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"Web Development Foundations" (WDF)   
*by James Williamson*

## Introduction To The Web

Understanding How The Web Works (2:37)

1. **What are clients?**

ANSWER: Clients are the devices that request and render web content, such as browsers, mobile apps, screen readers and content aggregators

Working with clients and servers (2:38)

1. **When we type in a URL, the request does not typically go first to the web server. Where does it go?**

ANSWER: To a domain name server (DNS) which translates the URL into an IP address

1. **[True or False] In response to a web request, all required files are sent at the same time**

ANSWER: True (for static sites)

The DNS and why it matters (4:41)

**4. [Critical Thinking] Why is it important to understand DNS when helping a client change hosting companies?**

ANSWER:

1. No one would be able to find the site if it isn’t registered properly

2. If the client wants multiple names to go to the one site, I need to make sure they all point to the proper IP

3. We must know who the site ownership is assigned to because hosting companies will not make changes without the owner’s consent. The proper owner must be listed for the site.

Exploring HTTP (4:13)

1. **What does the author mean when he says HTTP is a stateless protocol?**

ANSWER: Once the request for data has been sent and received, it is forgotten/discarded by both the web server and the browser. This speeds up the process but

any persistent data storage for browsing sessions has to be handled through other means, usually Cookies, JavaScript variable or Server Session Management.

Anatomy of a URL (7:13)

1. **[Critical Thinking] What is the purpose of a subdomain?**

ANSWER: Subdomains are basically subfolders of web content on web servers and allow servers to identify unique sites or unique areas of content. Examples: www and video.

When not specified it goes to the servers default, very commonly it is www.

How browsers work (4:32)

1. **Which rendering engine is based on WebKit and used under the hood to develop Chrome?**

ANSWER: BLINK

Web standards and the W3C (3:46)

1. **[Critical Thinking] Why are web standards important to web developers?**

ANSWER: As browsers continued to release very different proprietary features in each new version, developers needed to design multiple versions of their sites. Web standards have enabled the continual evolution of technology and capabilities of the internet. Writing to standards ensures consistency across supporting browsers and devices. Developers need to stay informed of browser advances, innovations and which standards are being supported by the various browsers. Developers can refer to w3.org for current recommendations.

Web server basics (3:02)

1. **[Critical Thinking] What is the LAMP stack?**

ANSWER: A stack is a combination of software a server contains to build and process web sites. LAMP is the most common stack and stands for Linux (operating system), Apache (web server), MySQL (database server), and PHP (programming language). Each of these components is open source so are easy to build and inexpensive to run. Some developers refer to the “P” as Perl or Python.

1. **[Critical Thinking] Why is it important to know what stack is being used by your host?**

ANSWER: So you don’t write code that won’t be supported by the server where the site is located. The developer needs to choose a server with a stack that supports the scripting and database choices he/she has made for the site.

## Front End Technology

Front end design (3:11)

1. **[True or False] According to our author, front end design is commonly associated with the server.**

ANSWER: False

1. **What are the three languages the author associates with front end design?**

ANSWER: html, css, Javascript

HTML the language of the web (3:54)

1. **[Critical Thinking] Why was HTML5 created?**

ANSWER: A group of developers independently collaborated to continue the evolution of HTML (the WHATWG) when the w3c and the rest of the IT community was working on a “new” standard (XHTML). Eventually, the w3c recognized and adopted their work as the new standard and named it HTML5 which retains the backwards compatibility of previous versions of HTML while adding new structural tags and support for API’s .

Structuring HTML (4:22)

1. **[Critical Thinking] What does the <head> of an HTML document contain?**

ANSWER: All of the non-visual elements that make the web page work, such as meta tags, a title for the page, Javascript and other scripts and sources, links to internal css and external resources. The author compared this element as the “condiments” in a sandwich.

Controlling presentation through CSS (4:22)

1. **[Critical Thinking] What does the term cascade mean?**

ANSWER: The browser reads the formatting rules from the external css from top to bottom and applies them to the web page in that order. However, the developer can control particular styles by embedding it into the html page. Detailed “one-time” styling can be done with Inline styles giving the developer control over every element of a web page.

1. **What’s the benefit of using a separate file to store your CSS?**

ANSWER: When the styling is to be used throughout the website establishing a consistent style throughout the site

1. **In CSS, what separates a property from a value?**

ANSWER: A property is followed by a COLON (:) then the value is listed

Client side scripting with JavaScript (4:40)

1. **[Critical Thinking] What is the purpose of JavaScript?**

ANSWER: To increase the capabilities and functionality of the browser (like interactivity)

Common image types (5:31)

1. **Which 2 types of graphics support transparencies?**

ANSWER: GIF and PNG

1. **Which type of image scales without any loss in quality?**

ANSWER: SVG (a vector graphics format)