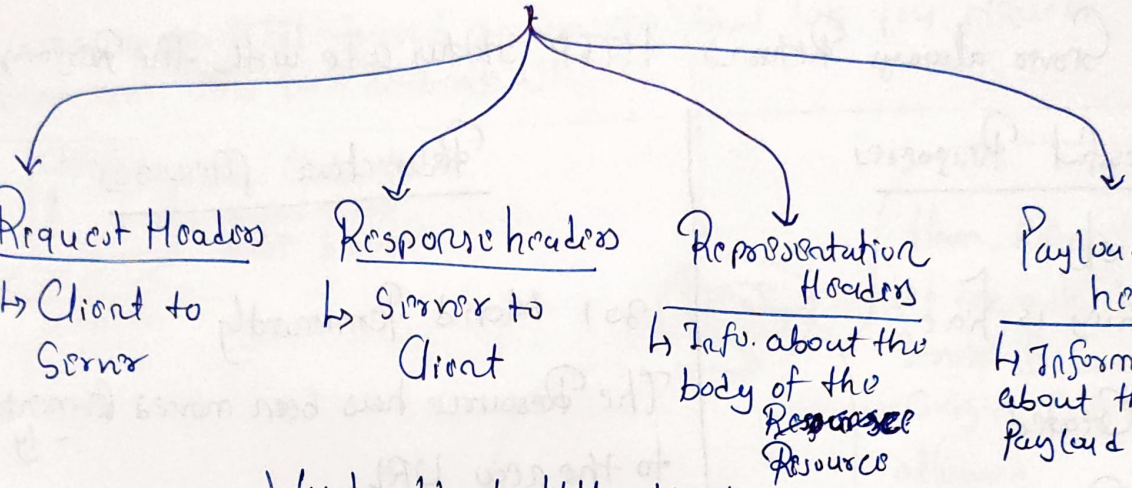
APIs

HTTP Headers

Client & Server can pass the extra bit of Information with the Request and Response using http headers.

Divided into four Parts



Widely Used Http Headers

Accept

Type of Data client can understand.

Accept-Encoding

Which encoding method Client can understand

Authorization

Used to pass credentials so that Server can Authenticate

Accept-language

↳ Client is Expecting the Response in the Mentioned language

Content-type

Specifies the media type of the Response

Host

↳ Specifies the domain name.

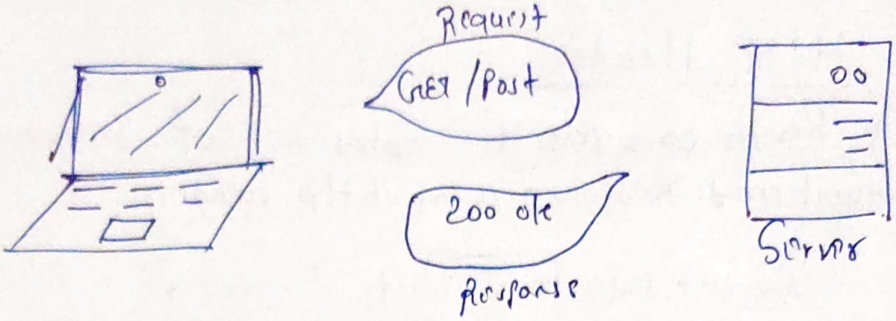
Access-Control-Allow-Origin

↳ Which origin is allowed to access the Resource

Access-Control-Allow-Methods

↳ Which methods are allowed to access the cross-origin Resources.

HTTP Status Codes



Server always Returns HTTP Status code with the Response.

