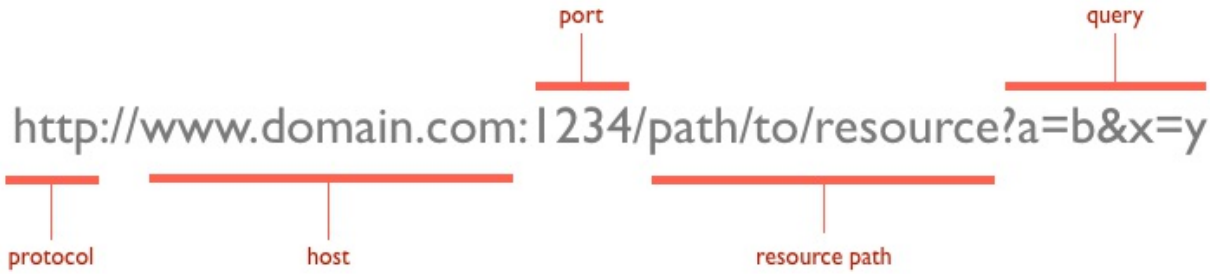
layout: post #post title: Web Technologies summary #post title categories: Web #post category, seperated by space tags: Web interview #post tag, seperated by space

HTTP

1. HTTP/1.1
    - stands for Hypertext Transfer Protocol.
    - stateless, (does not keep state between different message exchanges.)
    - application-layer protocol for communicating between distributed systems
    - is the foundation of the modern web.
    - allows for communication between a variety of hosts and clients
    - support a mixture of network configurations
    - usually takes place over TCP/IP
    - port:80. https port:443
    - 1.1 new features: persistent connections, chunked transfer-coding and fine-grained caching headers
    - communication between a host and a client occurs, via a request/response pair
        - client initiates an HTTP request message and get a http response in return

Request and response headers

1. request message -- sent via Uniform Resource Locators (URLs)

2. 

    - port can be set explicitly,
    - resource path is the local path to the resource on server
3. web debugging proxies: Fiddler on Windows and Charles Proxy for OSX.
4. request verb:
    - GET: fetch an existing resource.
        - The URL contains all the necessary information the server needs to locate and return the resource.
    - POST:
        - create a new resource. POST requests usually carry a payload that specifies the data for the new resource.
    - PUT:
        - update an existing resource. The payload may contain the updated data for the resource.
    - DELETE: delete an existing resource. PUT and DELETE are sometimes considered specialized versions of the POST verb, and they may be packaged as POST requests with the payload containing the exact action: create, update or delete.
5. lesser used verbs that HTTP support:
    - HEAD:
        - similar to GET, but without the message body.
        - It's used to retrieve the server headers for a particular resource, generally to check if the resource has changed, via timestamps.
    - TRACE:
        - used to retrieve the hops that a request takes to round trip from the server. Each intermediate proxy or gateway would inject its IP or DNS name into the Via

header field. This can be used for diagnostic purposes.
    - OPTIONS: used to retrieve the server capabilities. On the client-side, it can be used to modify the request based on what the server can support.

utf-8 vs. unicode

2. Unicode assigns each character a unique number, or code point.
3. UTF-8 is a character encoding - a way of converting from sequences of bytes to sequences of characters and vice versa.
4. UTF is a type of encoding that uses a variable number of bytes per character, UTF-8 means the unit size is 8 bits. The standard then defines a few of these bits as flags: if they're set, then the next unit in a sequence of units is to be considered part of the same character.
5. UTF-8 encodes each valid code points in Unicode using one to four 8-bit bytes.[9] Code points with lower numerical values, which tend to occur more frequently, are encoded using fewer bytes.
6. Communications protocols such as HTTP tend to work best with UTF-8, as the unit size in UTF-8 is the same as in ASCII,.
7. UTF-8 is a particular way of encoding Unicode.

Caching, connection handling and authentication.