1.Difference between HTTP1.1 vs HTTP2;

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| --- | --- |
| HTTP1.1 | HTTP2 |
| This request uses the **GET method,** which asks for data from the host server listed after HOST | Transfer Protocol working group httpbis of the **IETF** |
| The requests and responses **will go back and forth between the server** and client until the web browser has received all the resources necessary data. | HTTP/2 is the binary framing layer, to encapsulate all messages in binary format, |
| This **process requires more time** to display content. | This process requires **less time** |
| Clients have to make additional download to retrieve their resources. | The do not need any additional resources to download |
| There is **no flexibility in data transfer.** | Due to binary farming layer, **greatly increasing the flexibility of data transfer.** |

2.HTTP version history:

1.HTTP/0.9-The one line protocol.

* HTTP/0.9 is **extremely simple one.**
* Requests consist of a single line and start with the only possible .method “GET” followed by the path to the resource .
* only HTML files could be transmitted, but no other type of documents.
* There were **no status or error codes**, in case of a problem.

2. HTTP /1.0

* Versioning information is now sent within each request .
* A status code line is also sent at the beginning of the response, allowing the browser itself to understand the success or failure of the request .
* allowing data to be transmitted and making the protocol extremely flexible and extensible.
* Able to transmit other documents.

3.HTTP/1.1

* A connection can be reused, saving the time to reopen it numerous times to display the resources embedded into the single original document retrieved.
* Pipelining has been added, allowing to send a second request before the answer for the first one is fully transmitted, lowering the latency of the communication.
* Additional cache control mechanisms have been introduced.
* Allows a client and a server to agree on the most adequate content to exchange.

3.Difference Between browser JS an node JS:

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| --- | --- |
| Browser JS | Node JS |
| In browser js, it is used to **interact with DOM, or another Web** platform | In node js they do not exist |
| **Es standard modul**e is followed | **Common JS module system** is followed. |
| In browser, **we cannot control the environment.** | In node Js **we can control the environment.** |
| It is used for development of front end. | It is used for both front and back end. |
| It run only **in v8 engine** | It can run **anywhere outside the browser** |

4.what happens when we put URL in address bar.

**Step-1:** when we enter the address in the adressbar.by use of DNS (domain name system) which convert address [www.example.com](http://www.example.com) to number like **98.53.588.888** that corresponds with a computer on the internet somewhere.

**Step-2: Router**- A router is hardware **used to connect two or more computers** to each other, and usually to the Internet, by wire or sometimes radio signals .

**Step-3:  initiate TCP connection** -Transmission Control Protocol. This is the protocol that the **Internet uses to transport data packets from one computer to another.**

**Step-4 HTTP request**-**HTTP** - Hypertext Transfer Protocol is the way data gets sent and received in the World Wide Web, where hypertext documents include links to other resources that you can easily access with a click.

**Step-5: server response: SYN/ACK** - How two computers on the internet start talking to each other using TCP.

**Step -5; HTML, CSS, JAVA script-**

**HTML** - Hyper Text Mark-up Language, how webpages are being painted on the screen of your browser.

**CSS - Cascading** Style Sheets describe how the webpage you just pulled up should look like.

**JS** - **JavaScript, a programming language** that helps build the webpage on your browser screen

**Step-6:** **Tokenizer** - a tokenizer helps building your webpage by recognizing incoming data by looking for whitespace like tabs, spaces, and new lines.

**Step-7: DOM TREE and CSSOM Tree** - You may know that HTML is actually a bunch of text tags like <head> or <body>. To paint a webpage, these tags are organized in trees so that they can easily be painted on the screen, which is called **rendering**.**html into DOM tree.CSS into SSOM tree.**

**Step-8** -JavaScript engine -displays the processed information.