Successful Response

200 ok
Everything is fine

201 Created
New Response was created

Redirection Messages

301 Moved Permanently
The Resource has been moved Permanently to the new URL.

Client Error

400 Bad Request
Invalid Syntax

401 Unauthorized
Credentials are incorrect

403 Forbidden
You don't have permission to access the Resources.

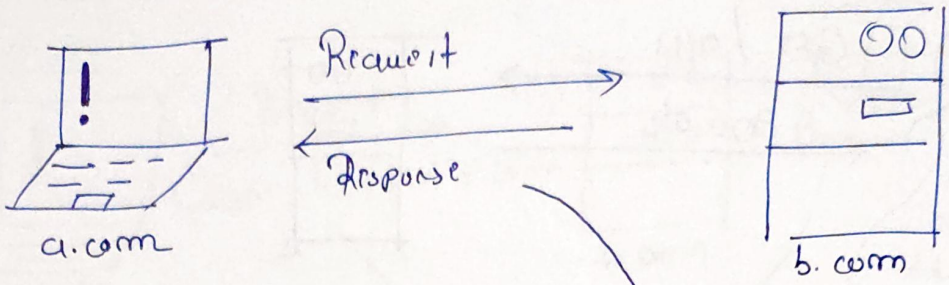
404 Not found
Invalid URL

429 Too many Requests
User has sent too many Requests in a given amount of time.

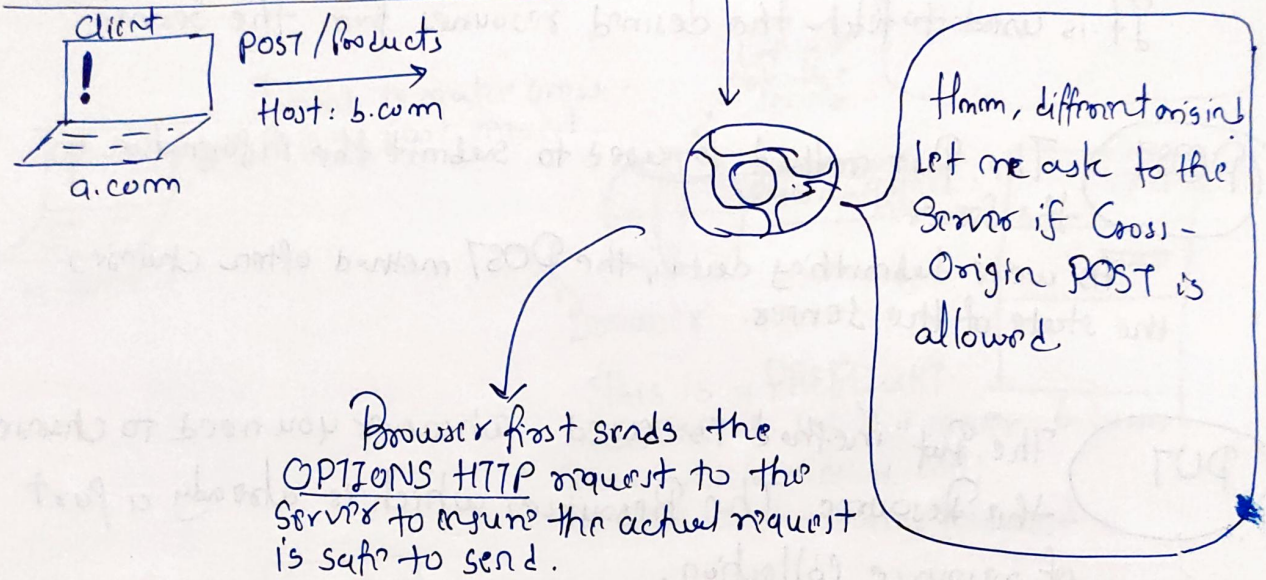
Server Error

500 internal Server Error
Server does not know how to handle the Unexpected Situation.

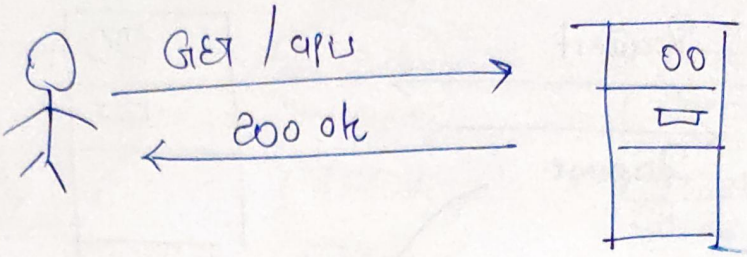
Cross-Origin Resource Sharing (CORS)



CORS is an HTTP-based mechanism that lets you request data from one URL to a different URL.



