

Web Fundamentals



Session-02

HTML Basics

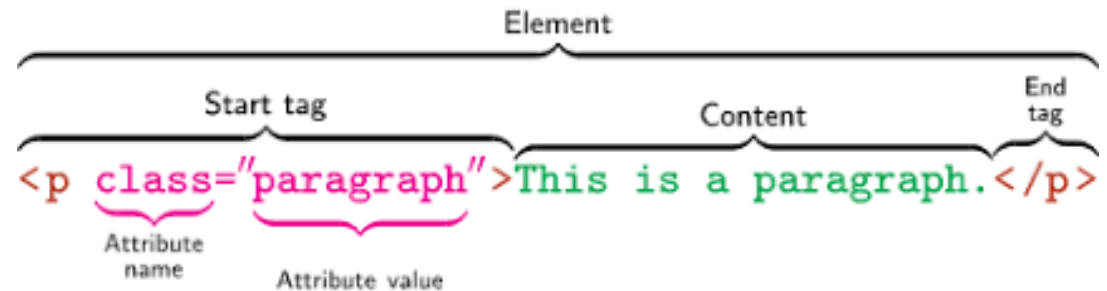
Agenda – HTML Basics



- ← 01 HTML
- ← 02 HTML Structure
- ← 03 Deep dive into <HEAD>
- ← 04 Elements & Tags
- ← 05 Tables, URL encoding, HTML5
- ← 06 Deploy to GitHub Pages

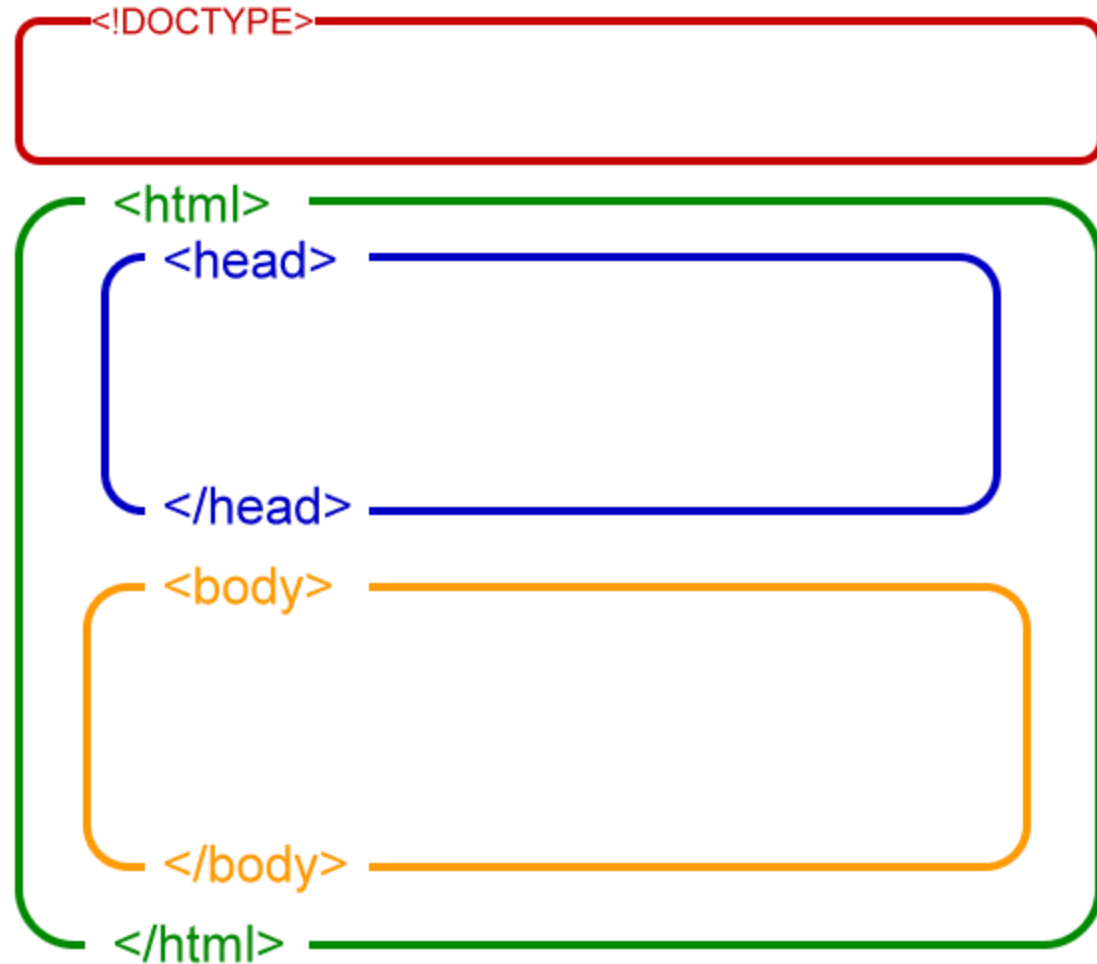
What is HTML?

A Lang to create a
Webpage with series of
Attributes
Elements
tell the browser how to
display the content



