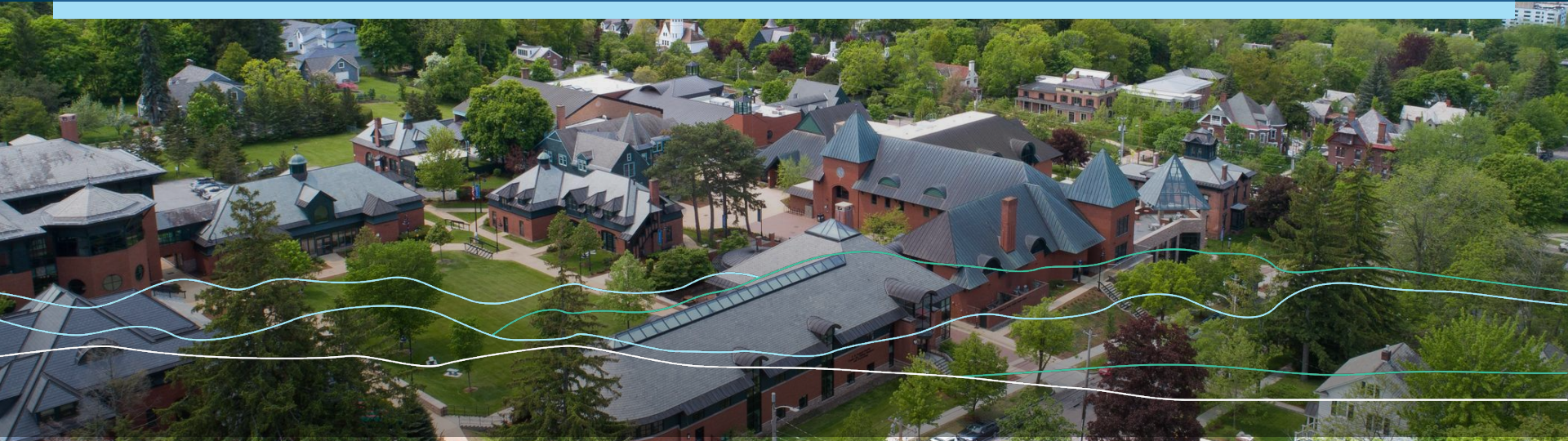


CHAMPLAIN COLLEGE



Mod 11 – Web Fundamentals

SEC-110



What is the Web?

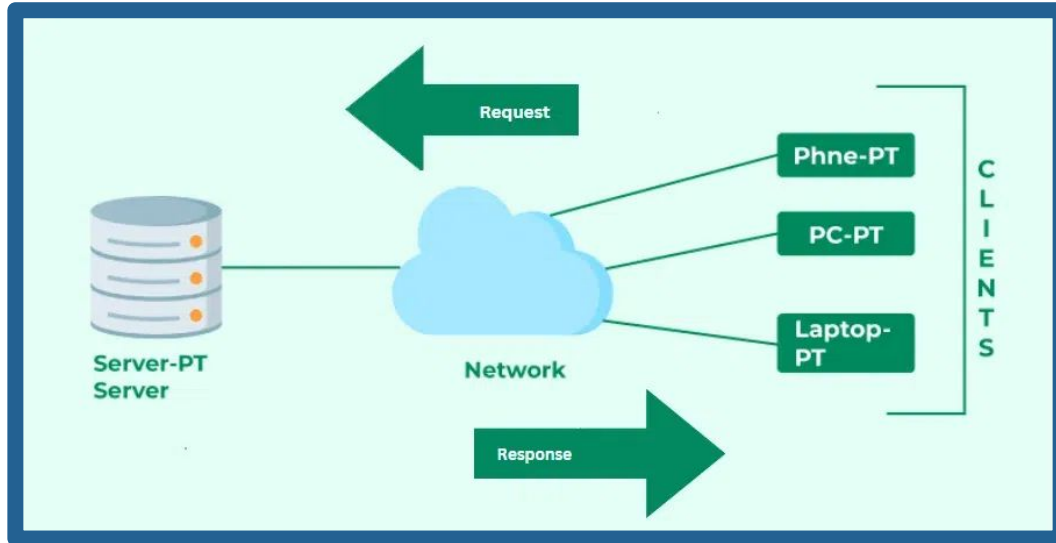
- **What is the difference between the Internet and the Web?**

- The **Internet** is the global network of computers and networks that allows connectivity and data transfers.

- The **Web** is a service that uses the internet to distribute and access programs and websites.