HTTP Request Methods



GET The GET method is the most common of all these request methods.
It is used to fetch the desired resources from the Server.

POST The Post method is used to submit the information to the Server.
As we're submitting data, the POST method often changes the state of the Server.

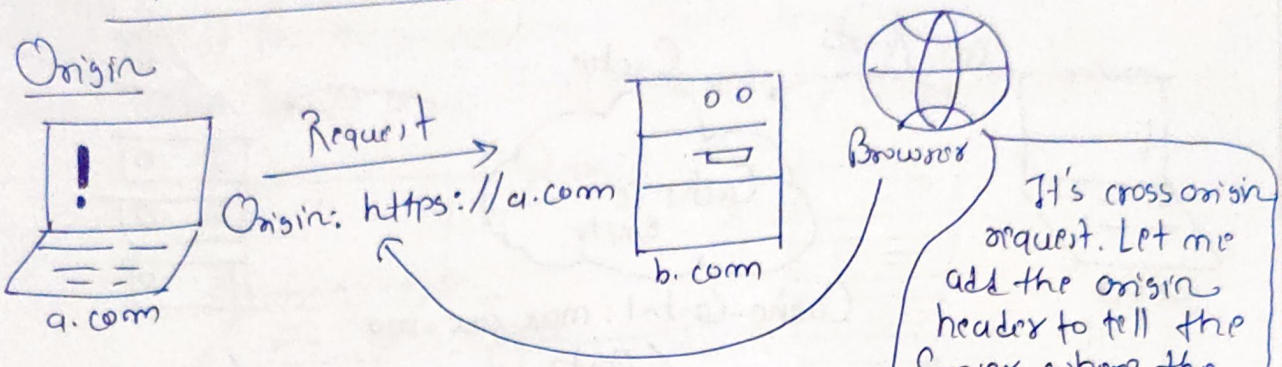
PUT The Put method is used whenever you need to change the Resource. The Resource, which is already a part of resource Collection.

PATCH The Patch request method is used to modify only the necessary part of the data or response.
The Patch Method doesn't modify the entire response.

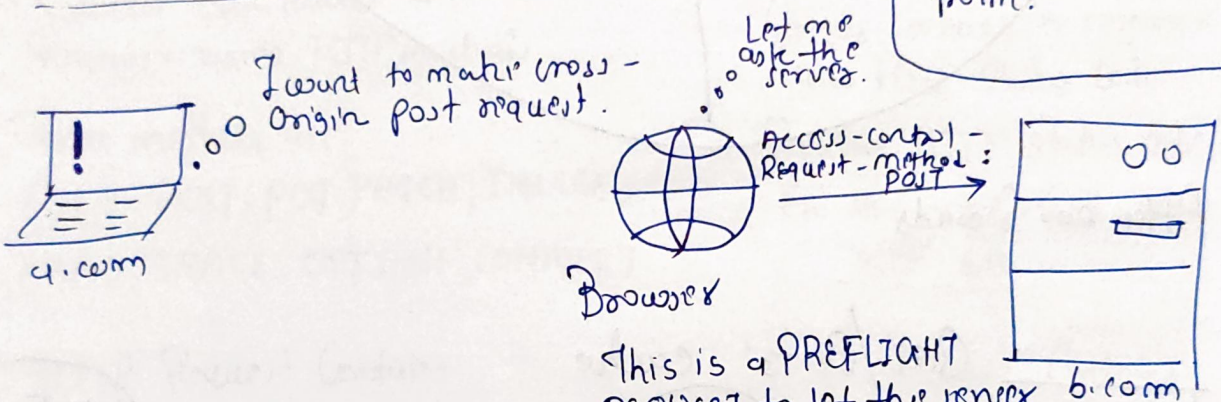
DELETE As the name says, the DELETE request method is used to delete the Specified Resource. It requests that the origin Server delete the resource identified by the Request-URL.