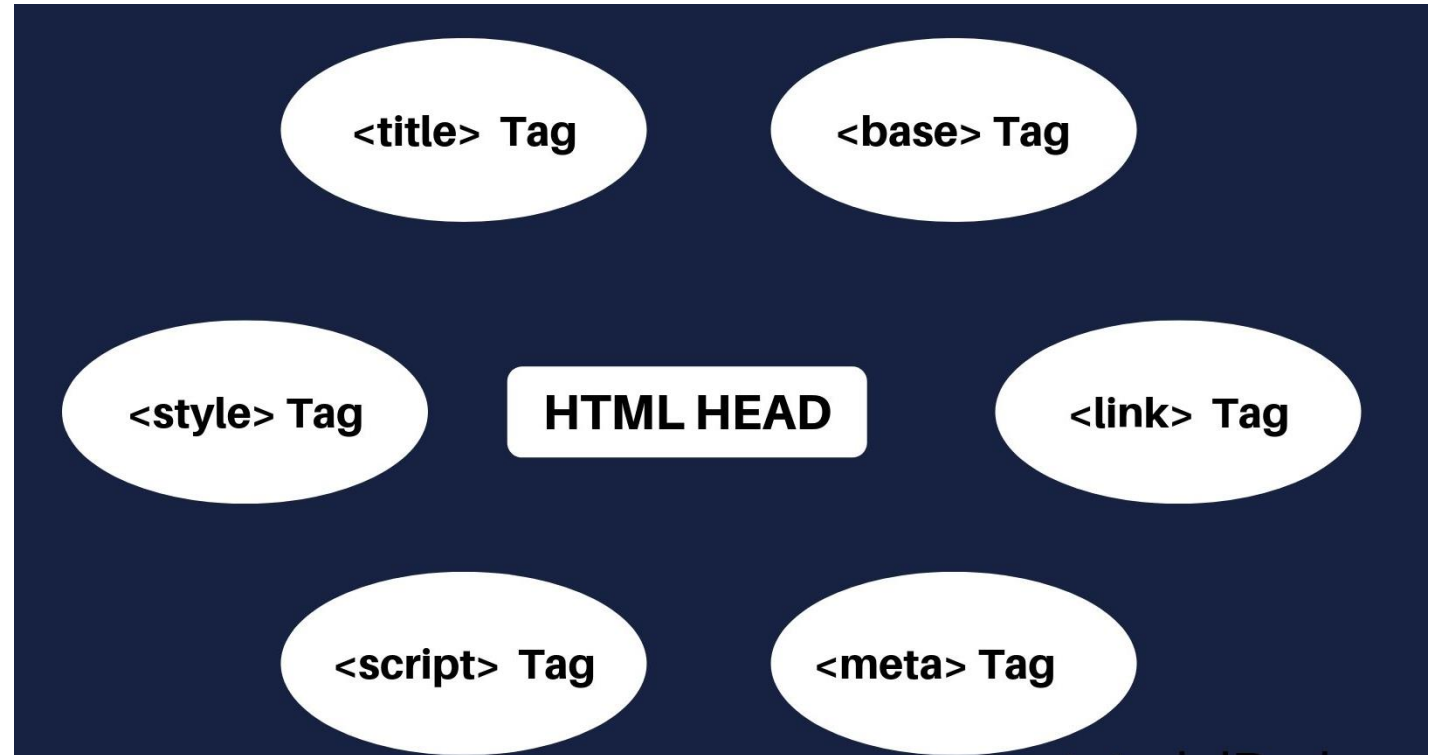
HTML Layout Structure

Document Structure



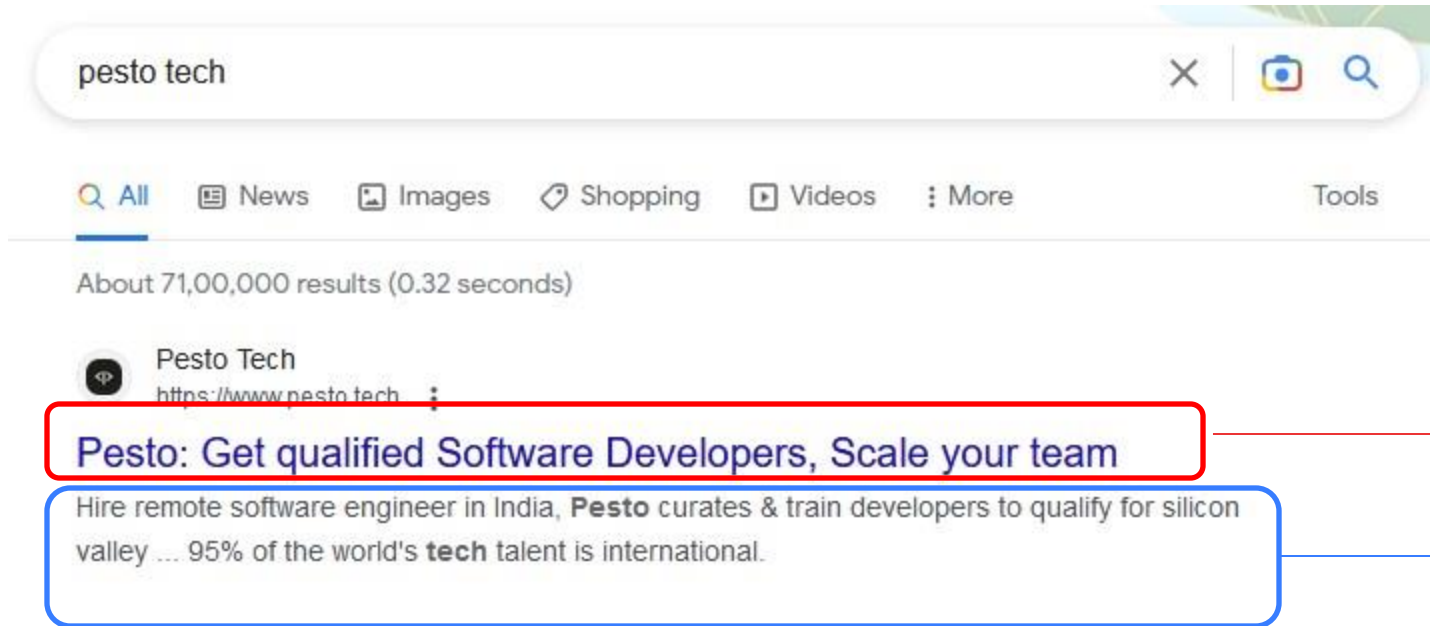
HTML Head

is a container for
metadata



Meta Tags

Meta tags are guide to search engines



Title

Description

Plays Crucial role in SEO

Meta Tags List – Commonly used

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta name="description" content="This is a description of my website.">
    <meta name="keywords" content="web development, HTML, CSS, JavaScript">
    <meta name="author" content="Your Name">
    <meta name="robots" content="index, follow">
    <meta name="og:title" content="My Website">
    <meta name="og:image" content="https://www.example.com/image.jpg">
    <title>My Web Page</title>

    <!-- Load external CSS stylesheet -->
    <link rel="stylesheet" type="text/css" href="styles.css">
```

List of all meta tags: <https://www.metatags.org/all-meta-tags-overview/>

HTML Head- Script execution

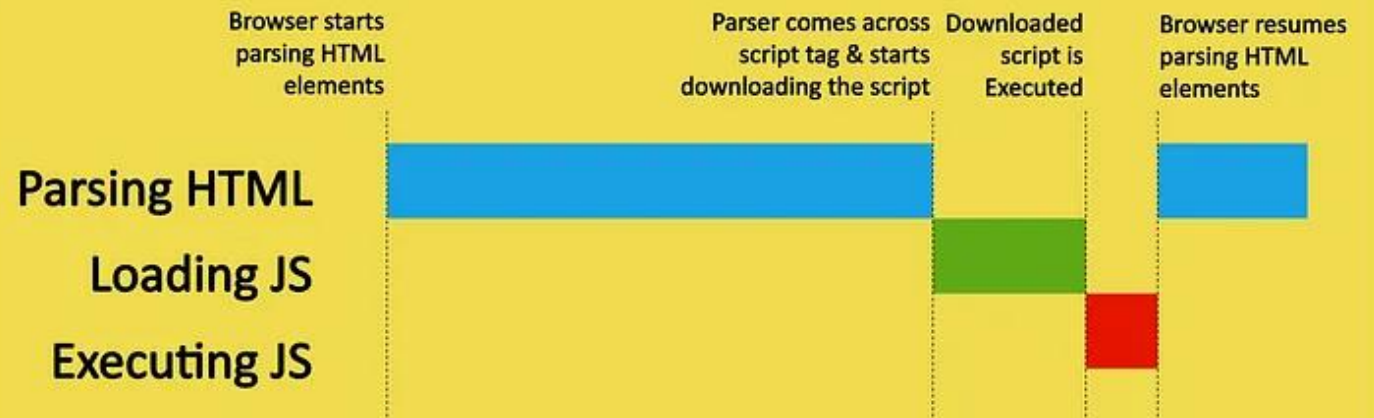
Async & defer

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <title>Script in the head tag</title>
    <script src="index.js"></script>
  </head>
  <body>

    <!-- All the HTML content here -->

  </body>
</html>
```

