



WEB DEVELOPMENT NOW

MOSStateACM

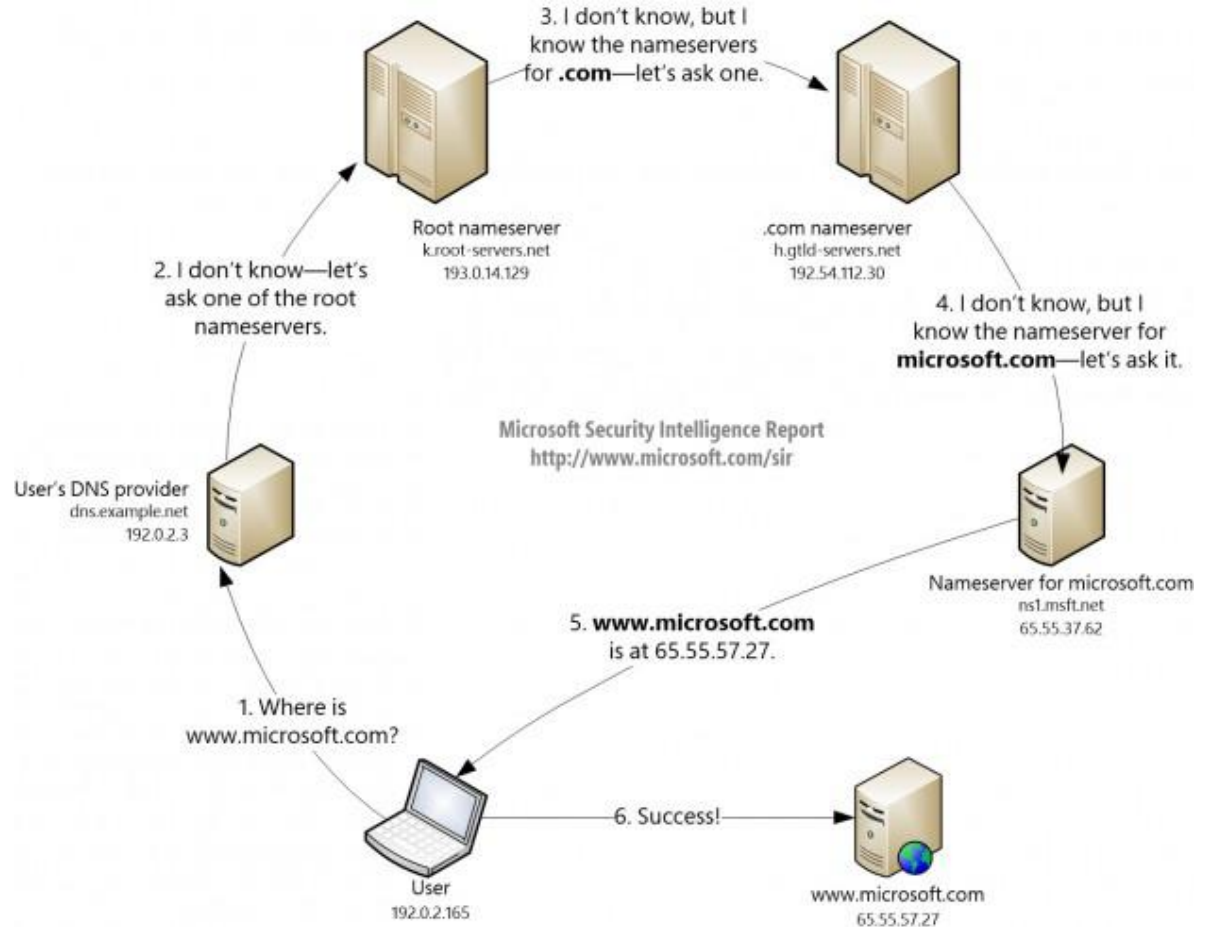
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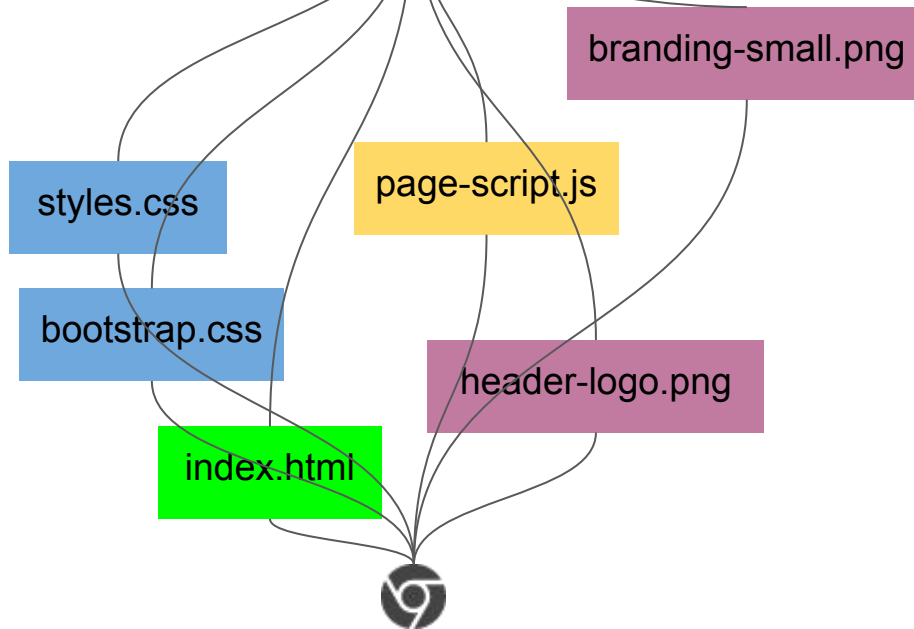
INTERNET BASICS