Access Control HTTP Headers

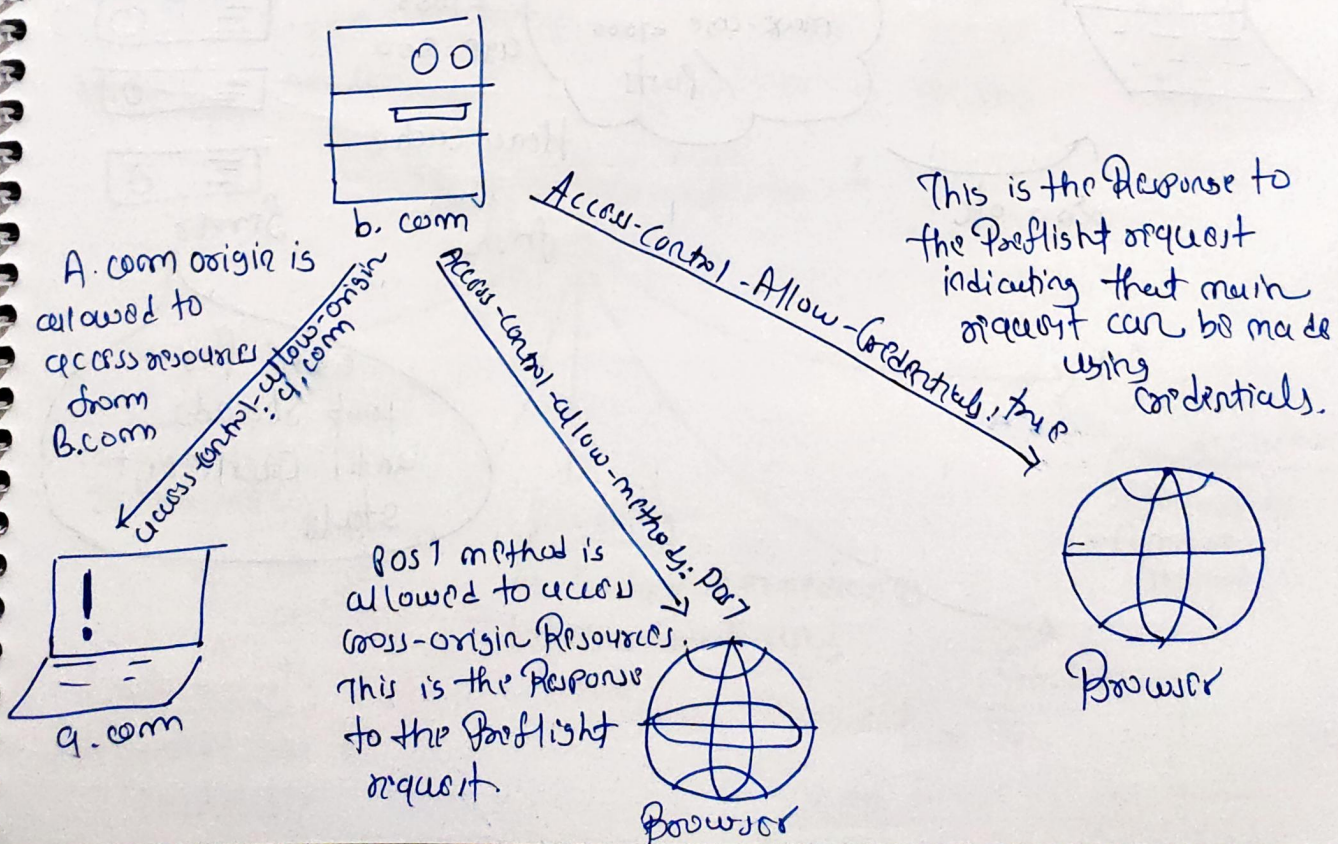
Origin



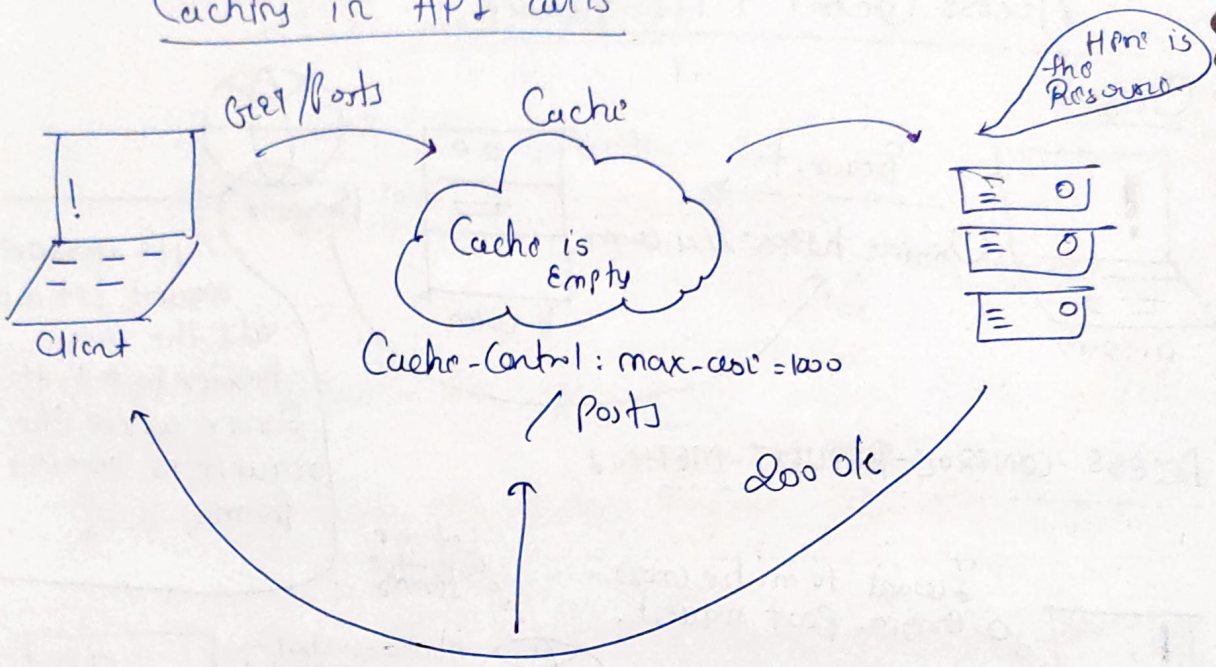
ACCESS-CONTROL-REQUEST-METHOD



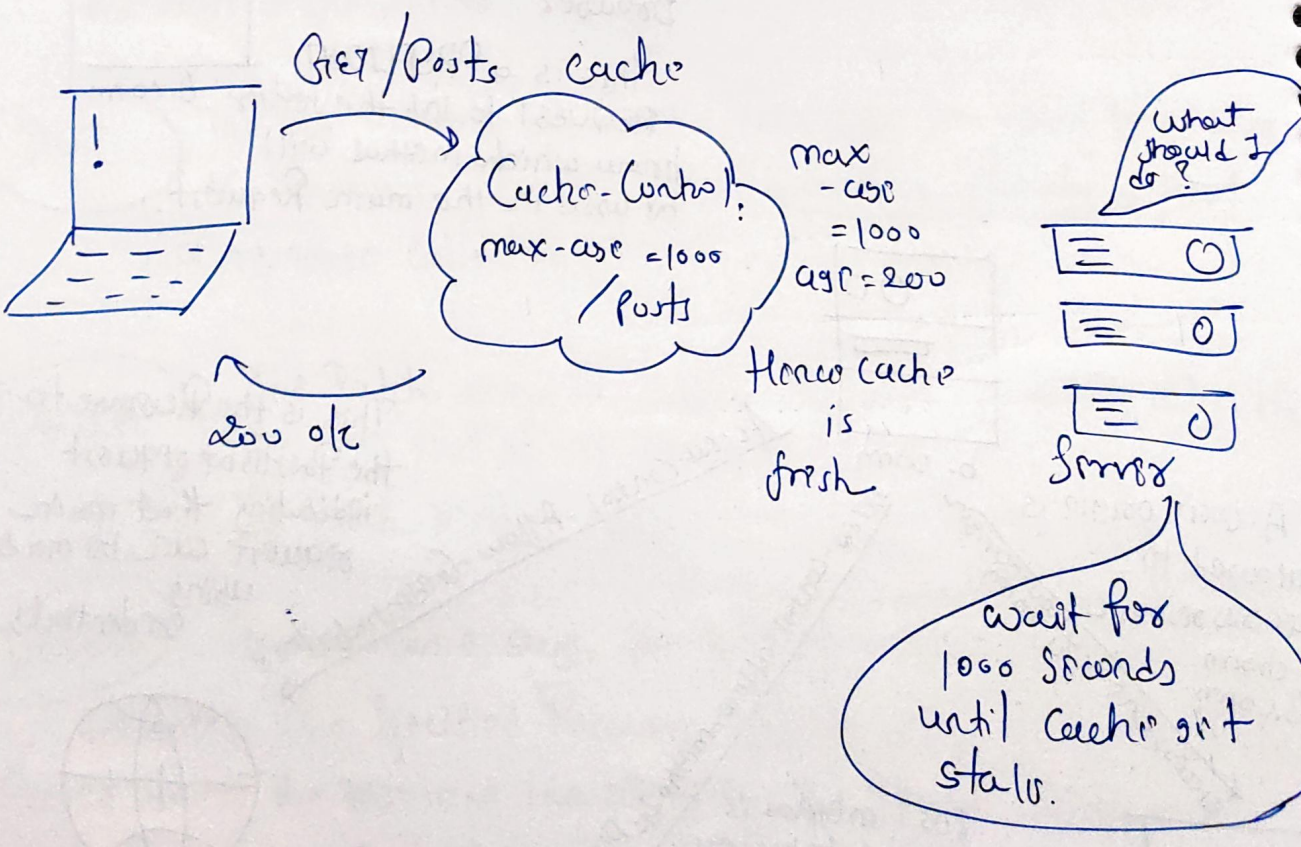
This is a PREFLIGHT REQUEST to let the server know which method will be used in the main Request.



Caching in API calls

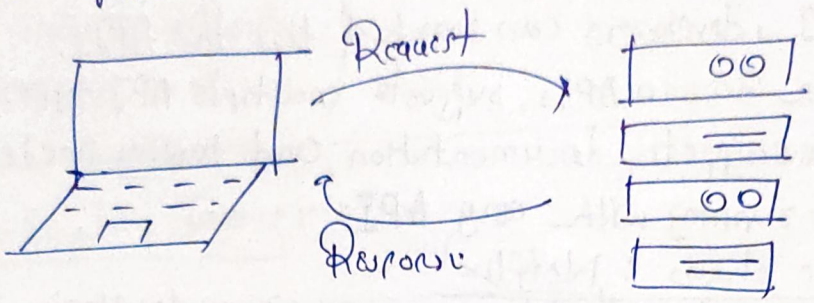


After 200 Seconds



REST API

REST stands for Representational State Transfer.
REST API Operate on a Simple Request/Response System.



Client can make a Request using HTTP methods.

These methods are:
GET, POST, PUT, PATCH, DELETE, HEAD, TRACE, OPTIONS, CONNECT

Server returns a response with an HTTP Status Code.

Popular HTTP status code:
Ex. 200, 202, 403, 404, 500 Etc.

HTTP Request Contains

- Request Method
- HTTP headers
- Body

HTTP Response Contains

- Status Code
- HTTP Headers
- Response Body

REST API Constraints:

- **Client Server architecture**
  - No third Party Interpretation
- **Uniform Interface**
  - Follow a Common Protocol.
- **Layering**
  - Multiple intermediaries between client and Server
- **Cacheability**
  - Response can be cacheable
- **Statelessness**
  - There is no state. Client and Server are completely Separate.