→ If the script size is heavy, then load time increases



HTML Head

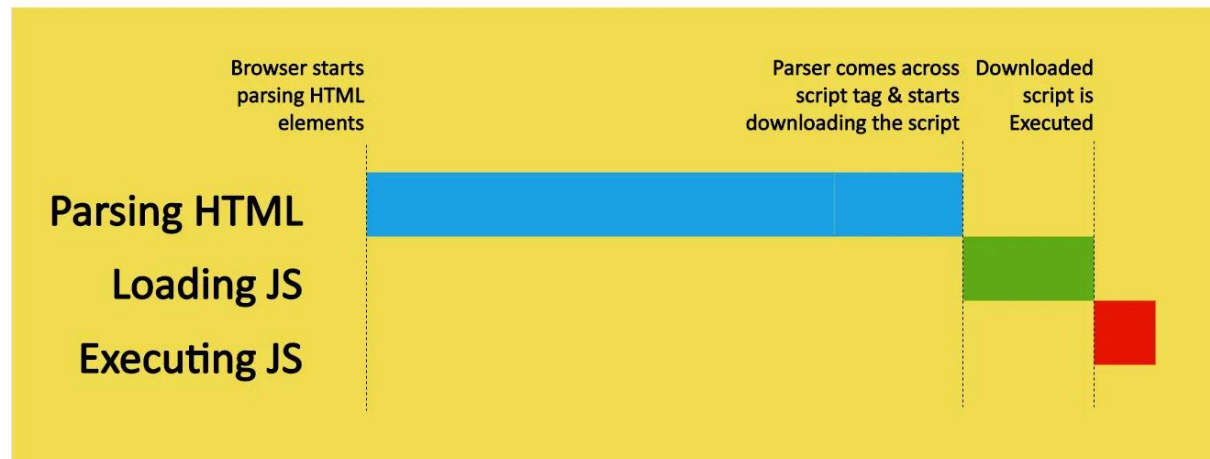
Async & defer

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <title>Script at the end of page</title>
  </head>
  <body>

    <!-- All the HTML content here -->

    <script src="index.js"></script>
  </body>
</html>
```

Add script at the bottom if it not required for first paint



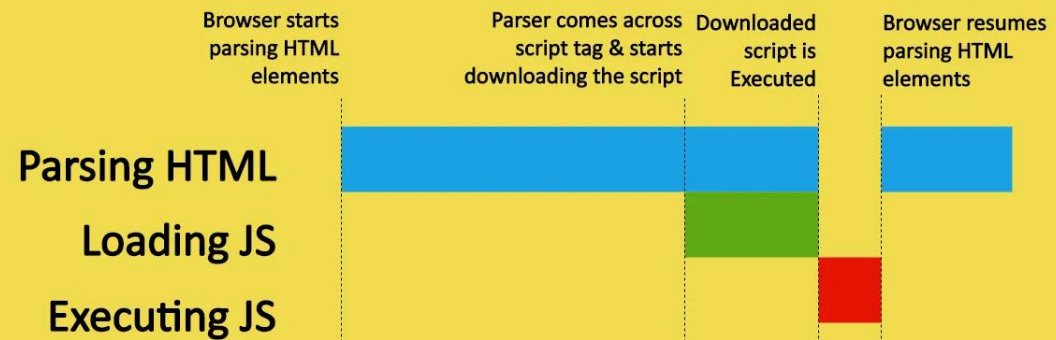
HTML Head

Async & defer

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <title>Script with async attribute</title>
    <script async src="index.js"></script>
  </head>
  <body>

    <!-- All the HTML content here -->

  </body>
</html>
```



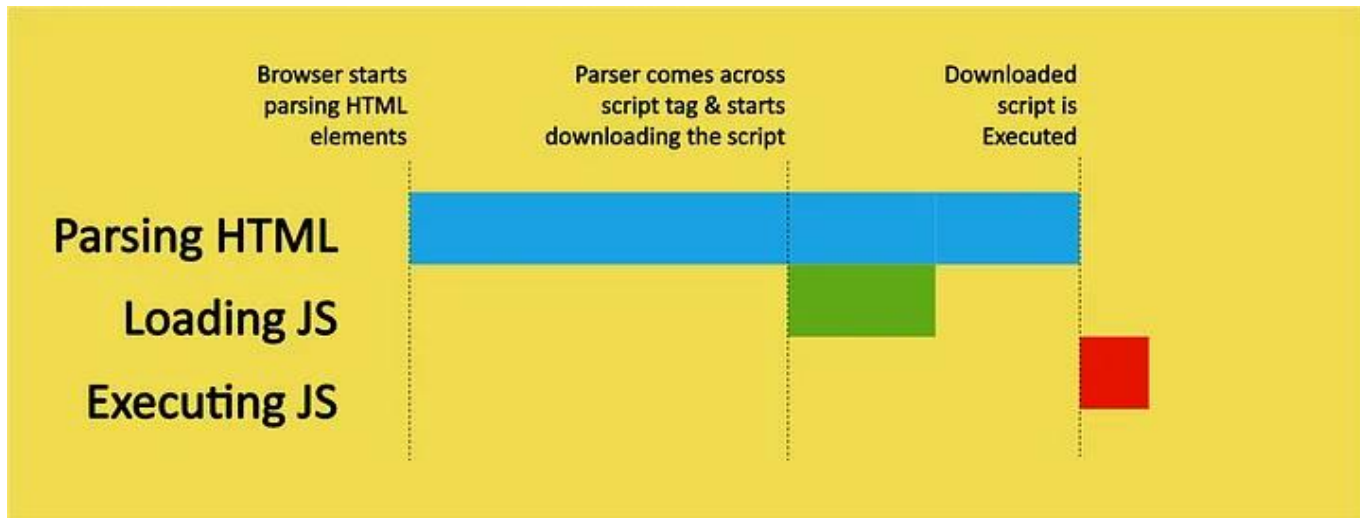
HTML Head

Async & defer

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <title>Script with defer attribute</title>
    <script defer src="index.js"></script>
  </head>
  <body>

    <!-- All the HTML content here -->

  </body>
</html>
```



HTML Head

Loading Styles & Fonts

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>My Web Page</title>

    <!-- Load external CSS stylesheet -->
    <link rel="stylesheet" type="text/css" href="styles.css">

    <!-- Define internal styles -->
    <style>
      h1 {
        font-size: 36px;
        font-family: Arial, sans-serif;
        color: #333;
      }
      p {
        font-size: 18px;
        font-family: Georgia, serif;
        color: #666;
      }
    </style>

    <!-- Load Google Fonts -->
    <link href="https://fonts.googleapis.com/css?family=Open+Sans:300,400,600,700" rel="stylesheet">
  </head>
```