Here we go!!!

What happens when you open *www.microsoft.com*?



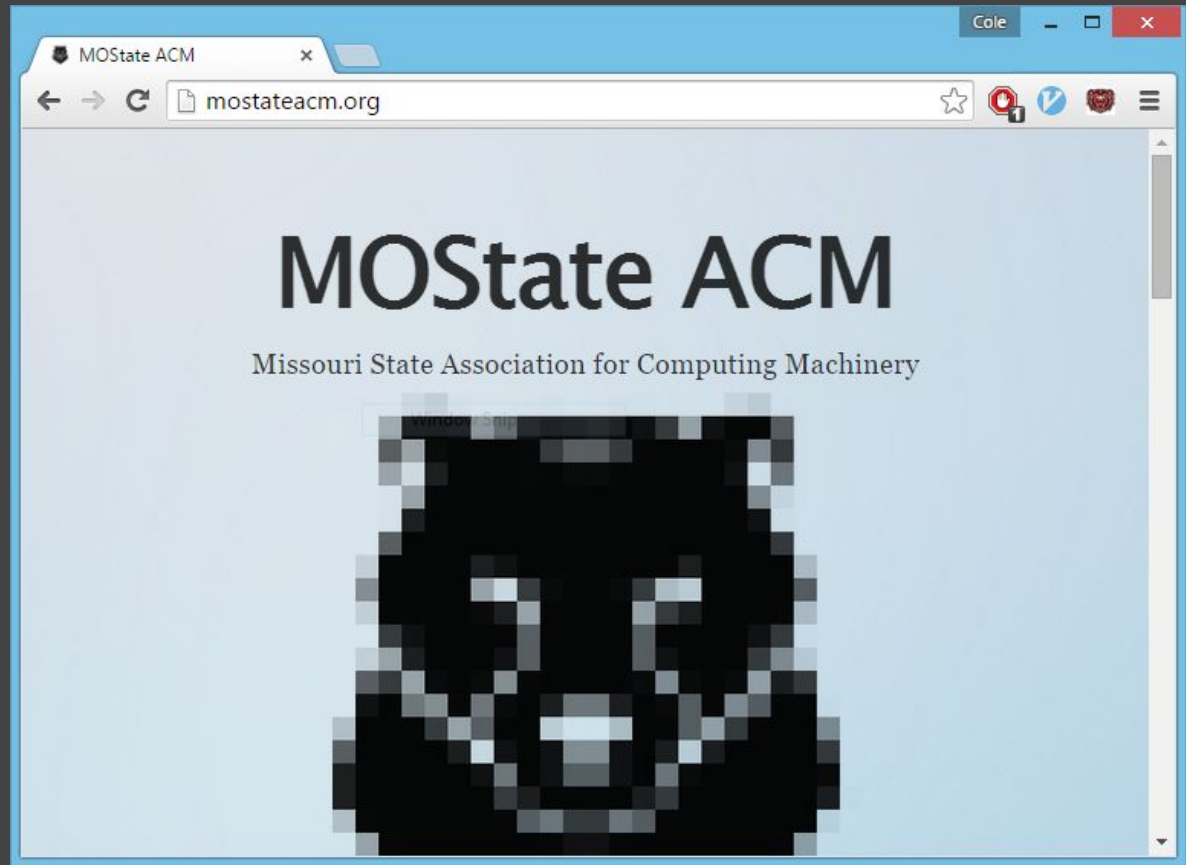
Application Server
12.134.55.76



Your Browser

Example

<http://MOStateACM.org>



Example

Receiving the page

Receiving the assets

The screenshot shows a web browser window with the address bar displaying `mostateacm.org/about-us.html`. The page content includes the MOState ACM logo, the text "Missouri State Association for Computing Machinery", a pixelated image, and the heading "About us". Below the heading, it states "Our goal is to give our Missouri State Computer Science students opportunities to engage".

