HTTP: HTTP 1.1 vs HTTP 2.0

What is HTTP?

HTTP – Hyper Text Transfer Protocol, is the base of almost every web application. It is a protocol used by devices and servers to send and receive information. For example, if I search for "Movies" in a search engine my browser sends a **request** to the server of the search engine that I use to fetch the results for my search, in return the server sends a response according to my location, search history, etc.. to the browser. These request-response cycles are governed by HTTP.

HTTP 1.1	HTTP 2.0
Keep-alive mechanism: Unlike HTTP 1.0, where it takes a new TCP connection for every transfer, HTTP1.1 introduced a keep-alive mechanism that facilitates multiple transfers in the same TCP connection, but still it allows multiple TCP conns	**Concept of server push:** HTTP 2.0 introduced a server push feature, in which there is no need for pushing all files separately. The server anticipates which files are required and pushes everything in a single TCP connection
Head of line-blocking: Head of line-blocking is an issue faced by HTTP 1.1 connections where, if a request is timed out or ignored by any packet loss the remaining requests that are followed will also be affected (Multiple requests are done without the response of the previous request is a feature called **pipelining**)	**Concept of Multiplexing:** The introduction of the multiplexing feature interleaves the head of line blocking issue. And since it requires only a single TCP connection there will be no HOL issues.
Repetition of headers: The concept of headers both for requests as well as responses was introduced in HTTP 1.0 but due to many requests & responses, the repetition of headers became an issue that increased the loading time.	**HPACK feature:** HPACK is a header-compressing algorithm that uses the Huffman coding technique to compress headers before they are transmitted over the network. This majorly improved the network performance.
HTTP 1.1 had **high latency** due to the repetition of the headers problem	HTTP 2.0 overcame the issue and has a **great reduction in latency** compared to HTTP 1.1.
No-Prioritization: In HTTP 1.1 there was no prioritization based on the files, which increased the loading time.	**Prioritization:** This feature knows what exactly has to be loaded first (ex: Js files..), which greatly reduces the loading time of web pages.