Knowledge check

**Question: If I would like to load a script that is not required at first paint,
should we use Async or defer?**

HTML Body

**This is where
your content
goes**

```
01_layout.html > html
1  <!DOCTYPE html>
2  <html>
3
4  <head>
5    <!-- https://fonts.google.com/specimen/Sono -->
6
7    <style>
8      @import url('https://fonts.googleapis.com/css2?family=Sono:wght@200&display=swap');
9    </style>
10
11    <!-- Scripts ( Explain about scripts) -->
12    <!-- Styles ( Explain about styles)-->
13    <!-- Meta Tags ( Explain about meta tags)-->
14    <title>My Portfolio</title>
15  </head>
16
17  <body>
18
19    <!-- Nav Bar -->
20    <!-- Hero Section -->
21    <!-- Skills Section -->
22    <!-- Experience Section -->
23    <!-- Projects Section -->
24    <!-- Contact Section -->
25  </body>
26
27  </html>
```

Headings & Section

**H1- Most important
H6- least important
for search engines**

<h1>Heading 1</h1>

<h2>Heading 2</h2>

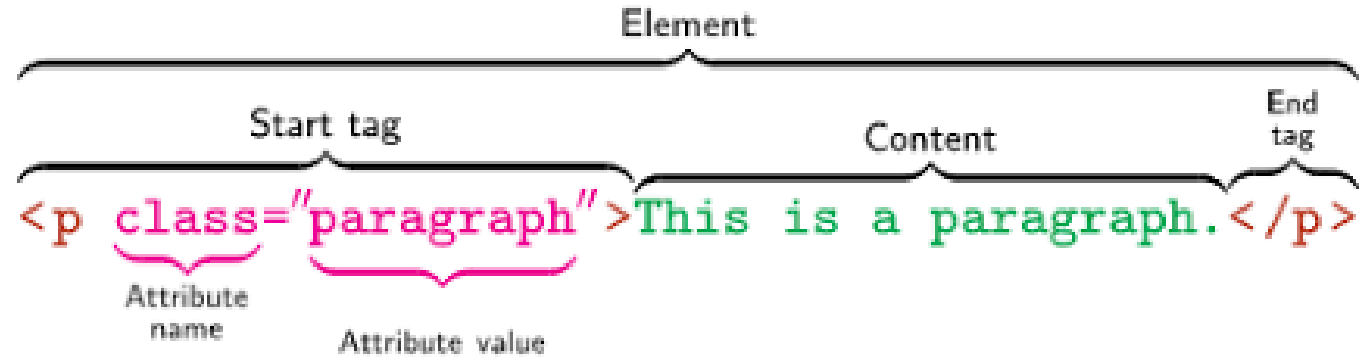
<h3>Heading 3</h3>

<h4>Heading 4</h4>

<h5>Heading 5</h5>

<h6>Heading 6</h6>

Intro Attributes Elements



Attributes



Attributes In HTML

- class
- title
- href
- id
- src
- alt
- height
- width



Links- Mostly used tag

HTML links: a breakdown



Links- Mostly used tag

The *target* attribute specifies where to open the linked document.

```
<a href="https://pesto.tech" target="_blank">Opens link in a new window/tab</a>  
<a href="https://pesto.tech" target="_self">Opens link in the same window/tab</a>  
<a href="https://pesto.tech" target="_parent">Opens link in the parent frame or window</a>  
<a href="https://pesto.tech" target="_top">Opens link in the full body of the window</a>
```

You, now • Uncommitted changes

Links- Mostly used tag

Absolute Vs Relative URL

```
<!-- Absolute URL -->  
<a href="https://www.pesto.tech">Link to example.com using absolute URL</a>  
  
<!-- Relative URL -->  
<a href="/plus-batch">Link to contact page using relative URL</a>    You, 1
```

Relative URLs- good for unit testing, simplifies coding, short URL

Absolute URLs- Good for data security, difficult for unit testing

Lists

```
<!DOCTYPE html>
<html>
<body>

<h2>An unordered HTML list</h2>

<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>

</body>
</html>
```

An unordered HTML list

- Coffee
- Tea
- Milk

```
<!DOCTYPE html>
<html>
<body>

<h2>An ordered HTML list</h2>

<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>

</body>
</html>
```

An ordered HTML list

1. Coffee
2. Tea
3. Milk

Text Basics

p, div, span

```
<!-- First paragraph -->
<p>This is some text.</p>

<!-- Second paragraph with line breaks using <br> tag -->
<p>This is<br>a paragraph<br>with line breaks.</p>

<!-- Third paragraph with a blue colored span element -->
<!-- <span> tag is an inline container -->
<p>
  My mother has
  <span style="color: blue;">blue</span>
  eyes
</p>
<p>
  My mother has
  <div style="color: blue;">blue</div>
  eyes
</p>
```

Text Basics

Div- Block container
Span- Inline container

```
<!DOCTYPE html>
<html>
<body>

<h1>The span element</h1>
<p>
  My mother has
  <span style="color:blue;">blue</span>
  eyes
</p>
<p>
  My mother has
  <div style="color:blue;">blue</div>
  eyes
</p>

</body>
</html>
```

The span element

My mother has blue eyes

My mother has

blue
eyes

Text Formats

```
<!DOCTYPE html>
<html>
<body>

<p><b>This text is bold</b></p>

</body>
</html>
```