The browser's developer tools are open, showing the Network tab. The network activity table lists the following requests:

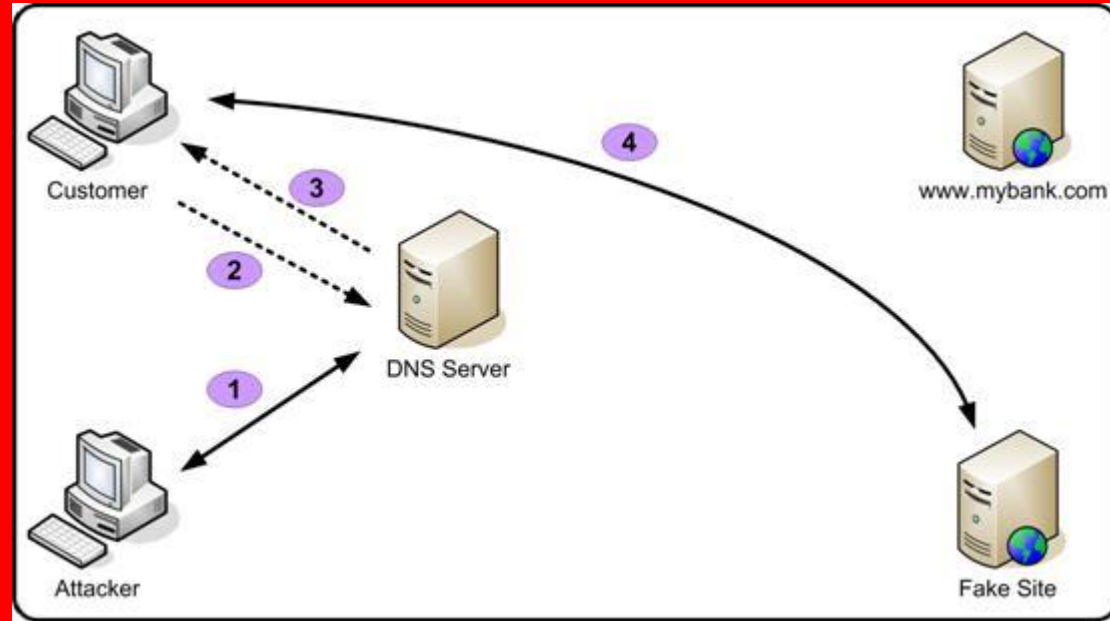
Name	Type	Initiator	Size	Time	Timeline
about-us.html	document	Other	1.4 KB	55 ms	
site.css	stylesheet	about-us.html:7	2.2 KB	52 ms	
special-contact-form.css	stylesheet	about-us.html:8	1.4 KB	57 ms	
small.png	png	about-us.html:19	1.1 KB	56 ms	

At the bottom of the network panel, a summary bar indicates: 4 requests | 6.1 KB transferred | Finish: 138 ms | DOMContentLoaded: 88 ms | Load: 140 ms.

BONUS!

The Man in the Middle Attack!

