HTTP Crash Course Notes

What is HTTP?
- **H**yper **T**ext **T**ransfer **P**rotocol
- Communication between web servers and clients
- HTTP Requests/Responses
- Loading pages, form submit, Ajax calls

HTTP is Stateless:
- Every request is completely **independent**
- Similar to transactions
- Programming, local storage, cookies, sessions are used to create enhanced user experiences

What is HTTPS?
- **H**yper **T**ext **T**ransfer **P**rotocol **S**ecure
- Data sent is encrypted
- SSL / TLS
- Install certificate on web host

HTTP Methods:
- **Get:** retrieves data from the server
- **Post:** submit data to the server
- **Put:** update data already on the server
- **Delete:** deletes data from the server

HTTP Header Fields:
- General:
    - Request URL
    - Request method
    - Status code
    - Remote address
    - Referrer policy
- Response:
    - Server
    - Set-cookie
    - Content-type
    - Content-length
    - Date
- Request:
    - Cookies
    - Accept-xxx
    - Content-type

- ○ Content-length
- ○ Authorization
- ○ User-agent
- ○ Referrer


```
method                    path                          protocol
GET /tutorials/other/top-20-mysql-best-practices/ HTTP/1.1
Host: net.tutsplus.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.1; en-US; rv:1.9.1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=
Accept-Language: en-us,en;q=0.5
Accept-Encoding: gzip,deflate
Accept-Charset: ISO-8859-1,utf-8;q=0.7,*;q=0.7
Keep-Alive: 300
Connection: keep-alive
Cookie: PHPSESSID=r2t5uvjq435r4q7ib3vtdjq120
Pragma: no-cache
Cache-Control: no-cache
```
HTTP headers as Name: Value

HTTP Status Codes:
- ● 1xx: Informational
  - ○ Request received / processing
- ● 2xx: Success
  - ○ Successfully received, understood and accepted
- ● 3xx: Redirect
  - ○ Further action must be taken / redirect
- ● 4xx: Client Error
  - ○ Request does not have what it needs
- ● 5xx: Server Error
  - ○ Server failed to fulfill an apparent valid request

200 - OK

201 - OK created

301 - Moved to new URL

304 - Not modified (Cached version)

400 - Bad request

401 - Unauthorized

404 - Not found

500 - Internal server error

HTTP/2 Multiplexing:
- ● Major revision of HTTP
- ● Under the hood changes
- ● Respond with more data
- ● Reduce latency by enabling full request and response multiplexing
- ● Fast, efficient, and secure