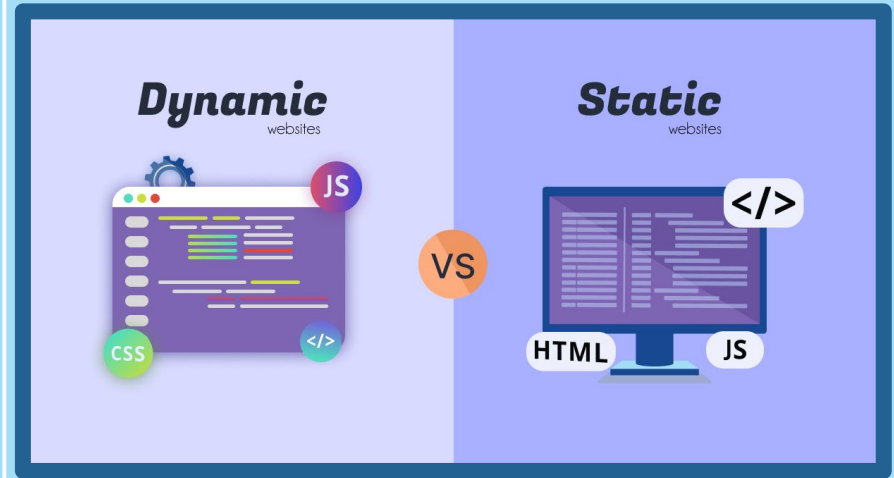
How Websites Work

The **Client-Server model** is a network framework that allows clients to ask for information or services from servers.



What is a Web Page?

- **Static Web pages** are text files containing HTML with their content staying fixed.
- **Dynamic Web pages** websites are interactive and can change based on user input or real-time data
- The **markup tags** provide information about the page content structure



HTML Basics

HTML is the most **basic building block** of the Web. It ***describes*** and ***defines*** the content of a webpage.

- **“HyperText”** refers to links that connect web pages to one another, either within a single website or between websites.
- **“Markup”** means to annotate text, images, and other content for display in a Web browser.

HTML

- **HTML** – HyperText Markup Language

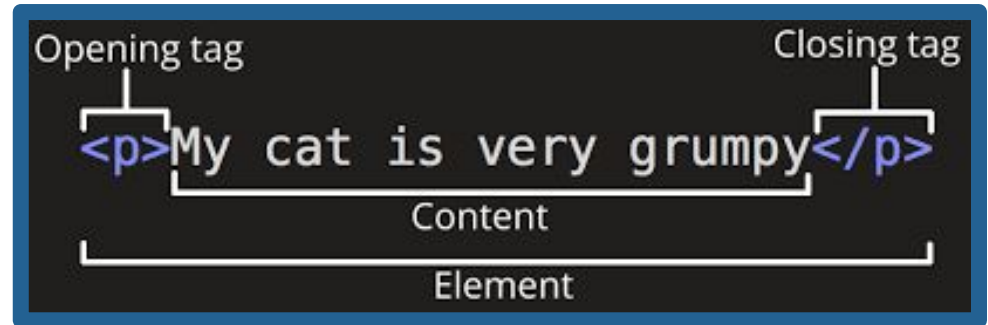
- A standard markup language used to structure and style websites.

- Examples:

- `` (image)

- `` (bold)

- `<a>` (link)



CSS

- Cascading Style Sheets
- A language used to describe designs and presentations for web pages.



HTML



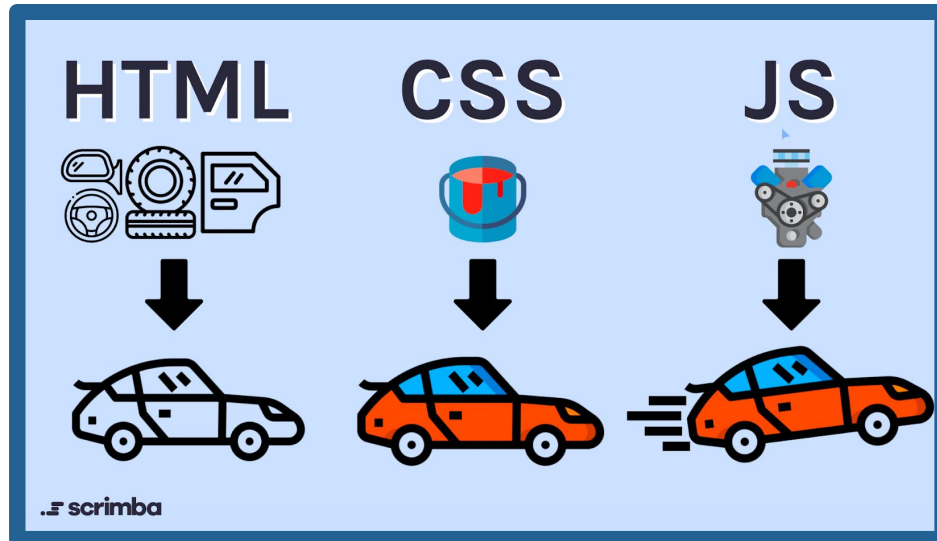
CSS

```
h1 {  
  font-family: courier, courier-new, serif;  
  font-size: 20pt;  
  color: blue;  
  border-bottom: 2px solid blue;  
}  
p {  
  font-family: arial, verdana, sans-serif;  
  font-size: 12pt;  
  color: #6B6BD7;  
}  
.red_txt {  
  color: red;  
}
```