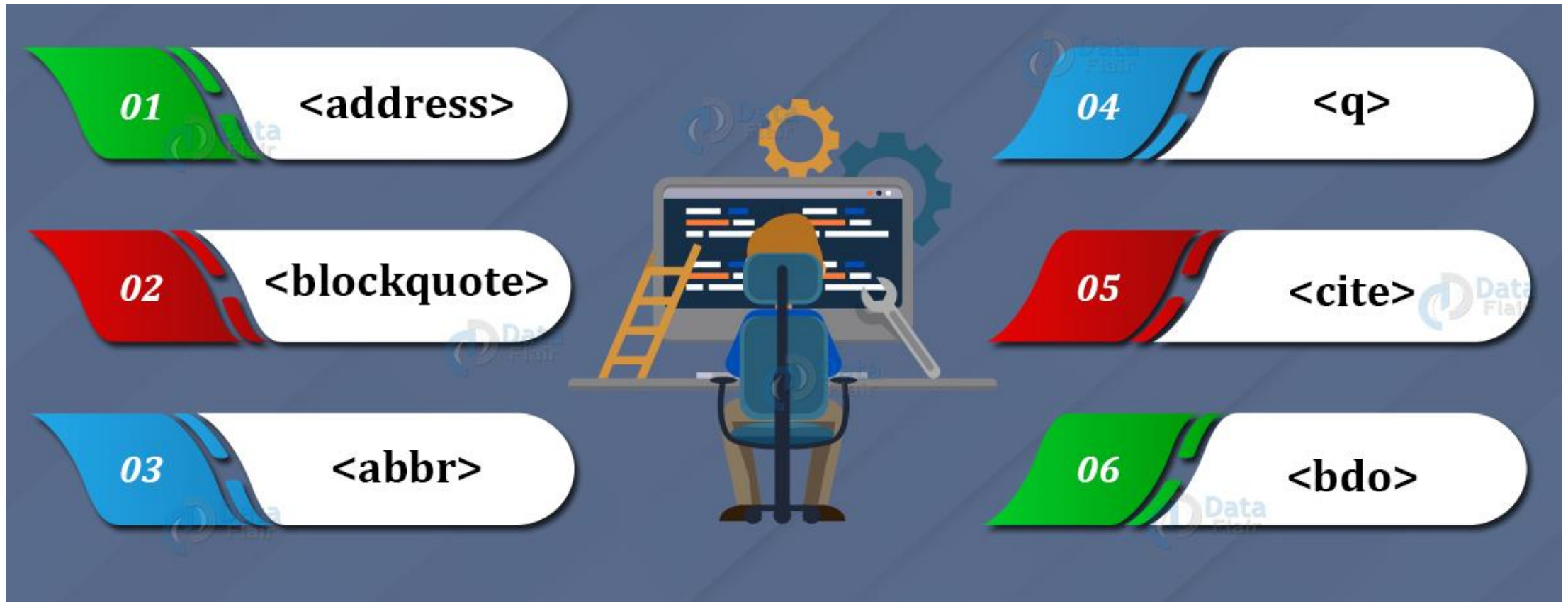
This text is bold

Formatting elements were designed to display special types of text:

- `` - Bold text
- `` - Important text
- `<i>` - Italic text
- `` - Emphasized text
- `<mark>` - Marked text
- `<small>` - Smaller text
- `` - Deleted text
- `<ins>` - Inserted text
- `<sub>` - Subscript text
- `<sup>` - Superscript text

Quotations- SEO friendly

Context of text



bdo- Bidirectional override

Symbols & Emojis

**Mathematical, Technical,
Currency Symbols**

```
<!DOCTYPE html>
<html>
<body>

<p>I will display &euro;</p>
<p>I will display &#8364;</p>
<p>I will display &#x20AC;</p>

</body>
</html>
```

I will display €

I will display €

I will display €

**They are letters (characters)
from the UTF-8 (Unicode)
character set.
Not Icons or images**

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
</head>
<body>

<h1>My First Emoji</h1>

<p>&#128512;</p>

</body>
</html>
```

My First Emoji



Images- Common Image formats

```

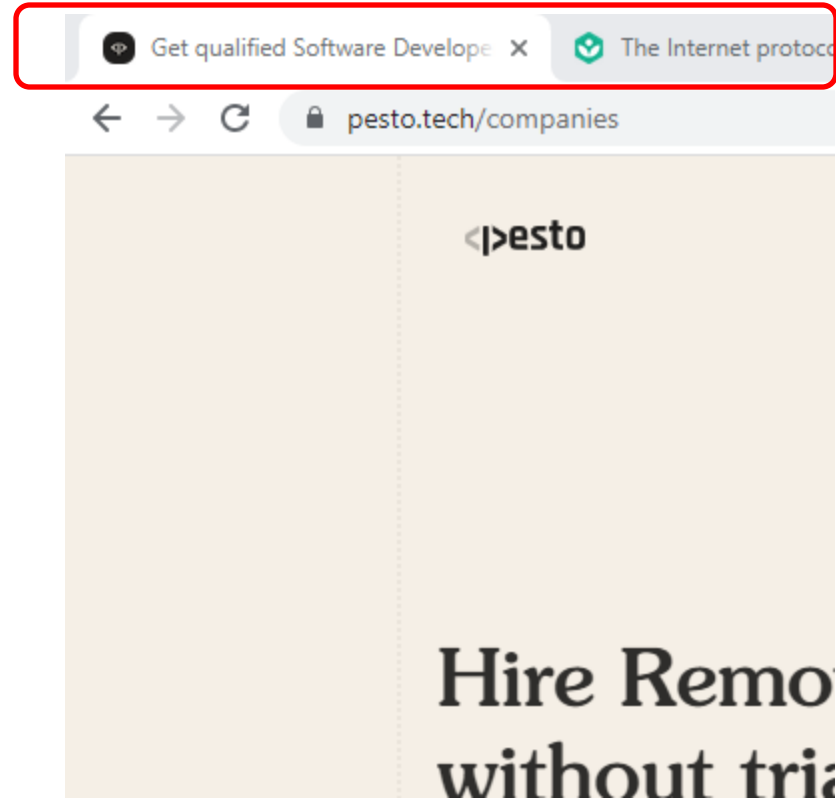
```

APNG	Animated Portable Network Graphics	.apng
GIF	Graphics Interchange Format	.gif
ICO	Microsoft Icon	.ico, .cur
JPEG	Joint Photographic Expert Group image	.jpg, .jpeg, .jfif, .pjpeg, .jpp
PNG	Portable Network Graphics	.png
SVG	Scalable Vector Graphics	.svg

Favicons

A favicon is a small image displayed next to the page title in the browser tab.

**You can create using
<https://www.favicon.cc/>**



Tables

td stands for table data.
tr stands for table row.
th stands for table header.

```
<!DOCTYPE html>
<html>
<style>
table, th, td {
  border:1px solid black;
}
</style>
<body>

