

Browser Fundamentals 8

HTML



HTML
and
How web works

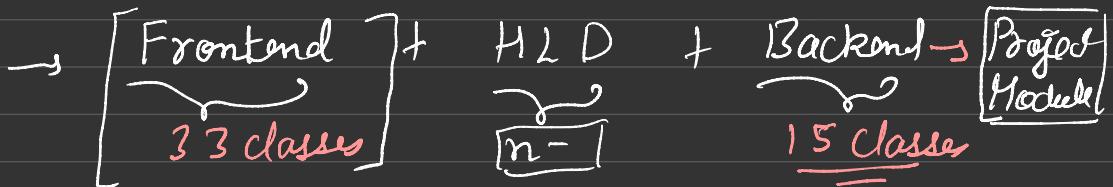
{ session will start at 9:05 PM }

Agenda

- * Syllabus of Full Stack Module
- * How web works
- * Demo of webpage → 6 classes
- * HTML

Syllabus

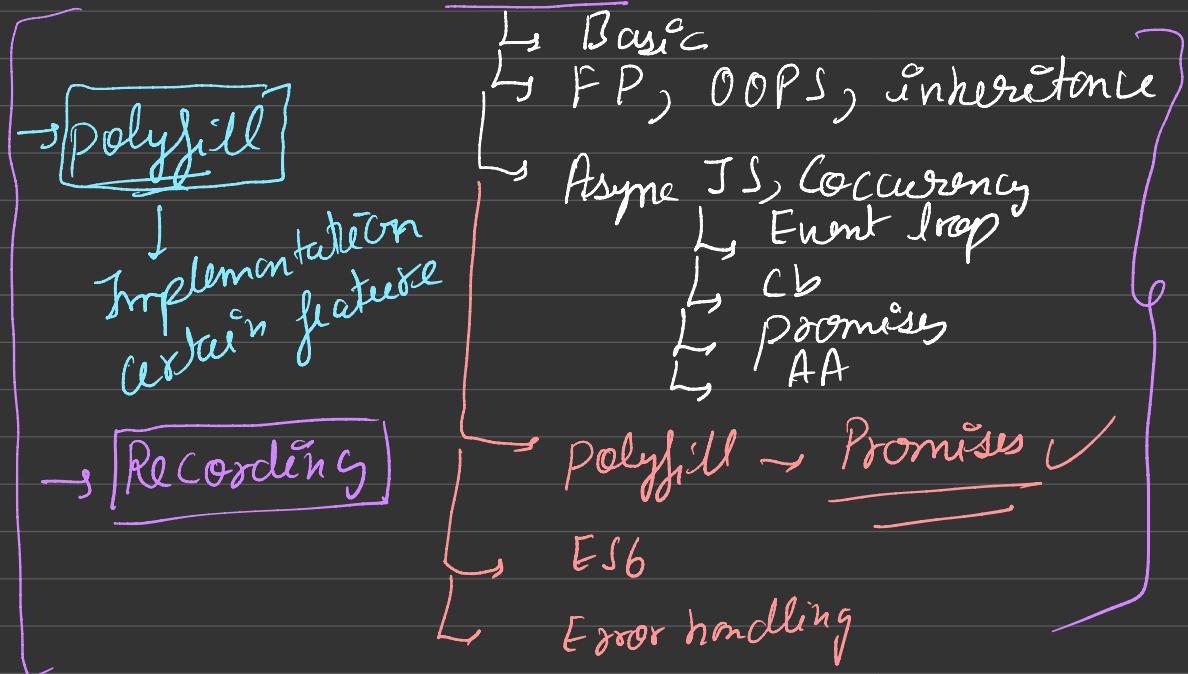
Full stack LLD Module → MERN
(Javascript)



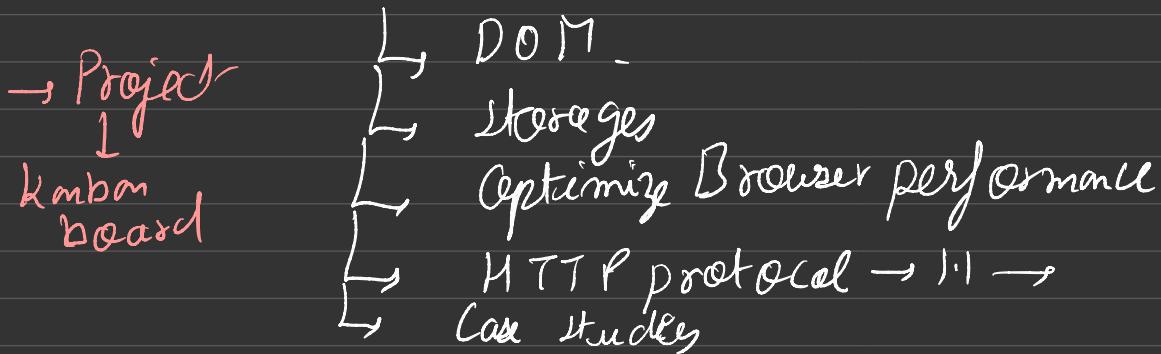
Frontend

- * 6 classes → HTML & CSS
- ↳ How web works & HTML
- ↳ CSS → Basics
- Inheritance, Cascading
- Adv CSS →
- Responsiveness, [Accessibility]
- Performance → HTML / JS
- ↳ screen reader
- Food subscription

