in web development.

Did You Know?

HTML stands for HyperText Markup Language.

HTML 5: SEMANTIC ELEMENTS

“MAIN”

<main>

// contents of main Element – περιεχόμενα του main

</main>

HTML 5: SEMANTIC ELEMENTS

“MAIN”

```
<main>
  <h1>Programming Languages</h1>
  <p>c programming, C++ Programming</p>
  <article>
    <h1>C Programming</h1>
    <p>C is a Procedural language</p>
  </article>
  <article>
    <h1>C++ Programming</h1>
    <p>C++ programming is a Object oriented Programming.</p>
  </article>
</main>
```

HTML 5 SEMANTIC ELEMENTS

“FIGURE AND FIGCAPTION”

```
<figure>
  <img
    src= https://stepbysteppainting.net/wp-content/uploads/2021/05/Elephant-Sunset.jpg />
  <figcaption>An elephant at sunset</figcaption>
</figure>
```

```
<figure>
  <img
    src= "/website/images/animals/elephant.jpg"/>
  <figcaption>An elephant at sunset</figcaption>
</figure>
```

HTML 5 SEMANTIC ELEMENTS

“FIGURE AND FIGCAPTION”

```
<figure>  
  <img  
    src= "/elephant.jpg"/>  
  <figcaption>An elephant at sunset</figcaption>  
</figure>
```



An elephant at sunset

HTML 5: SEMANTIC ELEMENTS

“MARK, DETAILS, SUMMARY”

```
<details>
```

```
  <summary>Epcot Center</summary>
```

```
  <p>Epcot is a <mark> theme park </mark> at Walt Disney World Resort  
featuring exciting attractions, international pavilions, award-winning  
fireworks, and seasonal special events.
```

```
  </p>
```

```
</details>
```

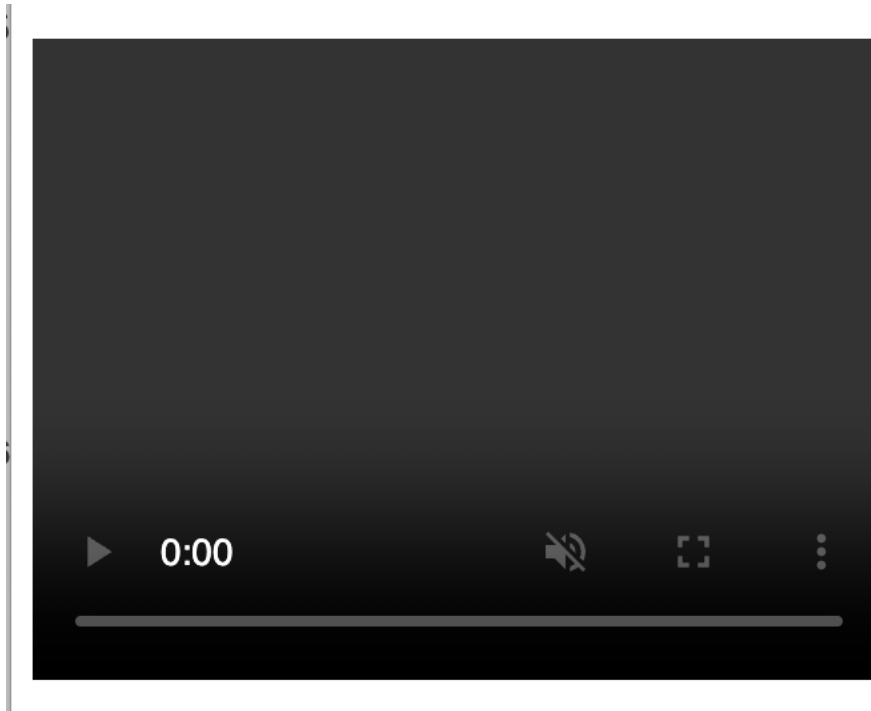
▼ Epcot Center

Epcot is a **theme park** at Walt Disney World Resort featuring exciting attractions, international pavilions, award-winning fireworks, and seasonal special events.

HTML 5: VIDEO

```
<video width="320" height="240" autoplay controls muted loop>  
  <source src="movie\movie.mp4" type="video/mp4">  
  <source src="movie.ogg" type="video/ogg">  
  Your browser does not support the video tag.  
</video>
```

HTML 5: VIDEO



HTML 5: AUDIO

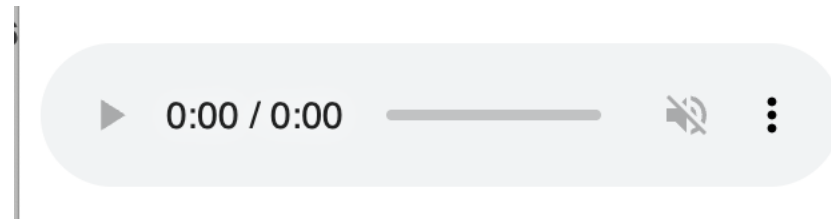
`<audio controls loop autoplay muted>`

`<source src="horse.ogg" type="audio/ogg">`

`<source src="horse.mp3" type="audio/mpeg">`

Your browser does not support the audio element.