<h2>A basic HTML table</h2>

<table >
  <tr>
    <th>Company</th>
    <th>Contact</th>
    <th>Country</th>
  </tr>
  <tr>
    <td>Alfreds Futterkiste</td>
    <td>Maria Anders</td>
    <td>Germany</td>
  </tr>
  <tr>
    <td>Centro comercial Moctezuma</td>
    <td>Francisco Chang</td>
    <td>Mexico</td>
  </tr>
</table>
```

A basic HTML table

Company	Contact	Country
Alfreds Futterkiste	Maria Anders	Germany
Centro comercial Moctezuma	Francisco Chang	Mexico

URL Encoding

URL can be sent using ASCII char only
URL encoding replaces non-ASCII characters with a "%" followed by hexadecimal digits.

The screenshot shows a web browser with the address bar containing `https://pestotech.teachable.com/ hello`. The page displays a 404 error: "Sorry, we couldn't find that page". The Chrome DevTools network log is open, showing a list of requests. The first request is a GET to `pestotech.teachable.com/hello` which failed with a 404 status. A second request is shown, which is a GET to `https://pestotech.teachable.com/%20hello`. This request also failed with a 404 status, as indicated by the "404 Not Found" message in the headers panel. The "Request" tab in the headers panel shows the full URL: `GET https://pestotech.teachable.com/%20hello`.

St	Met...	Domain	File	Initia...	Type	Transfer...	Size
404	GET	pestotech...	hello	docu...	html	2.40 kB	6...
200	GET	fast.wis...	E-v1.js	script	js	118.54 ...	6...
200	GET	fedora....	identity--b372bb8475456bef6e	script	js	107.76 ...	4...
200	GET	fedora....	identity-4e8240f9a15e8644840	style...	css	2.97 kB	9...
200	GET	themes...	base.css?_=f433c8e371ce&brar	style...	css	36.91 kB	2...

Headers panel (Request tab):

- Status: 404 Not Found
- Version: HTTP/3
- Transferred: 2.40 kB (6.35 kB size)

Knowledge check

Question: If we want to add a inline text with different style, which tag should be used?

Question: If we want to open a URL in new window, what should be target for anchor tag?

Span

Target=“_blank”

XHTML

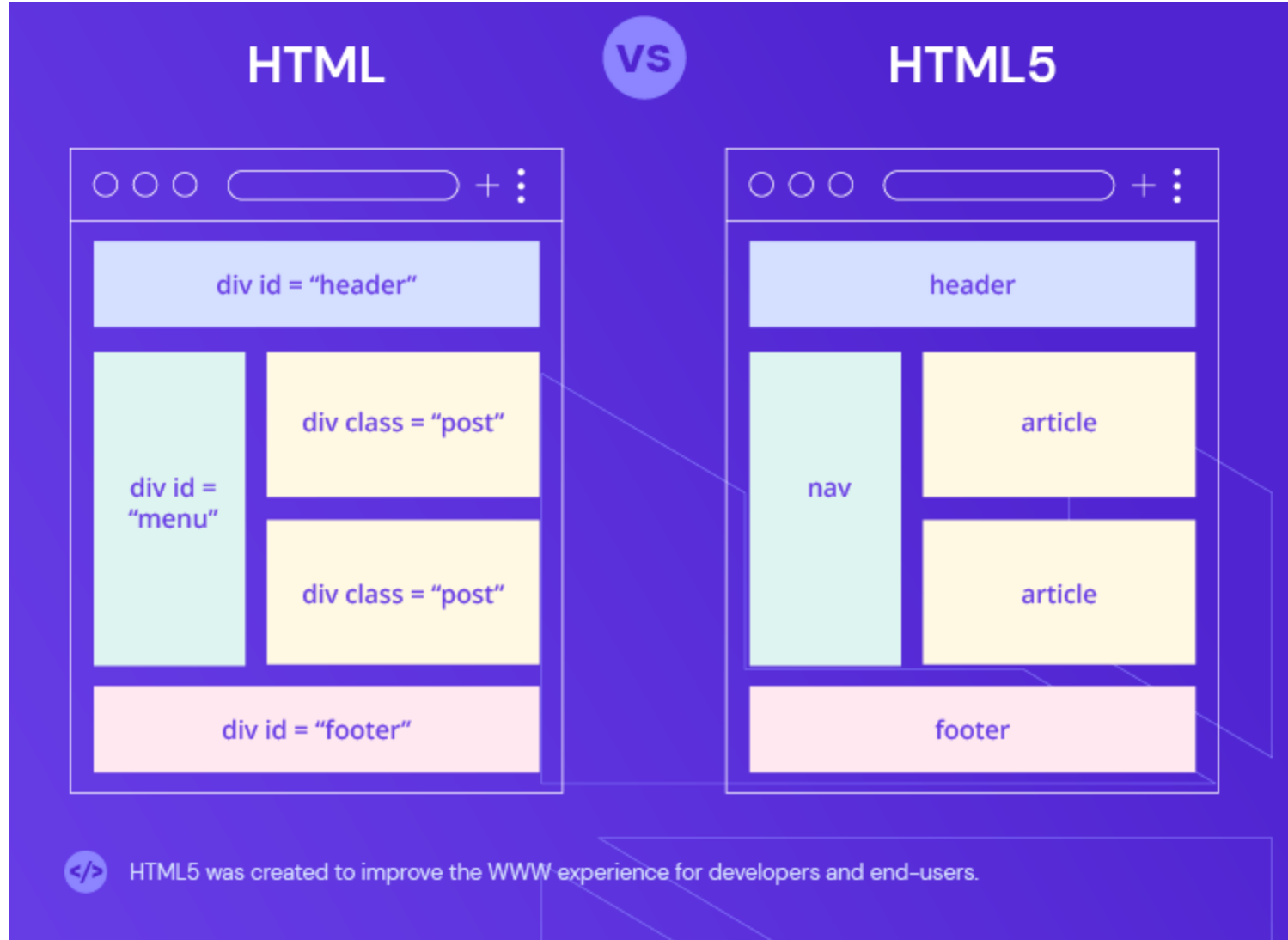
- **HTML displays even if it has errors**
 - **XHTML- is more stricter & formatted**
-
- **Use cases:**
 - Compliant web applications**