* 9-class → JavaScript

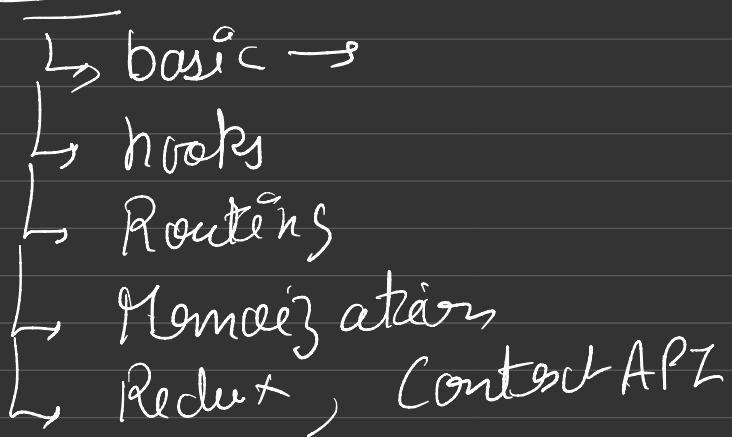


① Frontend Machine coding → 8 classes (Browser)



→ [js, html, css]

* 10 classes React

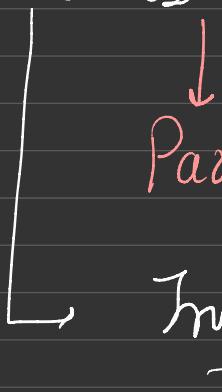


[→ React → HTML, CSS JS]
→ Project → Ecommerce webpage]

→ 33 lectures [6 → HTML & JS]
[9 → JS ↗]
[8 → FE ↗]
[10 → React ↗]

→ Design patterns

↳ standard solⁿ → standard
Problems



↓
Part of the class

↳ Imp design pattern

Performance metrics

① Performance

② Accessibility

③ Best practice

④ SEO → Search Engine
opt.

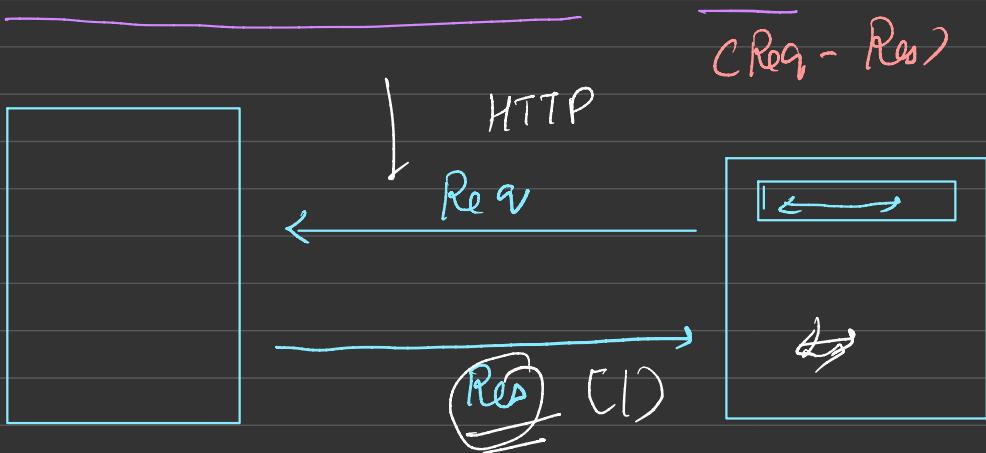
⑤ Performance → fast load time
+
interactivity

⑥ Accessibility → feature that we need
to implement so that our webpage
is usable by [assistive devices]

⑦ Best practices → naming convention

(js + html + css) → [code coverage] ↗
↓
[fix]

x How Web works



Server

Protocol → http, https

Res → (html document)

→ entry point

to show web page

[example.com → url]

(Waterfall of a Request)

→ html

Queued at 0

Started at 2.05 ms

① Resource Scheduling

Queueing

DURATION

2.05 ms

② Connection Start

Stalled

DURATION

0.69 ms

DNS Lookup

DURATION

13.86 ms

Initial connection

DURATION

815.51 ms

SSL

DURATION

549.69 ms

③ Request/Response

Request sent

DURATION

0.19 ms

Waiting for server response

DURATION

266.87 ms

Content Download

DURATION

0.90 ms

Resource scheduling
↳ request to queue

DNS → Domain Name
server

DNS → send domain name & get IP Address

TCP connection → client → [server]

SSL handshake → to check https connection

① Navigators → Req → Res

 └ DNS lookup

 └ TCP handshake

 └ SSL

 └ Req → getting Response

✓ $\left\{ \begin{array}{l} \text{latency} \rightarrow \text{time blw} \\ \text{req, s resp} \end{array} \right\}$

✓ TTFB → (time to first byte)

 └ time taken blw entering url
 and receiving first packet

→ First Packet → 14KB ✗

② Parsing ↗

ⓐ HTML → DOM

X ⓑ [document object]
Model

ⓑ Preconnect Scanner

↳ CSS, imgs,
(downloads)

{ for if → HTML parser will pause
and it is first downloaded only
after that it resume
↳ }

① CSS → CSSOM

Bottle Necks

① Navigation → latency

② Parsing → Single Thread

it is sequential
in nature

Summary

