**HTTP Message**

**Message Types**

There are two types of HTTP messages: the messages that comes from client to server (request message) and messages that comes from the server to the client (response message).

Request and Response messages consist of a start-line, zero or more header fields, also known as **headers**, an empty line indicating the end of the header fields, and possibly a message-body.

The format to be followed (taken from RFC 2616):

message-header = field-name ":" [ field-value ]

field-name = token

field-value = \*( field-content | LWS )

field-content = <the OCTETs making up the field-value

and consisting of either \*TEXT or combinations

of token, separators, and quoted-string>

**Message Headers**

**General-header**

Cache-Control – Cache-Control is used to specify directives for caching mechanisms in both requests and responses.

Connection – Connection controls the network connection between the sender and the server. It specifies if the connection should be closed or kept alive if the current transaction finishes.

Date – Date represents the date and time at which the message was originated. Dates are represented in Greenwich Mean Time (GMT).

Pragma – Pragma is the same as the Cache-Control but it is used for older clients that does not support HTTP/1.1. In other words, it is used for backwards compatibility with HTTP/1.0.

Trailer – Trailer indicates that the set of header fields present in the last part of a message.

Transfer-Encoding – Transfer-Encoding defines what encoding will be used to transfer an entity to the user.

Upgrade – Upgrade allows the client to specify what communication protocol is preferred.

Via – Via specifies where the resource should travel. It is used to track the gateways and proxies where the resource travelled.

Warning – Warning specifies the possible problems that might occur regarding the status of the message.

**Request-header**

Accept – Accept specifies what type of media are acceptable or preferred by the client.

Accept-Charset – Accept-Charset specifies the character set preferred or understandable by the client.

Accept-encoding – Accept-encoding is similar to Accept except it restricts that content encoding that can be accepted in the response.

Accept-language – Accept-Language is similar to Accept except it restricts the set of natural languages that are preferred as a response to the request.

Authorization – Authorization consists of credentials as a mean of authentication information of the user agent.

Expect – Expect is used to indicate that a certain set of server behavior is required and expected by the client.

From – Form contains an Internet email address for the user who is controlling the requesting user agent.

Host – Host is used to specify the Internet host and port number of the requested resource.

If-match – If-Match is used to perform the requested method if the given value matches the given entity tags.

If-modified-since – If-Modified-Since indicates if the requested URL is modified since the time specified in this field, the entity will not be returned from the server and a 304 response will be returned.

If-none-match – If-None-Match requests the server to do the requested method only if one of the given value matches the given entity tags.

If-range – If-Range can be used with a conditional GET to request a portion of the entity that is missing, if it not been changed, and the entire entity has been changed.

If-unmodified-since – If-Unmodified-Since indicates if the requested resource has not been modified since the time specified, the server would perform the requested operation as if this header were not present.

Max-forwards – Max-Forwards provides a mechanism with the TRACE and OPTIONS methods in order to limit the number of proxies or gateways that can forward the request to the next server.

Proxy-authorization – Proxy-Authorization allows the client to identify itself to a proxy in which requires authentication.

Range – Range specifies the partial ranges of the content that has been requested from the document.

Referer – Referer allows the client to specify the address of the resource from which URL is requested.

TE – TE (Transfer Encoding) indicates what extension transfer encoding the user agent is willing to accept in the response and if it is willing or not to accept the trailer fields in a chunked transfer encoding.

User-agent – contains information about the user agent in which where the request is originating.

**Response-header**

Accept-ranges – Accept-Ranges allows the server to indicate its range requests acceptance for a resource.

Age – Age indicates the sender’s estimated time since the response was generated at the server.

ETag (entity tag) – ETag provides the current value of the entity tag for the requested variant.

Location – Location is used to redirect the recipient to another location other than the Request-URI.

Proxy-authenticate – Proxy-Authenticate is included as part of the 407 response.

Retry-after – Retry-After can be used with the 503 response in order to indicate how long the service is expected to be unavailable for the client.

Server – Server contains information about the software used by the server in handling requests.

Vary – Vary specifies that the entity has multiple sources and therefore it can vary accordingly to the specified list of request headers.

WWW-Authenticate – WWW-Authenticate should consist of at least one challenge that would indicate the authentication schemes and parameters that are applicable to the Request-URI.

**Entity-header**

Allow – Allow is the list of methods that are supported by the resource identified by the Request-URI.

Content encoding – Content-Encoding is a modifier to the media-type.

Content-language – Content-Language describe the natural languages of the audience for the enclosed entity, although multiple languages can be listed for multiple languages.

Content-length – Content-Length indicates the size of the entity-body.

Content-location – Content-Location is the resource location for the entity enclosed in the message when that entity is accessible from a location separate from the requested resource’s URI.

Content-MD5 (message digest) – Content-MD5 is used to supply an MD5 digest in order to check the integrity of the message upon receipt.

Content-range – Content-Range is used to specify where in the full entity-body should the partial body be applied.

Content-type – Content-Type indicates the media type of the entity-body that has been sent to the recipient.

Expires – Expires is the date and time in which where the response would be considered stale.

Last-modified – Last-Modified indicates the date and time at which the variant was last modified.