

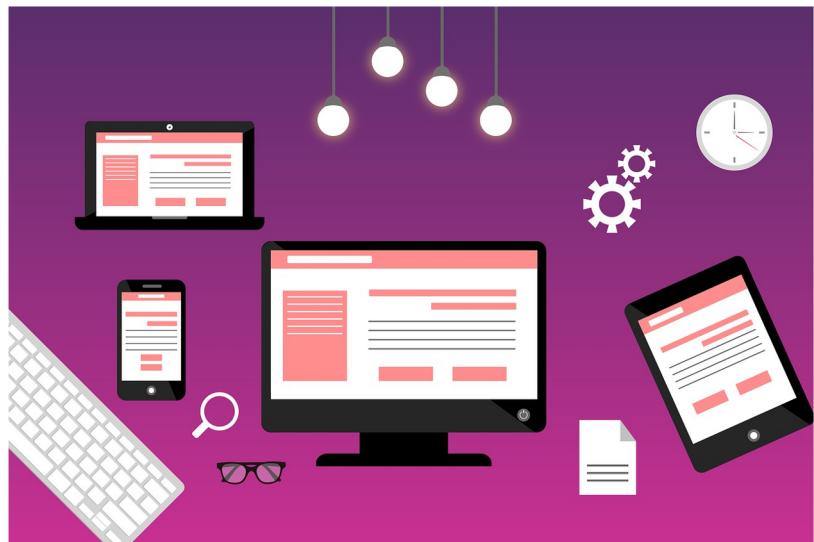


Intro to Web

Lesson Overview

- Explain how web protocols work
- Identify web directories

What is a website?



Files on a Server

```
224  
225 #hpstatus { display: none; }  
226  
227 .sticky {  
228 margin-bottom: 50px;  
229 }  
230  
231 .sticky .content-inner {  
232 margin-bottom: 0px !important;  
233 padding-bottom: 0px !important;  
234 border-bottom: 0px !important;  
235 -o-box-shadow: 0 1px 2px rgba(0,0,0,.2);  
236 -moz-box-shadow: 0 1px 2px rgba(0,0,0,.2);  
237 -webkit-box-shadow: 0 1px 2px rgba(0,0,0,.2);  
238 box-shadow: 0 1px 2px rgba(0,0,0,.2);  
239 background-color: #ffff;  
240 padding: 25px !important;  
241 position: relative;  
242 }  
243  
244 .side-box {  
245 padding: 10px 0;  
246 margin-bottom: 18px;  
247 border: 1px solid #CCC;  
248 background-color: #E6E6E6;  
249 text-align: center;  
250 }  
251  
252 .side-box a::link,  
253 .side-box a::visited {  
254 font-weight: normal;  
255 color: #00C55B;  
256 font-size: 12px;  
257 }
```

```
<div class="container">  
  <div class="row">  
    <div class="col-md-6 col-lg-8" ><!-- BEGIN NAVIGATION -->  
      <nav id="nav" role="navigation">  
        <ul>  
          <li><a href="#">Home</a></li>  
          <li><a href="home-events.html">Home Events</a></li>  
          <li><a href="multi-col-menu.html">Multiple Column Menus</a></li>  
          <li class="has-children"><a href="#" class="current">  
            <ul>  
              <li><a href="tall-button-header.html">Tall Buttons</a></li>  
              <li><a href="image-logo.html">Image Logo</a></li>  
              <li class="active"><a href="tall-logo.html">Tall Logo</a></li>  
            </ul>  
          </li>  
          <li class="has-children"><a href="#">Carousels</a>  
            <ul>  
              <li><a href="variable-width-slider.html">Variable Width Sliders</a></li>  
              <li><a href="variable-height-slider.html">Variable Height Sliders</a></li>  
              <li><a href="variable-width-testimonial.html">Testimonials</a></li>  
            </ul>  
          </li>  
        </ul>  
      </nav>  
    </div>
```

```
index.html  
  34 const events = [  
  35   'dragenter',  
  36   'dragleave',  
  37   'dragover', // to allow drop  
  38   'drop'  
  39 ];  
  40 events.forEach(e =>  
  41   fileDropZone.addEventListener(e, (ev) => {  
  42     ev.preventDefault();  
  43     if (ev.type === 'dragenter') {  
  44       fileDropZone.classList.add('solid-border');  
  45     }  
  46     if (ev.type === 'dragleave') {  
  47       fileDropZone.classList.remove('solid-border');  
  48     }  
  49     if(ev.type === 'drop') {  
  50       fileDropZone.classList.remove('solid-border');  
  51       handleFiles(ev.dataTransfer.files)  
  52       thenValues => values.map(tag => {  
  53         tag.setAttribute('class', 'border rounded-lg px-4 py-2');  
  54         fileDropZone.appendChild(tag);  
  55       })  
  56     }  
  57   })  
  58 }  
  59  
  60 function handleFiles(files) {  
  61   const promises = files.map(file => new Promise((  
  62     resolve, reject)  
  63   ) => {  
  64     const reader = new FileReader();  
  65     reader.readAsDataURL(file);  
  66     reader.onload = () => {  
  67       const img = document.createElement('img');  
  68       img.src = reader.result;  
  69       const tag = document.createElement('div');  
  70       tag.setAttribute('class', 'border rounded-lg px-4 py-2');  
  71       tag.appendChild(img);  
  72       resolve(tag);  
  73     }  
  74     reader.onerror = () => {  
  75       reject(`Error reading file ${file.name}`);  
  76     }  
  77   });  
  78   return Promise.all(promises);  
  79 }  
  80  
  81 fileDropZone = document.querySelector('#fileDropZone');
```