JavaScript

JavaScript (JS):

- A client-side scripting language used to make interactive (**dynamic**) web pages.



Basic HTML Template

```
1  <html> (opening tag for document)
2      <head> (section not displayed but contains info for browser)
3          <title> (The name of the page that is printed in tab title)
4              Title goes here
5          </title> (closing tag – means section is done)
6      </head>
7      <body> (body contains what is displayed in browser)
8          Webpage stuff goes here!
9      </body>
10 </html>
```

Basic HTML Tags

Headers: The introduction of a page or section

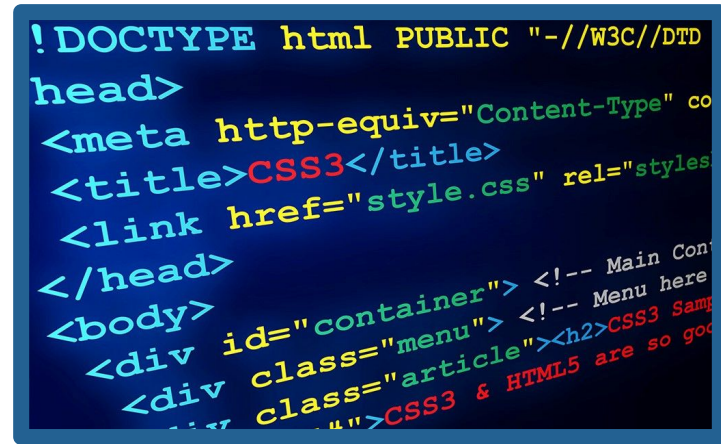
- Example tag: <header>

Title: Establishes the title of the page

- Example tag: <title>

Body: The primary content of the page

- Example tag: <body>



```
!DOCTYPE html PUBLIC "-//W3C//DTD
head>
<meta http-equiv="Content-Type" co
<title>CSS3</title>
<link href="style.css" rel="styles
</head>
<body>
<div id="container"> <!-- Main Con
<div class="menu"> <!-- Menu here
<div class="article"><h2>CSS3 Samp
" ">CSS3 & HTML5 are so good
```

HTML Forms

- **HTML Forms** are web documents that accept user input.
- This includes fields that can be filled in and/or buttons that can be clicked.

Hello Champlain Student - Please provide the following for this simple GET form:

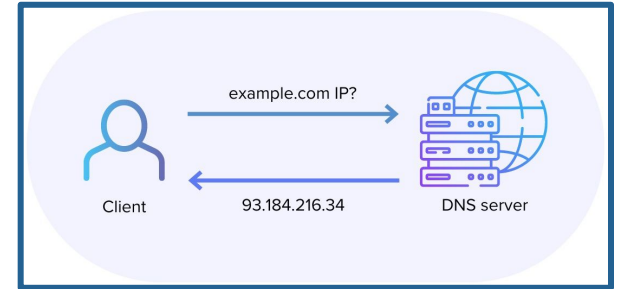
Name:

E-mail:

Web Hosting and Domains

- **DNS (Domain Name System):**

A system that converts domain names into IP addresses.



- **IP (Internet Protocol) addresses:**

A unique number that recognizes a device on the internet.



