

What is HTTP?

HTTP is a TCP/IP-based application layer communication protocol that standardizes how clients and servers communicate with each other. It defines how content is requested and transmitted across the internet. By application layer protocol, I mean that it's simply an abstraction layer that standardizes how hosts (clients and servers) communicate. HTTP itself depends on TCP/IP to get requests and responses between the client and server.

What is in an HTTP request?

An HTTP request is the way Internet communications platforms such as web browsers ask for the information they need to load a website.

Each HTTP request made across the Internet carries with it a series of encoded data that carries different types of information. A typical HTTP request contains:

- HTTP version type;
- URL;
- HTTP method;
- HTTP request headers;
- Optional HTTP body;

What is an HTTP method?

An HTTP method, sometimes referred to as an HTTP verb, indicates the action that the HTTP request expects from the queried server. For example, two of the most common HTTP methods are 'GET' and 'POST'.

- **GET:** Request expects information back in return;
- **POST:** Request typically indicates that the client is submitting information to the web server;

What are HTTP request headers?

HTTP headers contain text information stored in key-value pairs, and they are included in every HTTP request (and response). These headers communicate core information, such as what browser the client is using and what data is being requested.

Request Headers

:authority: www.google.com

:method: GET

:path: /

:scheme: https

accept: text/html

accept-encoding: gzip, deflate, br

accept-language: en-US,en;q=0.9

upgrade-insecure-requests: 1

user-agent: Mozilla/5.0

What is in an HTTP request body?

The body of a request is the part that contains the ‘body’ of information the request is transferring. The body of an HTTP request contains any information being submitted to the web server, such as a username and password, or any other data entered into a form.

What is in an HTTP response?

An HTTP response is what web clients receive from an Internet server in answer to an HTTP request. These responses communicate valuable information based on what was asked for in the HTTP request.

- HTTP Status code;
- HTTP response headers;
- HTTP body;

What's an HTTP status code?

HTTP status codes are 3-digit codes most often used to indicate whether an HTTP request has been successfully completed. Status codes are broken into the following 5 blocks:

- 1xx - Informational;
- 2xx - Success;
- 3xx - Redirection;
- 4xx - Client Error;
- 5xx - Server Error;

The 'xx' refers to different numbers between 00 and 99.

Status code starting with the number '2' indicates a success. So after a request to a webpage, the most commonly seen responses have a status code of '200 OK', indicating that the request was properly completed.

If the response starts with a '4' or '5' that means there was an error and the webpage will not be displayed. A status code that begins with a '4' indicates a client-side error (like '404 NOT FOUND') and a status code beginning in '5' means something went wrong on the server side. Status codes can also begin with a '1' or a '3', which indicate an informational response and a redirect, respectively.

What are HTTP response headers?

Much like an HTTP request, and HTTP response comes with headers that convey important information such as the language and format of the data being sent in the response body.

Response Headers

cache-control: private, max-age=0
content-encoding: br
content-type: text/html; charset=UTF-8
date: Thu, 21 Dec 2017 18:25:08 GMT
status: 200
strict-transport-security: max-age=86400
x-frame-options: SAMEORIGIN

What is in an HTTP response body?

Successful HTTP responses to 'GET' requests generally have a body which contains the requested information. In most web requests, this is HTML data that a web browser will translate into a webpage.

References

[What is HTTP? | Cloudflare](#)

[An overview of HTTP - HTTP | MDN \(mozilla.org\)](#)