Difference between HTTP 1.1 vs HTTP 2.0

Introduction:

HTTP stands for Hypertext Transfer Protocol. HTTP is the foundation of the World Wide Web. It is an application layer protocol in the internet protocol suite (TCP/IP) designed to transfer information between networked devices and runs on the top of other seven layers in the network stack. Basically, HTTP method involves a client making a request method to a server, which then sends an acknowledgment.

In 1989 HTTP development was initiated by Tim Berners-Lee who invented the World Wide Web. The first document version of HTTP was named HTTP 0.9. After that HTTP evolved over a time in 1996 HTTP 1.0 was fully documented in 1996. it evolved HTTP 1.1 version in 1997 then, its specification updated in 1999 and in 2014.

In 2015 HTTP 2.0 was a major version of the HTTP series; it was derived from an earlier experimental SPDY protocol, originally developed by Google. HTTP 2.0 is focused to reduce latency and improve performance when dealing with highly intensive graphics and videos in mobile platforms.

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Type of Data using:

HTTP 1.1 client sends plain text-based requests to the server by calling methods like GET and POST. In the response of request server send back HTML page back to the client. So, HTML 1.0 keeps all requests and responses in plain text format, but HTTP 2.0 uses a binary framing layer encapsulating all messages in binary format, while still maintaining HTTP semantics, such as verbs, methods, and headers.

Multiplexing:

HTTP 1.1 uses persistent connections and pipelining methods used to transfer multiple data at single TCP connection so it transfers one after another so if one resource cannot be loaded properly, then it blocks all the other resources behind it it leads to data loss and takes more time. In HTTP/2, it has the binary framing layer which encodes requests/responses from the server and cuts them up into a smaller packet of data, thus greatly increasing the flexibility of data transfer. When we use small binary data packets it also provides numbers for each packet with the help of that number client will Prioritise the resources which will improve the performance by loading essential data packets at first. In HTTP 2.0 multiple clients and servers construct multiple streams in parallel by using a single TCP connection.

Header compression:

HTTP 1.1 uses data commersion method to reduce data size but HTTP 2.0 uses advanced dedicated H-pack compression method to compress the header data that will increase performance. And loading small data was faster than big data so it will result in faster data transfer and render faster than HTTP 1.1.

Server Push:

HTTP 2.0 protocol server enables multiple concurrent responses to the client, when the client initiates the first request. Due to this it will reduce the waiting time and latency. Also, the server sends the details of upcoming content so the client will prepare for it.

Conclusion:

From the above points we can see that HTTP 2.0 differs from HTTP 1.1. This feature in HTTP 2.0 helps to improve the performance and reduce the latency by optimising the web application. Currently 97% of web browsers have capability to utilise HTTP 2.0. Its successor HTTP 3 a major version utilised concepts of HTTP2.0 and released in 2022.