- **URL (Uniform Resource Locator):**

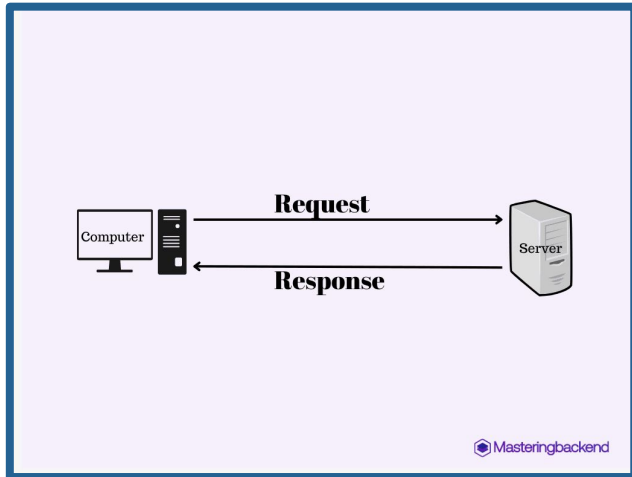
A unique identifier utilized to identify a resource on the internet.



How Browsers Render Websites

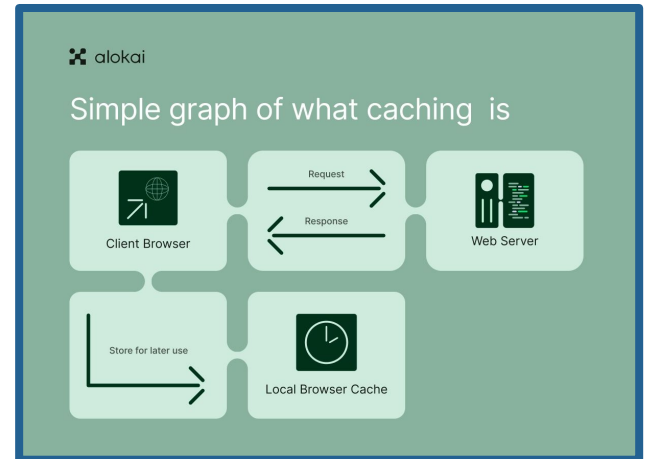
- **Request/response cycle:**

A communication procedure where a client transmits a request to a server and the server replies.



- **Caching:**

A method to temporarily save data in a computer so it can be easily accessed.



HTTP Status Codes

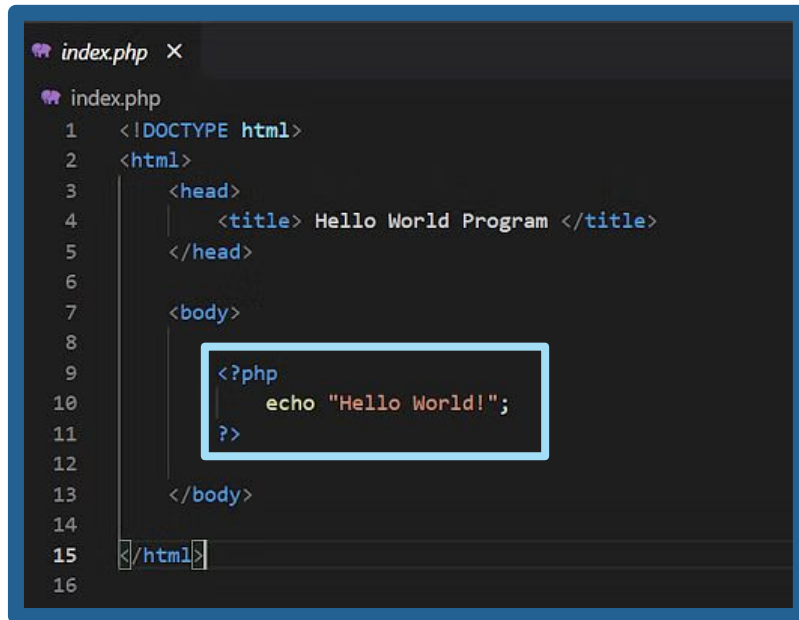
Common Status Codes:

- **404 Not Found:** the requested website is not found.
- **200 OK:** a successful request from a client to a server.
- **400 Bad Request:** the website server could not comprehend the request sent since the format is incorrect.



PHP

- What is **PHP** (Hypertext Preprocessor)?
 - A **server-side scripting language** used to create dynamic web pages.
 - Used for handling forms, interacting with databases and user authentication.

