Hypertext Transfer Protocol (HTTP) is an application-layer communication protocol used to access resources (hypertext/hypermedia) on the World Wide Web. It was invented by Tim Berners-Lee. HTTP was jointly developed by the W3C and the IETF (Internet Engineering Task Force).

BRIEF HISTORY OF HTTP:

HTTP 0.9

-The original http as defined in 1991

\*Connection

\*Request

\*Response

\*Disconnection

HTTP 1.0 (RFC 1945, May 1996)

HTTP 1.1

RFC 2068

RFC 2616

RFC 7230-7235 –message syntac and rout

- symantics and contents

SPDY – better way on accessing resources on the web

HTTP Fundamentals:

* HTTP runs on top of TCP/IP, using TCP port 80 by default or TCP port 443 for HTTPS (HTTP over SSL/TLS).

SSL – Secure Socket Layer

- HTTPS – port 443

- encrypted data – transform to mathematical base

* HTTP is based on client-server architecture.

\* client, aka user agents (UA)

- web browser, web crawlers/spiders, other end used tools and applications.

\* servers

- Origin servers (machine and web server)

- Proxy servers, gateway, tunnels

* HTTPS uses a request-response standard protocol the client sends an HTTP request message to the server

\*”push”

\*”pull”

\*polling” periodically check info

* HTTP is a stateless communication protocol.

\* servers do not keep information about clients in between requests.

* Cache control
* Content Media Type (MIME) specification
* Language and Character set specification
* Content/Transfer Coding
* Client-server protocol negotiations
* Persistent connections
* Authentication/Authorization

- such that not everybody cannot fetch without logging in on authentication.

\*http itself has an authentication

* HTTP Resource Addressing

\*HTTP resource are identified using URI (RFC 3986), or, more specifically HTTP URLs.