# Difference between HTTP/2 and HTTP/1.1

HTTP stands for hypertext transfer protocol & it is used in client-server communication. By using HTTP user sends the request to the server & the server sends the response to the user. There are several stages of development of HTTP but we will focus mainly on HTTP/1.1 which was created in 1997 & the new one is HTTP/2 which was created in 2015.

| **HTTP/1.1** | **HTTP/2** |
| --- | --- |
| It works on the textual format. | It works on the binary protocol. |
| There is head of line blocking that blocks all the requests behind it until it doesn’t get its all resources. | It allows multiplexing so one TCP connection is required for multiple requests. |
| It uses requests resource Inlining for use getting multiple pages | It uses PUSH frame by server that collects all multiple pages |
| It compresses data by itself. | It uses HPACK for data compression. |

****Main goals of developing HTTP/2 was:****

* Protocol negotiation mechanism — protocol electing, eg. HTTP/1.1, HTTP/2 or other.
* High-level compatibility with HTTP/1.1 — methods, status codes, URIs and header fields.
* Page load speed improvements trough:
* Compression of request headers
* Binary protocol
* HTTP/2 Server Push
* Request multiplexing over a single TCP connection
* Request pipelining
* HOL blocking (Head-of-line) — Package blocking

# **Request multiplexing**

HTTP/2 can send ****multiple requests**** for data in parallel over a ****single**** TCP connection. This is ****the most**** ****advanced**** ****feature**** of the HTTP/2 protocol because it ****allows you to download web files asynchronously from one server****. Most modern browsers limit TCP connections to one server.

This reduces additional round trip time (RTT), ****making your website load faster**** without any optimization, and makes domain sharding unnecessary.