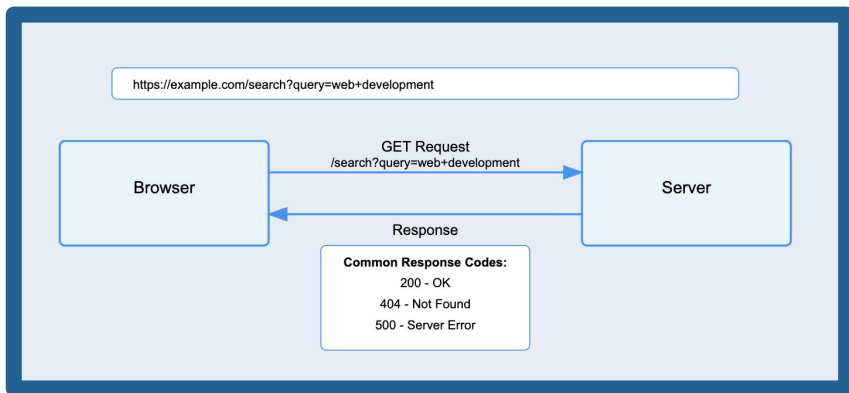


```
index.php x
index.php
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title> Hello World Program </title>
5   </head>
6
7   <body>
8     <?php
9       echo "Hello World!";
10    ?>
11
12   </body>
13
14 </html>
15
16
```

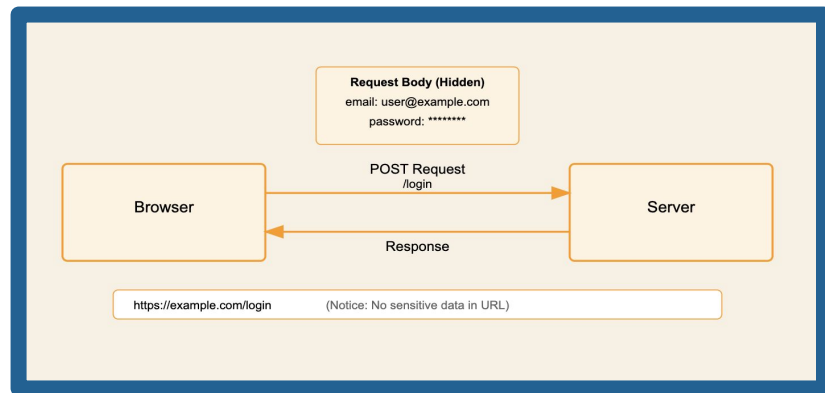
GET vs. POST

HTTP Methods are requests that a client makes to a web server to perform a certain action.

GET: requests data from a specified resource.

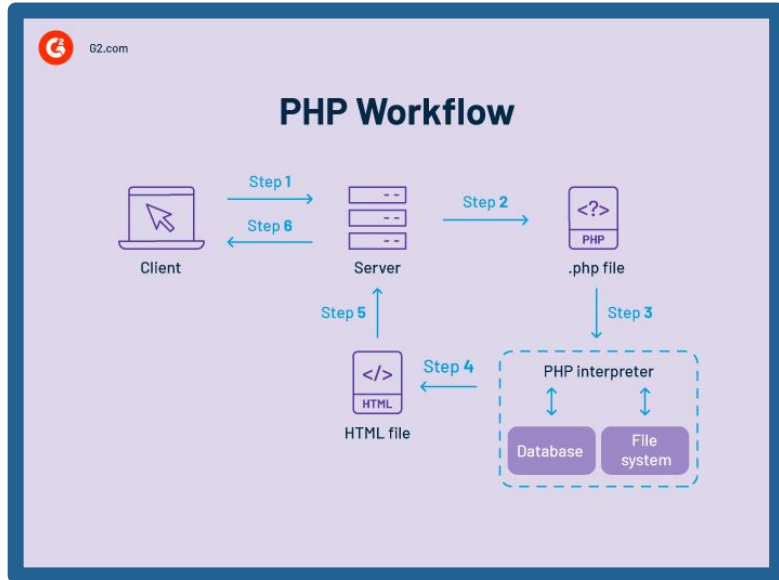


POST: sends data to a server to create/update a resource.



How HTML and PHP Work Together

- **HTML = Structure**
- **PHP = Logic**



- **HTML** is the **front-end**: it defines the page's content and structure.
- **PHP** is the **back-end**: it processes data, interacts with databases, and dynamically generates content.
- **PHP runs on the server** before sending **HTML to the browser**.

How HTML and PHP Work Together Cont.

HTML



PHP



```
<!DOCTYPE html>
<html>
<head>
  <title>PHP & HTML Together</title>
</head>
<body>
  <h1>Welcome!</h1>
  <?php
    $name = "Student";
    echo "<p>Hello, $name!</p>"; // PHP generates dynamic content
  ?>
</body>
</html>
```