1. Difference between HTTP1.1 vs HTTP2?

|  |  |
| --- | --- |
| HTTP1.1 | HTTP2 |
| It is a textual protocol. | It is a binary protocol rather than textual. |
| Using HTTP1.1 only one request can handle over a single TCP connection. | Using http2 more than one request can be Handel over a single TCP connection. It is called as MULTIPLEXED |
| Using HTTP1.1 loading speed of page is slow | Using HTTP2 protocol speeds up load significantly. |
| Using HTTP1.1 duplication of data across requests.Too many request Too many redundant Data | Header compression using HPACK.  Compressed headers, reduced data redundancy. |

5. what happens when you type a URL in the address bar in the browser?

When user types URL in address bar browser looks for IP address for Domain name via Domain Name System(DNS). Then browser sends HTTP request to the server.Server sends back HTTP response . Browser Start to rendering HTML. The browser sends requests for additional objects embedded in HTML(CSS,Images,JavaScript).

4. Abstract Working of JS engine(V8).

Javascript source code goes into javascript source code parser which then takes the code and converts it into abstract syntax tree representation

After creation of AST next step is interpreter. The interpreter in v8 is called ignition. Interpreter generates Byte Code.

Sometimes ,code is repeated. The Javascript compilers run feedback and collect profiling data for data being executed. If it comes across the function that is called with same time of parameters every time and it called many times. The code goes through optimizing compiler. Optimization produces highly optimized code.

3.List 5 difference between Browser JS(console) vs Nodejs.

|  |  |
| --- | --- |
| **Browser JS (console)** | **NodeJs** |
| Javascript is programming language which runs in browser | Nodejs is just running environment for JS. |
| In Browser js running any engine like V8  Spider Monkey,Java Script Core | NODE JS only run in V8 engine. JS program which will be written under this Node JS will be always run in V8 Engine. |
| Using Java script user can add HTML and user can play with the DOM | NODEJS dose not have capability to add HTML tag |
| Javascript is used in frontend development. | Node Js is used in Backend Development |
| IT can only run in Browser | It can run outside of browser. |

2.http version history

HTTP is underlying protocol of the World Wide Web. Developed by Tim Berners-Lee.

1. HTTP/0.9

It is Intial version of HTTP. It is extremely simple request consist of a single line and starts with the only possible method GET followed by path of the resource.

Ex. GET /index.html

1. HTTP/1.0

HTTP/0.9 was very limited.

Headers is introduce in this version only. With the help of new HTTP headers , the ability to transmit other document than plain HTML files has been added.

1. HTTP/1.1

These is the first standardized version of HTTP, HTTP/1.1 was published in early 1997,only a few moths after HTTP/1.0

In these version connection can be reused, saving the time to reopen it numerous times to display the resources.

Pipelining has been added ,allowing to send a second request before the answer for the first one is fully transmitted

1. HTTP/2

After 15 years of HTTP/1.1 HTTP/2 is introduced.

It is implemented using SPDY protocol.

HTTP/2 is binary protocol rather than text.

It is multiplexed protocol. Parallel requests can be handled over same connection,

It compresses headers this removes duplication of data.