

## 21.11. `http` — HTTP modules

**Source code:** [Lib/http/\\_\\_init\\_\\_.py](#)

`http` is a package that collects several modules for working with the HyperText Transfer Protocol:

- `http.client` is a low-level HTTP protocol client; for high-level URL opening use `urllib.request`
- `http.server` contains basic HTTP server classes based on `socketserver`
- `http.cookies` has utilities for implementing state management with cookies
- `http.cookiejar` provides persistence of cookies

`http` is also a module that defines a number of HTTP status codes and associated messages through the `http.HTTPStatus` enum:

**`class http.HTTPStatus`**

*New in version 3.5.*

A subclass of `enum.IntEnum` that defines a set of HTTP status codes, reason phrases and long descriptions written in English.

Usage:

```
>>> from http import HTTPStatus
>>> HTTPStatus.OK
<HTTPStatus.OK: 200>
>>> HTTPStatus.OK == 200
True
>>> http.HTTPStatus.OK.value
200
>>> HTTPStatus.OK.phrase
'OK'
>>> HTTPStatus.OK.description
'Request fulfilled, document follows'
>>> list(HTTPStatus)
[<HTTPStatus.CONTINUE: 100>, <HTTPStatus.SWITCHING_PROTOCOLS: 101>
```

### 21.11.1. HTTP status codes

Supported, [IANA-registered](#) status codes available in `http.HTTPStatus` are:

Code	Enum Name	Details

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100	CONTINUE	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.2.1
101	SWITCHING_PROTOCOLS	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.2.2
102	PROCESSING	WebDAV <a href="#">RFC 2518</a> , Section 10.1
200	OK	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.3.1
201	CREATED	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.3.2
202	ACCEPTED	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.3.3
203	NON_AUTHORITATIVE_INFORMATION	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.3.4
204	NO_CONTENT	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.3.5
205	RESET_CONTENT	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.3.6
206	PARTIAL_CONTENT	HTTP/1.1 <a href="#">RFC 7233</a> , Section 4.1
207	MULTI_STATUS	WebDAV <a href="#">RFC 4918</a> , Section 11.1
208	ALREADY_REPORTED	WebDAV Binding Extensions <a href="#">RFC 5842</a> , Section 7.1 (Experimental)
226	IM_USED	Delta Encoding in HTTP <a href="#">RFC 3229</a> , Section 10.4.1
300	MULTIPLE_CHOICES	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.4.1
301	MOVED_PERMANENTLY	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.4.2
302	FOUND	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.4.3
303	SEE_OTHER	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.4.4
304	NOT_MODIFIED	HTTP/1.1 <a href="#">RFC 7232</a> , Section 4.1
305	USE_PROXY	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.4.5
307	TEMPORARY_REDIRECT	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.4.7
308	PERMANENT_REDIRECT	

Code	Enum Name	Details
		Permanent Redirect <a href="#">RFC 7238</a> , Section 3 (Experimental)
400	BAD_REQUEST	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.1
401	UNAUTHORIZED	HTTP/1.1 Authentication <a href="#">RFC 7235</a> , Section 3.1
402	PAYMENT_REQUIRED	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.2
403	FORBIDDEN	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.3
404	NOT_FOUND	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.4
405	METHOD_NOT_ALLOWED	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.5
406	NOT_ACCEPTABLE	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.6
407	PROXY_AUTHENTICATION_REQUIRED	HTTP/1.1 Authentication <a href="#">RFC 7235</a> , Section 3.2
408	REQUEST_TIMEOUT	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.7
409	CONFLICT	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.8
410	GONE	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.9
411	LENGTH_REQUIRED	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.10
412	PRECONDITION_FAILED	HTTP/1.1 <a href="#">RFC 7232</a> , Section 4.2
413	REQUEST_ENTITY_TOO_LARGE	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.11
414	REQUEST_URI_TOO_LONG	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.12
415	UNSUPPORTED_MEDIA_TYPE	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.13
416	REQUEST_RANGE_NOT_SATISFIABLE	HTTP/1.1 Range Requests <a href="#">RFC 7233</a> , Section 4.4
417	EXPECTATION_FAILED	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.14
422	UNPROCESSABLE_ENTITY	WebDAV <a href="#">RFC 4918</a> , Section 11.2
423	LOCKED	

Code	Enum Name	Details
		WebDAV <a href="#">RFC 4918</a> , Section 11.3
424	FAILED_DEPENDENCY	WebDAV <a href="#">RFC 4918</a> , Section 11.4
426	UPGRADE_REQUIRED	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.5.15
428	PRECONDITION_REQUIRED	Additional HTTP Status Codes <a href="#">RFC 6585</a>
429	TOO_MANY_REQUESTS	Additional HTTP Status Codes <a href="#">RFC 6585</a>
431	REQUEST_HEADER_FIELDS_TOO_LARGE	Additional HTTP Status Codes <a href="#">RFC 6585</a>
500	INTERNAL_SERVER_ERROR	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.6.1
501	NOT_IMPLEMENTED	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.6.2
502	BAD_GATEWAY	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.6.3
503	SERVICE_UNAVAILABLE	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.6.4
504	GATEWAY_TIMEOUT	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.6.5
505	HTTP_VERSION_NOT_SUPPORTED	HTTP/1.1 <a href="#">RFC 7231</a> , Section 6.6.6
506	VARIANT_ALSO_NEGOTIATES	Transparent Content Negotiation in HTTP <a href="#">RFC 2295</a> , Section 8.1 (Experimental)
507	INSUFFICIENT_STORAGE	WebDAV <a href="#">RFC 4918</a> , Section 11.5
508	LOOP_DETECTED	WebDAV Binding Extensions <a href="#">RFC 5842</a> , Section 7.2 (Experimental)
510	NOT_EXTENDED	An HTTP Extension Framework <a href="#">RFC 2774</a> , Section 7 (Experimental)
511	NETWORK_AUTHENTICATION_REQUIRED	Additional HTTP Status Codes <a href="#">RFC 6585</a> , Section 6

In order to preserve backwards compatibility, enum values are also present in the [http.client](#) module in the form of constants. The enum name is equal to the constant name (i.e. `http.HTTPStatus.OK` is also available as `http.client.OK`).