`</audio>`



HTML 5: HTML SVG GRAPHICS

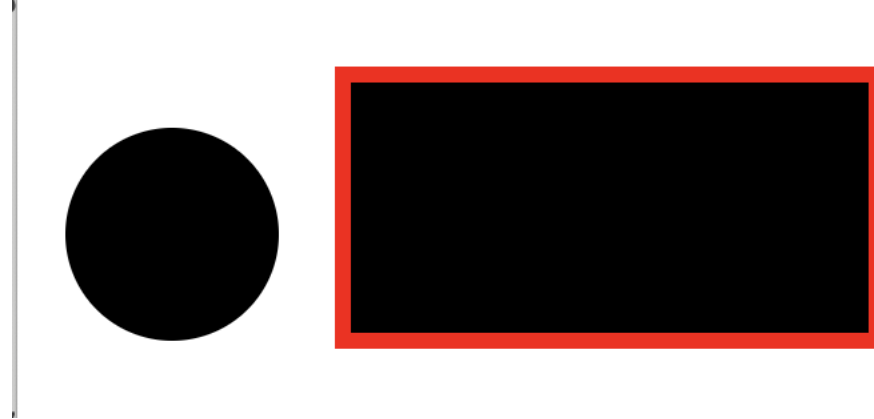
CIRCLE AND RECTANGLE

```
<svg width="100" height="100">  
  <circle cx="50" cy="50" r="40" stroke="orange" stroke-width="4" fill="silver" />  
</svg>
```

```
<svg width="400" height="120">  
  <rect x="10" y="10" width="200" height="100" stroke="red" stroke-  
width="6" fill="black" />  
</svg>
```

HTML 5: HTML SVG GRAPHICS

CIRCLE AND RECTANGLE



HTML 5: HTML SVG GRAPHICS

CIRCLE WITH TEXT

```
<svg height="130" width="500">
  <defs>
    <linearGradient id="grad1">
      <stop offset="0%" stop-color="yellow" />
      <stop offset="50%" stop-color="orange" />
    </linearGradient>
  </defs>
  <ellipse cx="100" cy="70" rx="85" ry="55" fill="url(#grad1)" />
  <text fill="#555555" font-size="45" font-family="Verdana" x="50" y="86">SVG</text>
  Sorry, your browser does not support inline SVG.
</svg>
```



HTML 5: HTML GEOLOCATION

```
<body>
  <h3>Displaying Geolocation using Latitude and Longitude</h3>
  <button class="geolocation" onclick="getgeoloc()">
    Get geolocation </button>
  <p id="display"></p>
  <script>
    let loc = document.getElementById("display");
    function getgeoloc() {
      navigator.geolocation.getCurrentPosition(displLoc);
    }
    function displLoc(pos) {
      loc.innerHTML = "Latitude: " + pos.coords.latitude +
pos.coords.longitude;
    }
  </script>
</body>
```

"
Longitude: " +

HTML 5: HTML GEOLOCATION

Displaying Geolocation using Latitude and Longitude

Get geolocation

Latitude: 40.5276759

Longitude: 21.2551999

HTML 5: FORM ENHANCEMENTS

AUTOFOCUS, PLACEHOLDER, REQUIRED

```
<h1>Form elements: required, autofocus, placeholder</h1>
```

```
<form id="registrationform" >
```

```
  <label for="username">Username</label>
```

```
  <input name="username" id="username" type="text" required autofocus />
```

```
<br/>
```

```
  <label for="firstname">First Name</label>
```

```
  <input name="firstname" id="firstname" type="text" placeholder="Your
```

```
First Name"/><br/>
```

```
  <label for="lastname">Last Name</label>
```

```
  <input name="lastname" id="lastname" type="text" placeholder="Your Last
```

```
Name"/><br/>
```

```
  <button type="submit">Register</button>
```

```
</fieldset>
```

```
</form>
```

HTML 5: FORM ENHANCEMENTS

AUTOFOCUS, PLACEHOLDER, REQUIRED

Form elements: required, autofocus, placeholder

Username

First Name

Last Name

HTML 5: FORM ENHANCEMENTS

EMAIL, SIZE, MAX & MIN LENGTH, MULTIPLE, PATTERN

```
<form id="registrationform" >
  <label for="email">Email</label>
  <input type="email" size="34" maxlength="64"    minlength="7" ><br/>
  <button type="submit">Register</button>
</fieldset>
</form>
```

HTML 5: FORM ENHANCEMENTS

DATALIST

```
<h1>Form elements: datalist</h1>
<form id="registrationform" >
  <label for="ice-choice">Choose a flavor for the ice cream:</label>
  <input list="ice-flavors" id="ice-choice" name="ice-choice" />
  <datalist id="ice-flavors">
    <option value="Chocolate"></option>
    <option value="Strawberry"></option>
    <option value="Banana"></option>
    <option value="Coconut"></option>
    <option value="Vanilla"></option>
  </datalist>
  <button type="submit">Register</button>
</fieldset>
</form>
```

HTML 5: FORM ENHANCEMENTS

DATALIST

Form elements: datalist

Choose a flavor for the ice cream:

HTML 5: FORM ENHANCEMENTS

IMAGE TYPE INPUT

```
<input type="image"  
      src="submit.gif" alt="Submit"  
      style="float:right" width="48" height="48">
```

First name:



Click on the image, and the input will be sent to a page on the server called "/action_page.php".

HTML 5: ΚΑΠΟΙΑ INPUT TYPES

`<input type="color">`

`<input type="datetime-local">`

`<input type="password">`

`<input type="range">`

`<input type="search">`

`<input type="url">`

`<input type="number"> (max, min)`

HTML 5: LOCAL STORAGE (ΤΟΠΙΚΗ ΑΠΟΘΗΚΕΥΣΗ)

```
<script> // Check if the localStorage object exists
    if(localStorage) {
        localStorage.setItem("fname", "Peter"); // Store data
        alert("Hi, " + localStorage.getItem("fname")); // Retrieve data
    }
    else { // No locale storage – something went wrong
        alert("Sorry, your browser do not support local storage.");
    }
</script>
```

HTML 5: LOCAL STORAGE (ΤΟΠΙΚΗ ΑΠΟΘΗΚΕΥΣΗ)

