HTTP

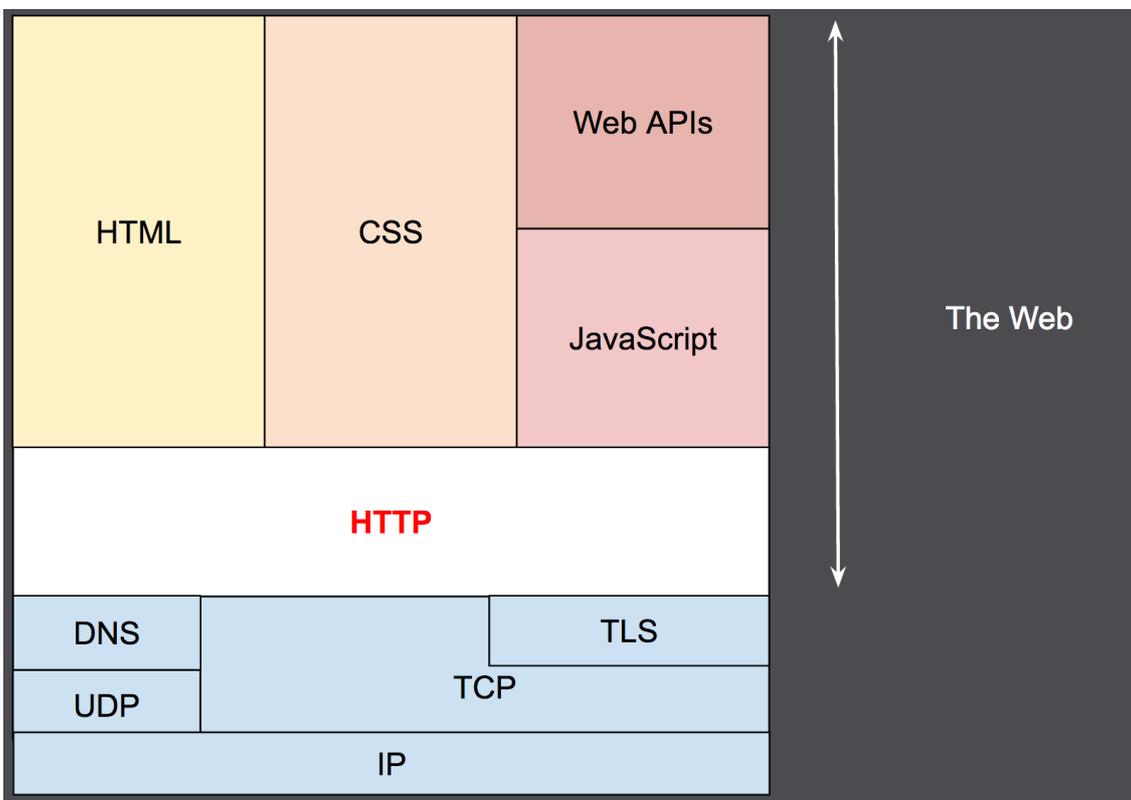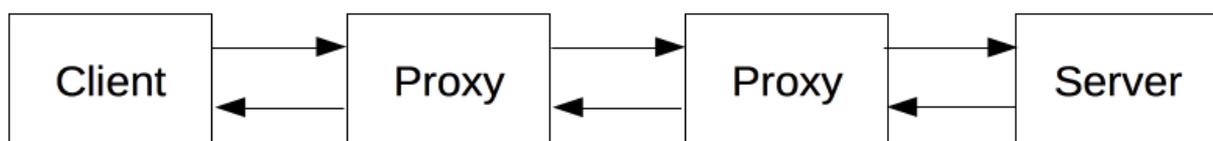## 1. **Basic aspects of HTTP**