1. Attacker hacks DNS Server to change IP for www.mybank.com
2. Victim makes a request to www.mybank.com
3. DNS Server looks up address of www.mybank.com and returns the attackers server IP.
4. Victim uses the attacker's fake website.



BROWSER PROGRAMMING

The frontend of webdev
HTML, CSS, and JavaScript

Example: <http://mostateacm.org/examples/page.html>

HTML - *Hyper Text Markup Language*

Structure of the page

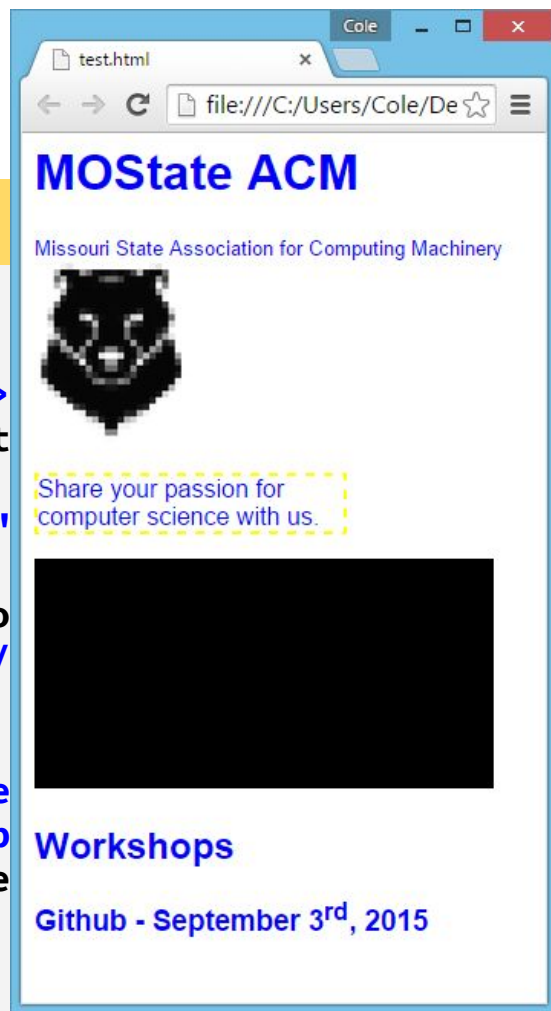
```
<html>
  <body>
    <h1>MOState ACM</h1>
    <small>Missouri State Association for Computing Machinery</small>
    <br>
    
    <br>
    <p>Share your passion for computer science with us.</p>
    <video src="https://www.youtube.com/embed/nKIu9yen5nc">
    <br>
    <h2>Workshops</h2>
    <div class="line-break"></div>
    <div class="workshop-video">
      <h3>Github - September 3rd, 2015</h3>
    </div>
  </body>
</html>
```



CSS - *Cascading Style Sheets*

Styling the structure of the page

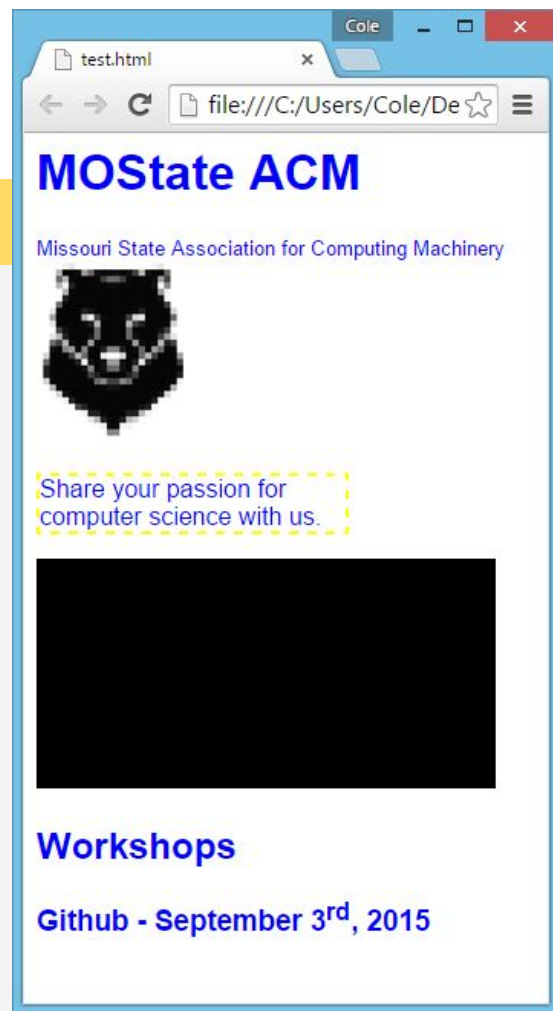
```
body {  
  font-family: "Helvetica";  
  color: blue;  
}  
p {  
  font-size: 16px;  
  width: 200px;  
  border: 2px dashed yellow;  
}  
  
<html>  
  <body>  
    <h1>MOState ACM</h1>  
    <small>Missouri Stat  
    <br>  
      
    <p>Share your passio  
    <video src="https://  
    <br>  
    <h2>Workshops</h2>  
    <div class="line-bre  
    <div class="workshop  
      <h3>Github - Septe  
    </div>  
  </body>  
</html>
```