Webserver



APACHE
HTTP SERVER



NGINX



Off-Premise Hosting



- + Headers
- + Requests
- + Response
- + Browsers
- + Sessions
- + HTTPS

HTTP Protocol

Headers

Highlights



Requests

- + Client
- + Interacts with Server
 - + Methods
 - + GET
 - + HEAD
 - + POST
 - + PUT
 - + DELETE
 - + CONNECT
 - + OPTIONS
 - + TRACE
 - + PATCH
- + User-Agent

```
POST /collect HTTP/2
Host: h.clarity.ms
Cookie: MUID=198DB6F0FEA3669418D7A7BDFF6167F0
Content-Length: 625
Sec-Ch-Ua: "(Not(A:Brand";v="8", "Chromium";v="98"
Accept: application/x-clarity-gzip
Sec-Ch-Ua-Mobile: ?0
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64)
AppleWebKit/537.36 (KHTML, like Gecko) Chrome/98.0.4758.82
Safari/537.36
Sec-Ch-Ua-Platform: "macOS"
Origin: https://my.ine.com
Sec-Fetch-Site: cross-site
Sec-Fetch-Mode: cors
Sec-Fetch-Dest: empty
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.9
```

Response

- + Server
- + Sends Resources
- + Status Codes
 - + 200
 - + 302
 - + 404
 - + etc.

```
HTTP/2 405 Method Not Allowed
Allow: GET, OPTIONS, POST
Server: Microsoft-IIS/10.0
Request-Context: appId=cid-v1:b1d896b3-bec7-448b-b764-240152e813e8
Access-Control-Allow-Origin: *
X-Powered-By: ASP.NET
Date: Wed, 16 Feb 2022 20:25:02 GMT
```

```
HTTP/2 404 Not Found
Server: Microsoft-IIS/10.0
Request-Context: appId=cid-v1:b1d896b3-bec7-448b-b764-240152e813e8
Access-Control-Allow-Origin: *
X-Powered-By: ASP.NET
Date: Wed, 16 Feb 2022 20:25:53 GMT
```

```
HTTP/2 200 OK
Content-Type: text/html
Date: Wed, 16 Feb 2022 20:27:19 GMT
Last-Modified: Wed, 16 Feb 2022 16:51:21 GMT
Etag: W/"321dd757947577ff6f59c4feba03c6f0"
Cache-Control: no-store
X-Amz-Version-Id: TW03y7.W3oQU1qJQih71..4LaCI5J5eT
Server: AmazonS3
Strict-Transport-Security: max-age=31536000; includeSubdomains;
preload
Content-Security-Policy: frame-ancestors 'none';
X-Content-Type-Options: nosniff
X-Xss-Protection: 1; mode=block
Referrer-Policy: same-origin
Vary: Accept-Encoding
X-Cache: Error from cloudfront
Via: 1.1 b7a66b6616123855c5af2d7cdf2b099e.cloudfront.net (CloudFront)
X-Amz-Cf-Pop: EWR52-C1
X-Amz-Cf-Id: A05G4uGNMgsn4QIVEixjbZQWRxIrbDxPR7Ju7UQHWayiJJipWWJBjA==

<!DOCTYPE html><html lang=en>
```

Browsers

Interpret and Process

Sessions

```
POST /collect HTTP/2
Host: d.clarity.ms
Cookie: MUID=198DB6F0FEA3669418D7A7BDFF6167F0
Content-Length: 674
Sec-Ch-Ua: "(Not(A:Brand";v="8", "Chromium";v="98"
Accept: application/x-clarity-gzip
Sec-Ch-Ua-Mobile: ?0
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64)
AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/98.0.4758.82 Safari/537.36
```

Cookies



HTTPS

Cleartext

```
POST /login.php HTTP/1.1
Host: demo.ine.local
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:91.0) Gecko/20100101 Firefox/91.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Content-Type: application/x-www-form-urlencoded
Content-Length: 51
Origin: http://demo.ine.local
Connection: keep-alive
Referer: http://demo.ine.local/login.php
Cookie: PHPSESSID=n9o897cbc8q5b4gs2pnftjf7t1
Upgrade-Insecure-Requests: 1

login=bee&password=bug&security_level=0&form=submitGET /portal.php HTTP/1.1
```

Encrypted

```
.....6....1.....k.q.&F/.....0'.[.Kj. .1&.....A.....$...K>.n1Dt.z...f0.$.....+./....., .0.
...../.5.
.....demoss1.ine.local.....
.....#.....h2.http/1.1.....".
.....3.k.i....lf9.g.J.=..9...\"r[.TN....>....A.....I.T.."/!3...3.6N..XG6C..;Mr+.....L .. .
[$. ....U.]ATMKH....+.....
.....@.....
```



Let's get hands-on!



