



# day 1 (05/11/2020)

assignments:

Do a write up for the followings:

1. Difference between HTTP1.1 vs HTTP2
2. http version history
3. List 5 difference between Browser JS(console) vs Nodejs
4. what happens when you type a URL in the address bar in the browser?

## 1) a) HTTP1.1:

- HTTP is based on the client/sever model.
- HTTP cannot send multiple request for data in parallel over a single TCP (transmission control protocol) connection.
- Round trip time(actual time taken of data from receiver side to provider side) is more comapre to HTTP2.
- HTTP1.1 is used to process text commands to complete request-response cycle.
- HTTP1.1 time in header compression is slow compare to HTTP/2.

## b) HTTP/2:

- HTTP/2 request multiplexing means can send multiple requests for data in parallel over a single TCP connection.

- HTTP/2 it allows you to download web files asynchronously from one server which reduces round trip time and make website load faster.
  - HTTP/2 compress a large number of redundant header frames. it uses HPACK specification as a simple and server maintain a list of headers used in previous client server requests.
  - HTTP/2 version has evolved significantly in terms of capabilities and attributes such as transforming text protocol to binary protocol. which helps in maintaining less errors.
  - light network footprint
  - very efficient in terms of processing of data between client and server and eliminating security concerns associated with the textual nature such as response splitting.
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## 2) HTTP version history:

It is a language of the web, used for communication between web browsers and web servers.

HTTP request data through TCP, and request whether resources can present or not.

TCP port 80(443 secure)

HTTP/0.9- the one-line protocol:

- "GET" : when http call initiated get method(default method) is initiated, resources from the server is forwarded.

HTTP/1.0- building extensibility

- HTTP headers: when two mission are talking to each other, they see whether they have same header than request or contents.

HTTP/1.1- The standardized protocol. question 1 explains its properties

HTTP/2: - it is in the paper, but very helpful in decreasing round trip time making it more efficient.

hTTP yes: port of connection is 443. extra certificate of ssl(simple secure layer), adding extra security layer to the data. it creates a ssl tunnel which is similar to the letter which you are sending and you can deliver it well, ssl certificate.

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## 3) Differences between js(browser) and nodejs:

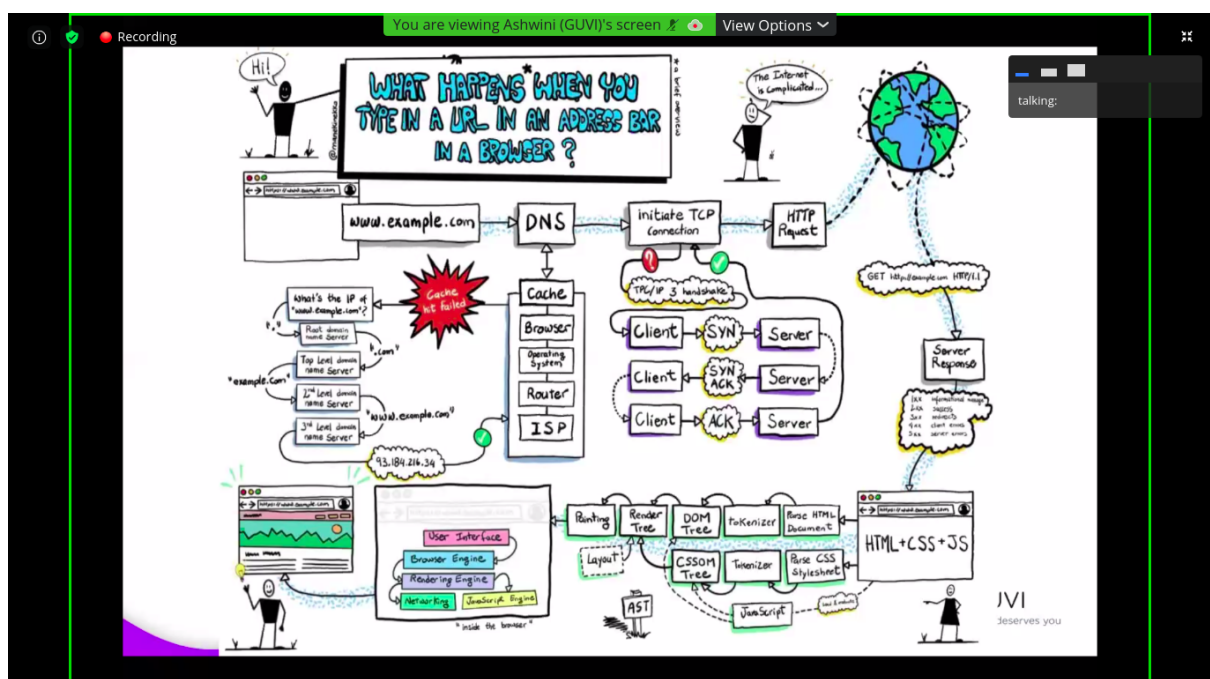
js(browser):

- js(browser) it runs in any browser with a proper browser engine.
- mostly client side used, if we want to make changes to html document or to edit time for the refresh of a page or want to make changes without refreshing the page.
- different browser engine:
  1. firefox: spider monkey
  2. safari : javascript core
  3. v8 : google chrome
- JS is already present in the browser, it is inbuilt

Nodejs:

- It need an interpreter or running environment for javascript with some specific libraries.
- It helps in performing non blocking operation in operating system such as shell scripting or to access any hardware specific information
- Used for backend jobs.
- It runs in only V8 engine.

4)



Procedure after we type url in an address bar:

- Once you typed particular url(request) in address book, DNS will convert host name to Ip address.(forward lookup)
- Afterwards it will convert your request to ip address, if it is an http request it will show 80 in port or if it is an https yes, it will 443.
- request has been initiated, by GET method it will try to get the file from respective server. server will see the request and the port no 80 and it will prepare the response and it will send all the file including html, js, css file.
- My network layer will deliver all file to browser engine, it will carry to rendering engine. It will render all the files and javascript engine convert it into binary than it will revert it back to browser engine, it will show the requested page.