JavaScript Day – 1

2) Difference between HTTP1.1/HTTP2?

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| HTTP1.1 | HTTP2 |
| * Initially developed as a communication standard for the world wide web during 1997. | * Later in 2015, the revised version called HTTP2 came into use which was developed at Google. |
| * In this protocol the client used a text-based request into the server. In response the server sends the resource as a HTML page to the client. | * Whereas in this process in order to reduce web page load delay HTTP2 used techniques like compression, multiplexing &prioritization with the help of binary framing. |
| * The client does not receive a fully rendered page hence additional resources were meant to be downloaded to obtain the resources. So pipeline method was used in HTTP1.1 which was helpful compared to HTTP1. But this led to HOL blocking which created a significant optimized connection efficiency problem. | * All the delivery problems of HTTP1 & HTTP1.1 were solved by HTTP2 using binary framing layer which encodes the request/response and divide them into small parts of information which increased the flexibility of data transfer. HTTP2 uses stream prioritization in order to solve request competing into the same resource as well as helps developers for a better optimized application performance. |
| * HTTP1.1 relies on transport layer to avoid buffer overflow. Each new connection requires a separate control mechanism. | * On the other hand HTTP2 multiplexes streams of data within a single connection. Buffer overflow is controlled by allowing the client and server to implement their own flow controls. This enhances better optimization. |
| * In HTTP1.1 if the developer knows in advance which additional resource is needed in order to render the page then they can use in-lining technique which was efficient for small files. But this method lead to increase the size of the HTML document which will eventually decrease the connection speed in case of larger files. | * Thus HTTP2 uses server push that helps to accomplish the goal of resource in-lining while separating pushed resource and the document. This helps the developer to decline the pushed resource separate from the HTML document fixing the in-line technique drawback. |
| * Although many compression programs are used to reduce the size of the HTTP messages there are implementation problems that prohibits compressing the entire message. | * HTTP2 has the ability to use binary framing layer to have control over fine details. It uses HPACK compression program that helps in compression of header frame and can keep a track of previous data & compress them according to the index between client and the server. |
| * Till date this protocol is in use by proxies and some mobile clients. Only a small percentage of clients use HTTP1.1. | * About 50% of all websites uses HTTP2 till now. Since it is more secure and efficient compared to the previous versions it is used widely. |