

Hitting www.google.com

(<https://medium.com/@maneesa/what-happens-when-you-type-an-url-in-the-browser-and-press-enter-bb0aa2449c1a>)

- 1) To get the IP address of the server that has this url
- 2) 4 types of Caches
- 3) Check for caching
- 4) Browser caching
- 5) OS caching would be there commands like gethostname
- 6) Router caching
- 7) ISP caching
- 8) Go to your dns server and look for the ip address
- 9) You will initiate a connection with the server
- 10) TCP connection would happen with server
- 11) What happens in 3 way handshake
 - a) Syn- send to ask server if server is open for new connection
 - b) SYN/ACK - yes i am open to connection
 - c) I have recieved the SYN/ACK and I acknowledge that sending another ACK
- 12) Browser send an HTTP request
 - a) GET
 - b) POST
- 13) Now your sever will take the request and return a response
 - a) JSON
 - b) HTML
 - c) XML
- 14) Server responds would status codes(400 best for backend engineer , 500 best for front end : P
 - a) 1XX Info
 - b) 2XX Success
 - c) 3XX Redirection
 - d) 4XX CLient Side Error
 - e) 5XX Server side
- 15) Browser recieves a html document
- 16) Broser will parse it
- 17) DOM and displayed to the user
- 18) If you encounter a script tag or external js
- 19) JS is block rendering in nature
- 20) CSS is encountered it will be block rendering then cssom is formed and the page is shown in a beautiful manner.
- 21) ASYNC/DEFER (<https://www.thatjsdude.com/images/asyncVsDefer.jpg>)
- 22) Different things that you can do to make page speed faster
- 23) WHY should page speed be fast
 - a) User experience

- b) SEO would be impacted
- c) Page rank would be impacted
- d) More advertisement costs

24) How to make page faster

- a) minify and uglify the css and js files when in production
- b) Add restriction to size of image that can be added 200kb
- c) Reduce the size of images using <https://tinypng.com/>
- d) Webp format is where images are better loaded and page speed is considered better
- e) Cache the images
 - i) Browser - Expires header suggests that till this time browser cache would be used
 - ii) CDN - Would give the data faster
- f) Sprite images-
<https://assets-v2.scaler.com/assets/scaler/png/companies-new-10225f0526bc97cf1374c3c4596abea4e572d7123ad876de6c07e73718beaf07.png>
- g) Icons- font awesome, iconmoon
- h) Lazy loading your images
- i) `document.getElementsByClassName("lazy");`
- j) On scroll function
- k) Which would be run everytime there is a page scroll
- l)