 - **Legacy & Error-prone applications like financing systems**

HTML Vs XHTML

- Some comparisons of HTML vs. XHTML

HTML	XHTML
Tags aren't extensible	Tags are extensible
Tags are not case-sensitive	Only lowercase tags are allowed
Possible to leave off and ending tag like </body>	Tags should appear in pairs
Overlapping tags	No overlapping tags

HTML4 Vs HTML5



- **More Semantic**
- **More SEO friendly**
- **More readable**
- **More tags**



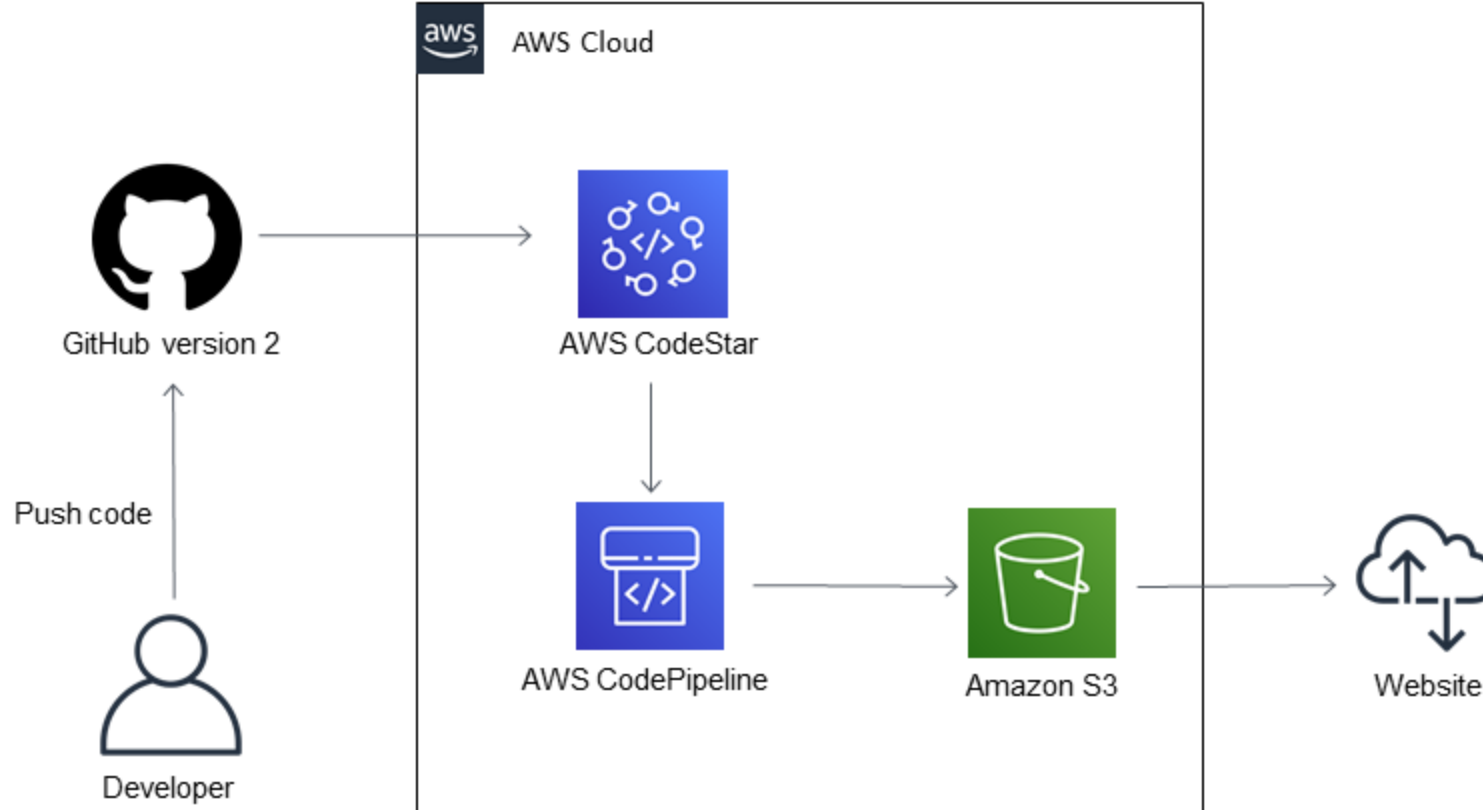
Features could be:

- **Native modal <dialog>**
- **Freedom to Resize Image**
- **Customized Menus in HTML6 <menu>**
- **HTML 6 integrated camera- control it's effects**

<https://www.positronx.io/html6-is-coming-here-is-a-sneak-peek/>

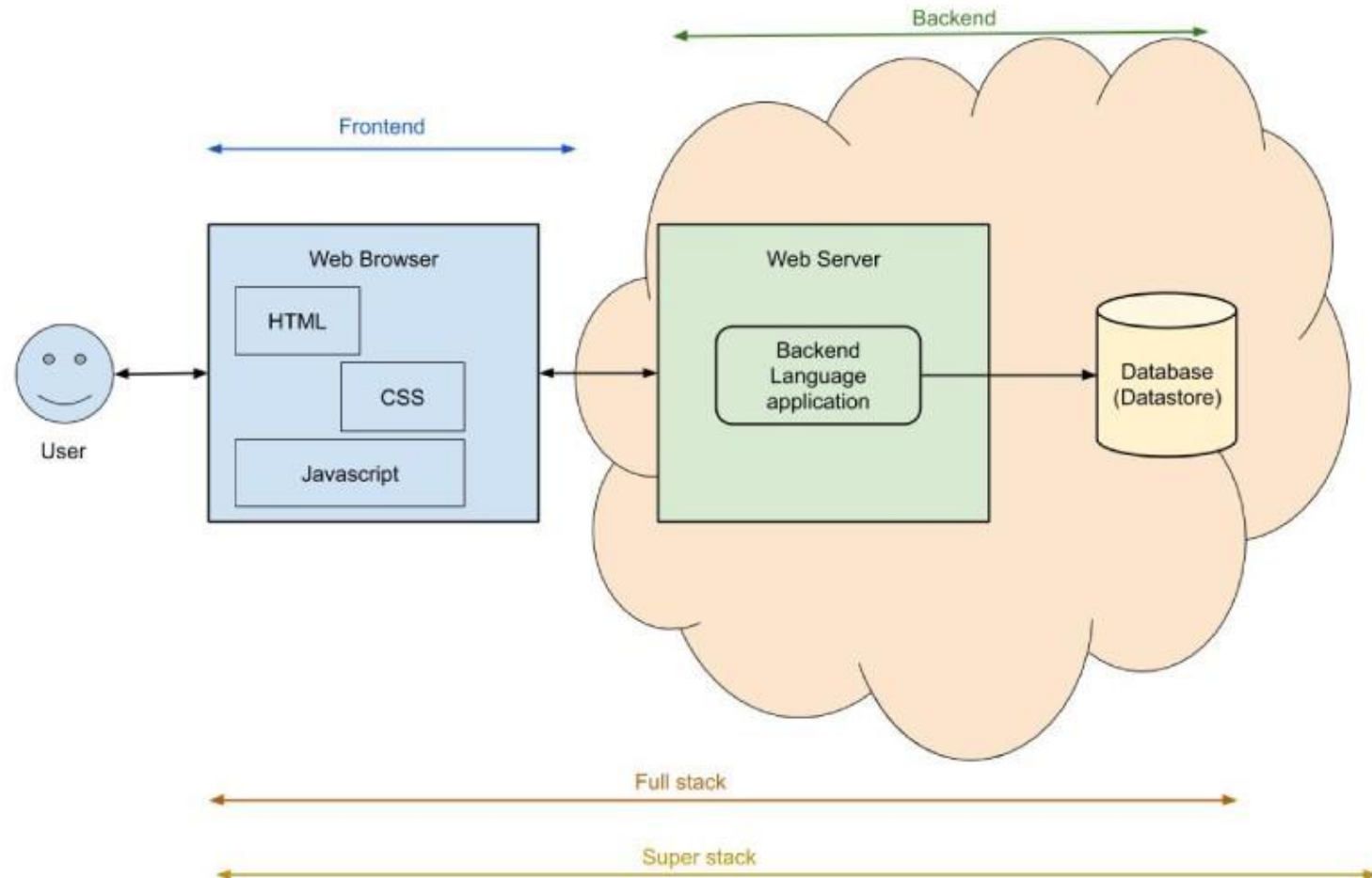
Hands On time

What Is deployment?

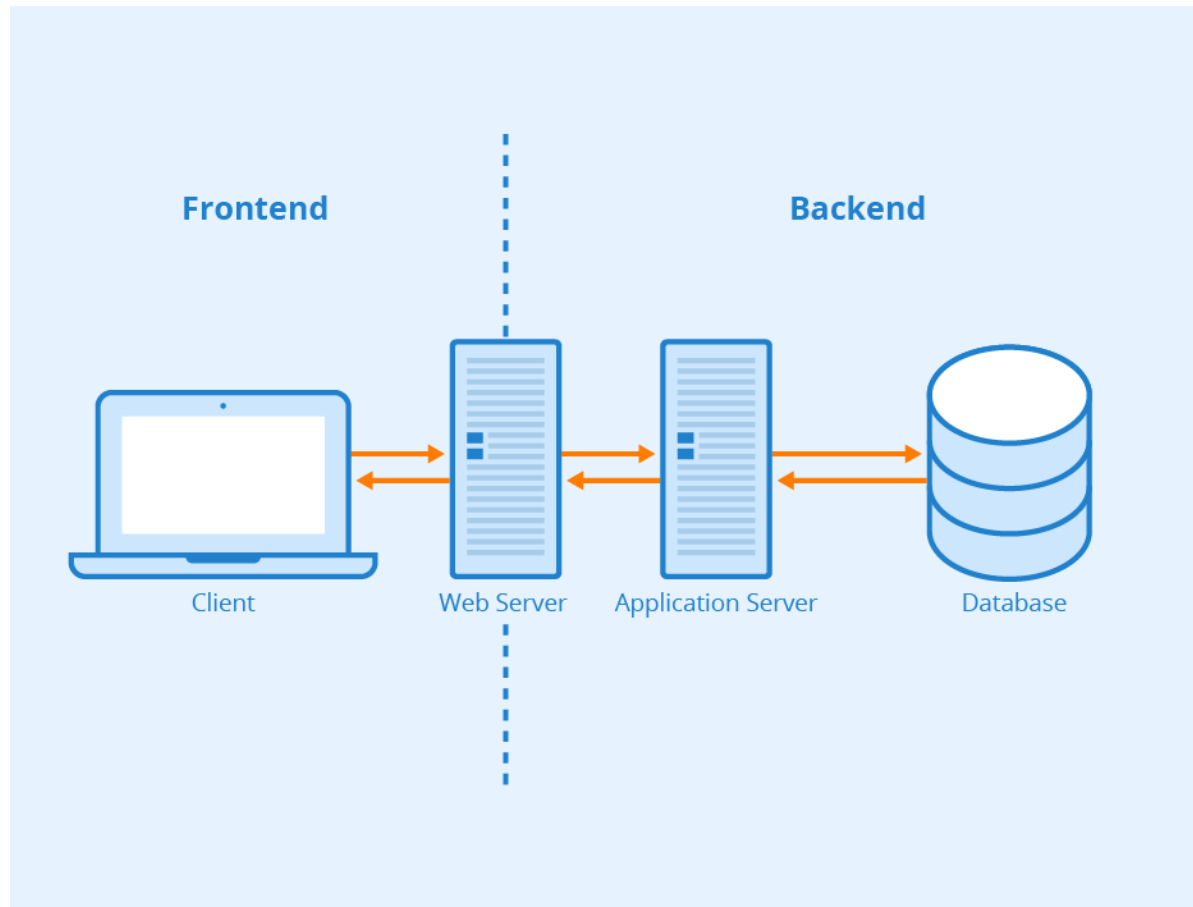


Push the code to web server and make it available

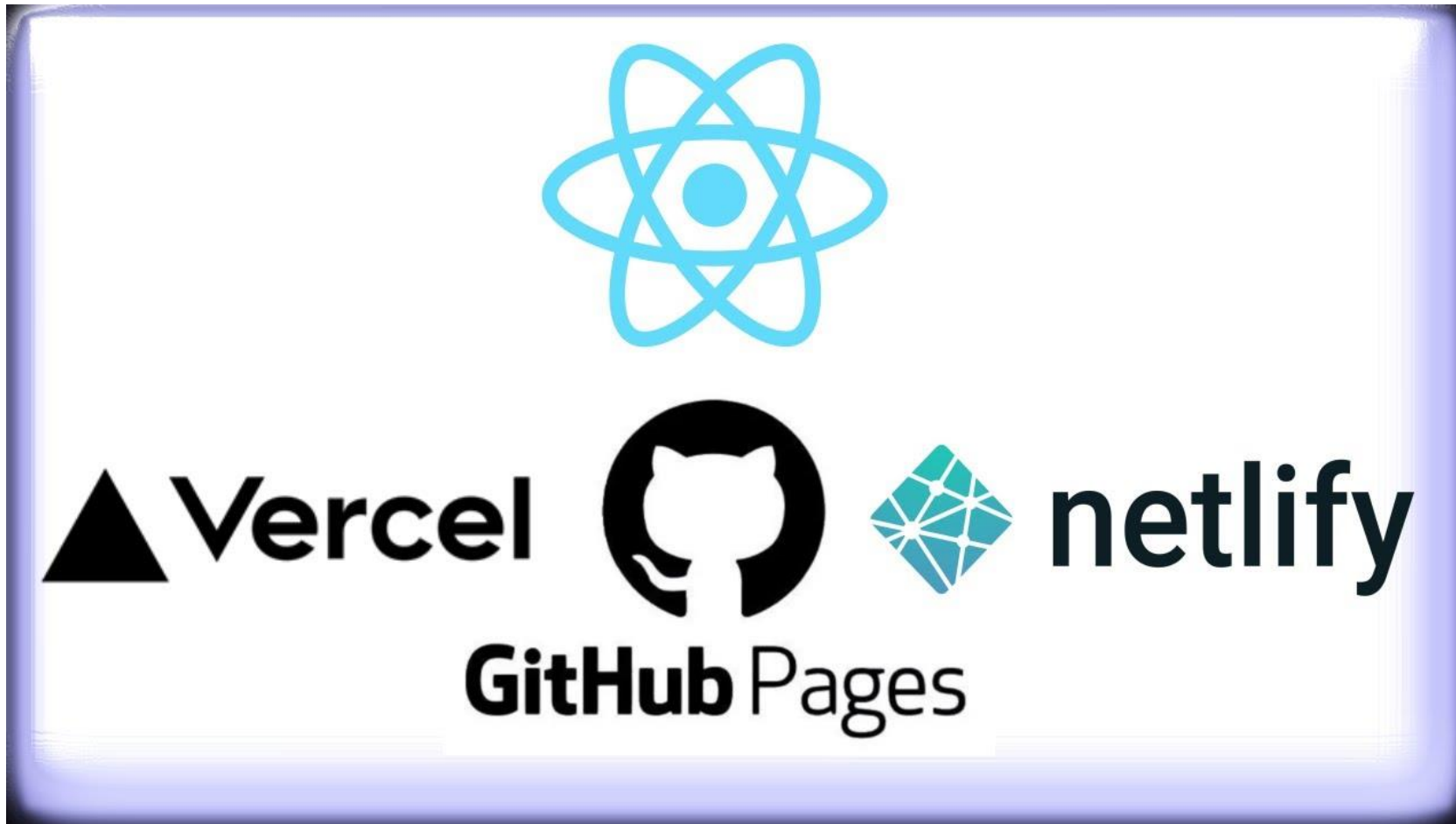
Typical Web Application Flow



Frontend Vs Backend Deployment



Make your first website live –
Frontend deployment



Let's Deploy on Github Pages

Q & A