HTTP (Hypertext Transfer Protocol) is an application-layer protocol for transmitting hypermedia documents, such as HTML.
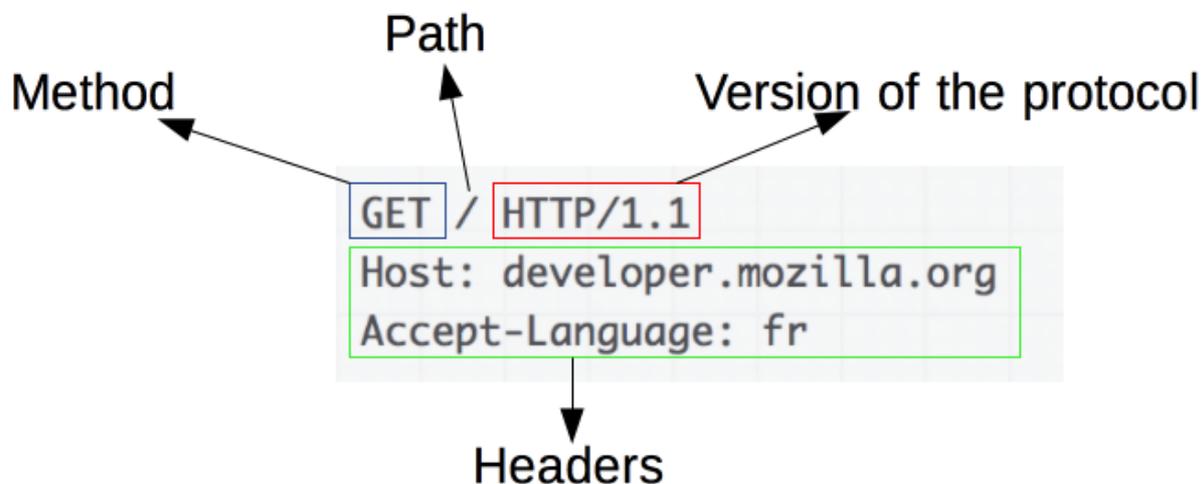

HTTP is a simple, extensible and stateless protocol which follows a classical client-server model. Requests are sent by one entity, the user-agent (or a proxy on behalf of it). Most of the time the user-agent is a Web browser.

2. HTTP Messages

- **HTTP Request**

Path

Method

Version of the protocol

GET / HTTP/1.1
Host: developer.mozilla.org
Accept-Language: fr

Headers

- **HTTP Response**

Status code

Version of the protocol

Status message

HTTP/1.1 200 OK
Date: Sat, 09 Oct 2010 14:28:02 GMT
Server: Apache
Last-Modified: Tue, 01 Dec 2009 20:18:22 GMT
ETag: "51142bc1-7449-479b075b2891b"
Accept-Ranges: bytes
Content-Length: 29769
Content-Type: text/html