JS - *JavaScript*

Logic and reactions in a page

```
function myFunction ( event ) {  
    // change background of element  
    event.target.style.background = "lawngreen";  
}  
  
document.addEventListener("click", myFunction);
```

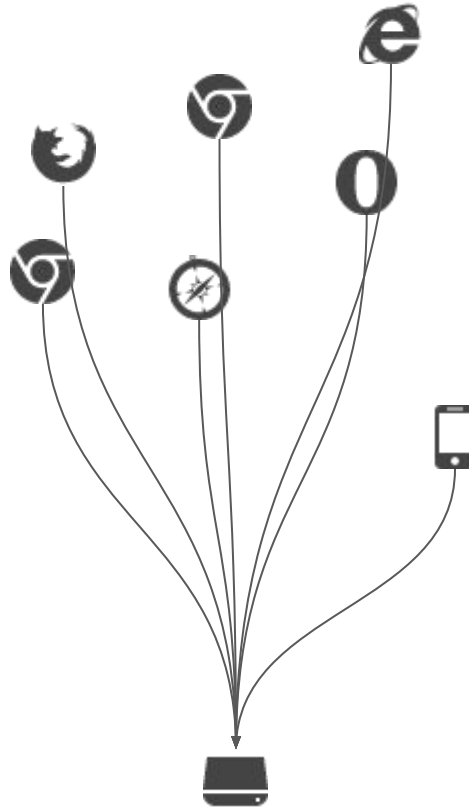


SERVER PROGRAMMING

The backend of webdev

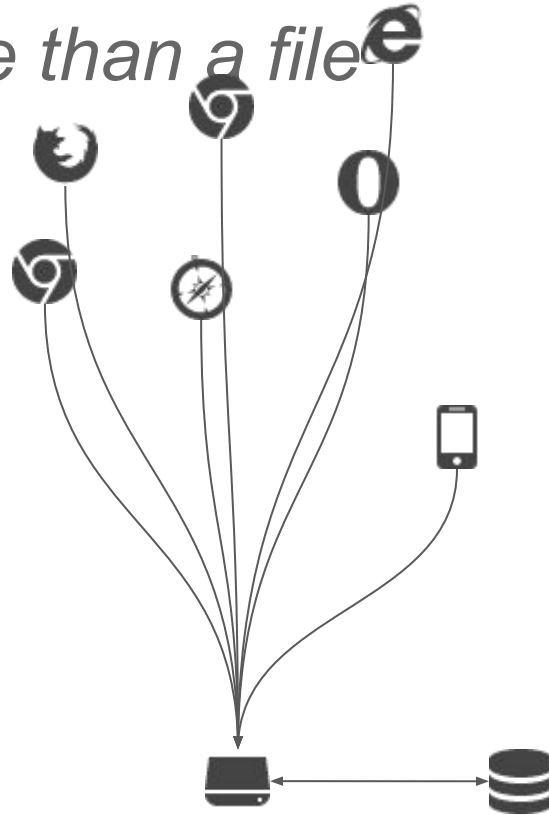
Application Server

- Logging into a website
- Serving you personal content



Database Server - *more than a file*

- Holding your data safely
- Across multiple computers



NODE.JS

a quick demo