The HTTP Protocol Cheat Sheet

by binca via cheatography.com/44948/cs/13260/

Web v1

No Authentication	
No encryption	
Sessionless	

HTTP/0.9

RFC	none
MEthod Supported	GET
Virtual Host Support	none
Responses	HTML only

1 GET = 1 TCP connection

HTTP/1.0

RFC	1945
Methods Supported	GET, HEAD, POST, PUT, DELETE
Responses	HTML, non-HTML (text, binary, images)
Virtual Host Support	none

Released in May '96, first formal HTTP standard. Formalized the misspelling of "referrer".

HTTP/1.1

RFC	2616, later replaced by 7230-7235
Methods Supported	GET, HEAD, POST, PUT, DELETE, OPTION
Virtual Host Support	Yes

Enabled persistent connections. Host header is mandatory.

HTTP/2

Binary Protocol	Improved compression
Push Promise	Web server sends content without request
Multip-lexed	Requests and responses can be received in parallel
HPACK (RFC 7541)	Header compression
Encryption	Not required by default

Primary focus is faster performance.

Example HTTP 1.1 Request

```
GET /search HTTP/1.1
Accept: /
Accept -La nguage: en-us
User-A gent: Mozill a/5.0
(Windows NT 10.0; WOW64;
Triden t/7.0; rv:11.0) like
Gecko
Host: www.go ogl e.com
Proxy- Con nec tion: Keep-Alive
Cookies SESSIO NID =c9 53e f69 -
78d 452 5b3 562 0e9 f70 234aa9;
ANSWER=42;
Conten t-l ength: 0
```

This is a GET request.
The user agent string identifies the type of client software and summarizes its capabilities.
The cookie provides one or more state variables previously set by a server on this client.
The payload of this request has no content.
Keep in mind the header ends with a blank line.

Example HTTP 1.1 Response

```
HTTP/1.1 200 OK
Conten t-Type: text/html;
charse t=UTF-8
Server: Apache /2.4.7 (Ubuntu)
Date: Tue, 24 Oct 2017 15:51:10
GMT
Conten t-l ength: 6243
```

The status code is the result of the request.
Server token is the string returned by the web server identifying itself.
Server Time is the time stamp based on the server's time and date.
Content Length is the length of the response. The header ends with a blank line.

User-Agent

Mozilla/5.0	Compliant with historical standards
Trident/7.0	rv:11.0 Internet Explorer 11.0
Windows NT 10	Windows 10
Windows NT 6.3	Windows 8.1/2012R2
Windows NT 6.2	Windows 8/2012
Windows NT 6.1	Windows 7/2008R2
Windows 6.0	Vista/2008

Web clients, often browsers.

By **binca**
cheatography.com/binca/

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Uniform Resource Identifier (URI)

Made of various pieces in the following order:
Protocol
username:password (blocked by modern web browsers)
Host and domain name
Port defaults
Actual resource on that server
Question mark

Often used interchangeably with URL

Query String Formats

Typical format	index.php?id=42-&name=Beebl-ebrox
Apache's mod_rewrite module	index.p-hp/id/42/name/-Beeblebrox
Data parsed by server-side code	index.php/id=42-$name=Bee-blebrox
Data used by an app executed using a system call in the web app	index.php?pa-ram=id:42&para-m=name:Beebl-ebrox

Used to pass data via URL request, they are determined by the web application developer and/or the production enviro-nment running the application.

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