Headers
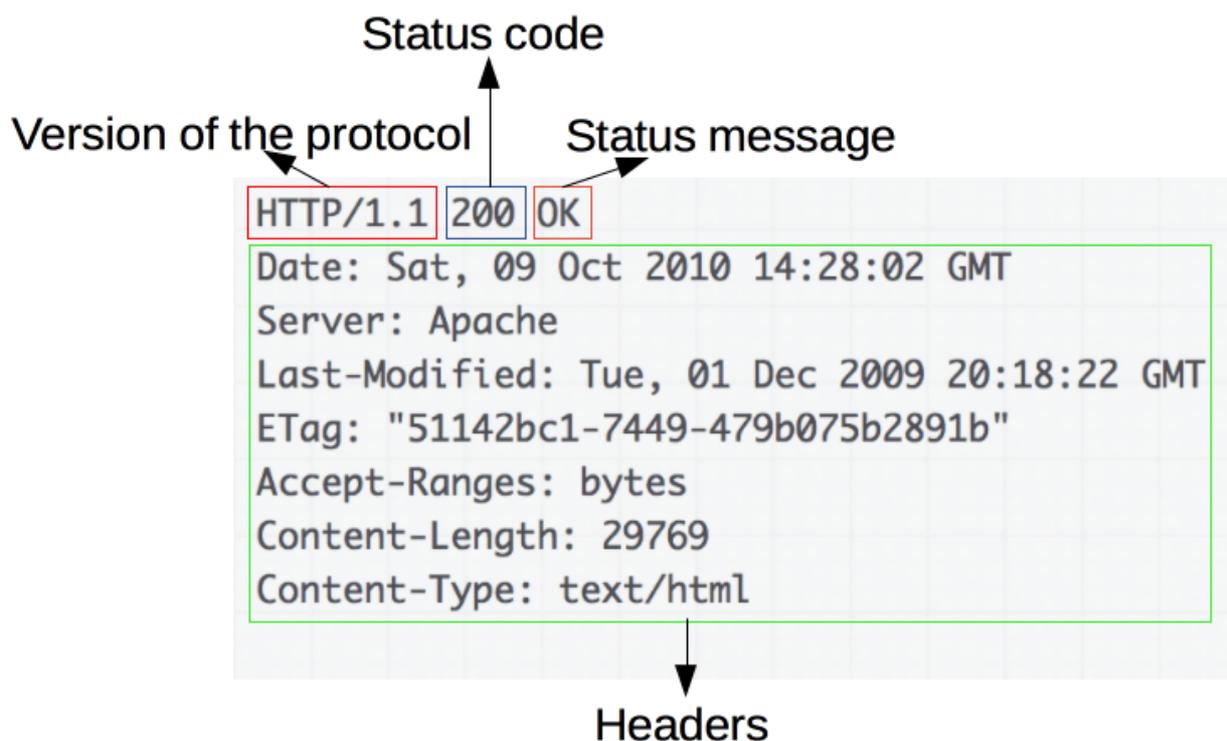
3. HTTP Methods

Methods	Description
GET	requests a representation of the specified resource
POST	submit an entity to the specified resource
PUT	replaces all current representations of the target resource with the request payload
DELETE	deletes the specified resource
HEAD	asks for a response identical to that of a `GET` request, but without the response body
OPTIONS	describe the communication options for the target resource
TRACE	performs a message loop-back test along the path to the target resource
PATCH	apply partial modifications to a resource
CONNECT	establishes a tunnel to the server identified by the target resource

```
1   GET /index.html
2
3   POST /test
4
5   PUT /new.html HTTP/1.1
6
7   DELETE /file.html HTTP/1.1
8
9   HEAD /index.html
10
11  OPTIONS /index.html HTTP/1.1
12  OPTIONS * HTTP/1.1
13
14  TRACE /index.html
15
16  PATCH /file.txt HTTP/1.1
17
18  CONNECT www.example.com:443 HTTP/1.1
```

4. Status Codes

Status	Status codes	Status message
1XX (Informational Responses)	**100**	Continue
	101	Switching Protocols
	102	Processing
	103	Early Hints
2XX (Successful Responses)	**200**	OK
	201	Created
	202	Accepted
	203	Non-Authoritative Information
	204	No Content
	205	Reset Content
	206	Partial Content
3XX (Redirects)	**300**	Multiple Choices
	301	Moved Permanently
	302	Moved Temporarily
	307	Temporary Redirect
	308	Permanent Redirect
4XX (Client Errors)	**400**	Bad Request
	401	Unauthorized
	402	Payment Required
	403	Forbidden
	404	Not Found
5XX (Server Errors)	**500**	Internal Server Error
	503	Service Unavailable
	504	Gateway Timeout

5. APIs based on HTTP

APIs based on HTTP	Description
`XMLHttpRequest`	exchange data between a user agent and a server
`Fetch API`	provides an interface for fetching resources (including across the network)
`server-sent events`	a one-way service that allows a server to send events to the client, using HTTP as a transport mechanism

Reference

https://developer.mozilla.org/en-US/docs/Web/HTTP