

Pagination → Way to split Large sets of data into smaller chunks (pages) so client don't have to fetch everything at once

Pagination

- Cursor GET /users? cursor=abc&limit=10
- Offset GET /users? offset=20&limit=10

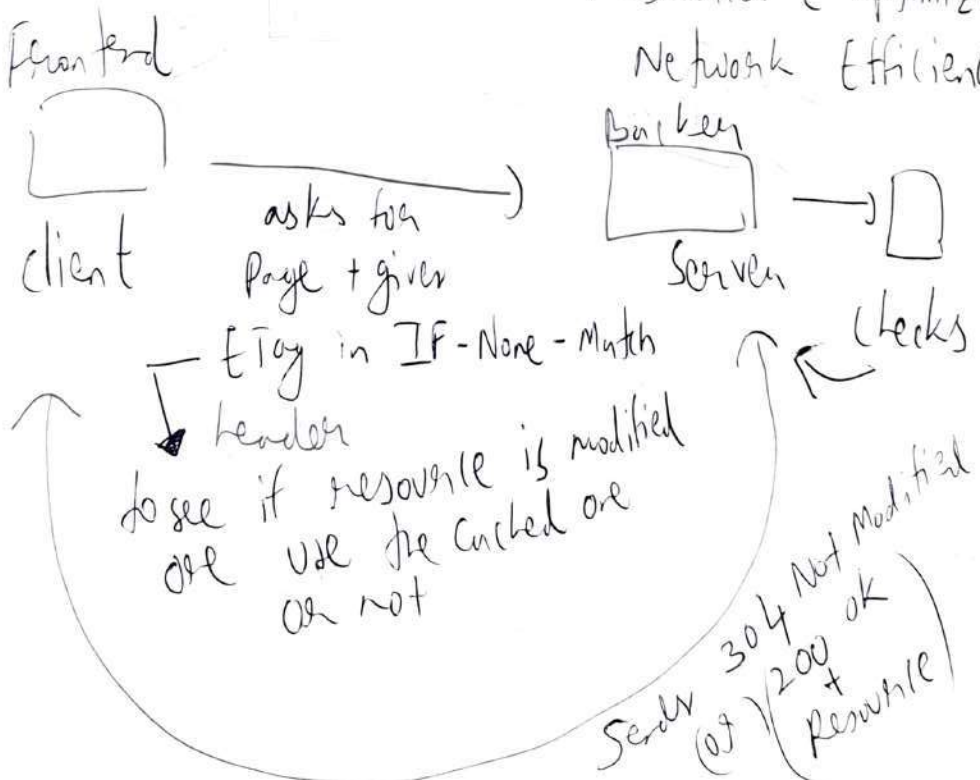
→ go to page 50 (like book)

Cursor Offset → skip 1st 20 & return next 10

Cursor → Cursor (unique Identifier for last item on previous page) → efficient for large dataset

→ Continuous Scrolling

E Tag (Entity Tag) → Mechanism used by web servers & browsers to validate cached resources & optimize Network Efficiency



Body Hash duplication

Computing Hash of a req/res body & using
to detect identical payloads.

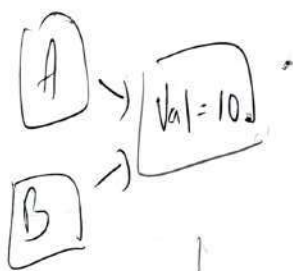
If 2 bodies \rightarrow Same Hash \rightarrow duplication detected

Body Hash duplication \rightarrow server side Identity
content

ETag \rightarrow client-server Cache
Validation

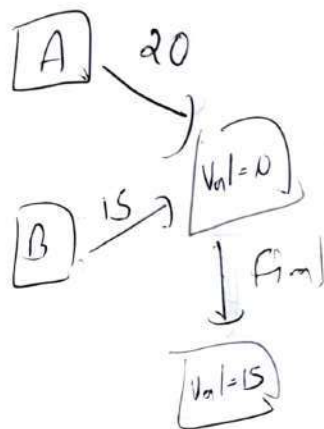
Lost the Update Problem \rightarrow Concurrent updates
overwrite each other

e.g.



read
Val = 10

then



A's update lost

Now if we use ETag + If-Match

current ETag == 'V1' \rightarrow updated

\downarrow
new ETag "V2"

B' → went {Tag != "VI"} → fail over

ETag Alone → Identifier

ETag + If-None-Match → Cache Validation

ETag + If-Match → Write Safety

Logging Levels → DEBUG → INFO → WARN → ERROR
↓
(CRITICAL)

→ Context Logging is necessary
(the level to
store & fill
how much line)