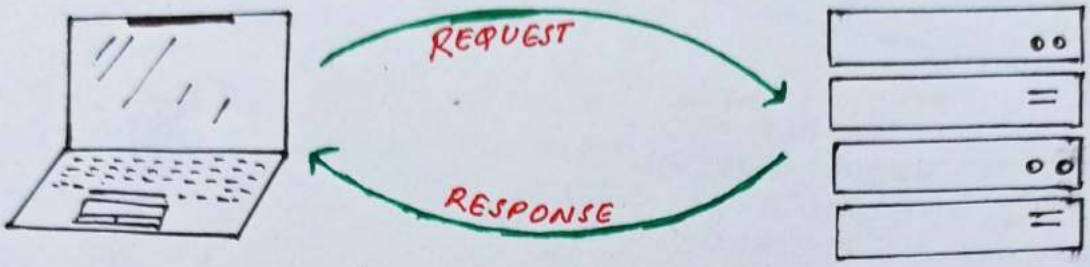
# REST API

Rest stands for REPRESENTATIONAL STATE TRANSFER
REST APIS OPERATE ON A SIMPE REQUEST/RESPONSE SYSTEM




CLIENT CAN MAKE A REQUEST USING HTTP METHODS

THESE METHODS ARE:
GET, POST, PUT, PATCH, DELETE, HEAD, TRACE, OPTIONS, CONNECT.

HTTP REQUEST CONTAINS
- REQUEST METHOD
- HTTP HEADERS
- BODY

SERVER RETURNS A RESPONSE WITH AN HTTP STATUS CODE

POPULAR HTTP STATUS CODE:
EX, 200, 202, 403, 404, 500 ETC.

HTTP RESPONSE CONTAINS
- STATUS CODE
- HTTP HEADERS
- RESPONSE BODY.

## ★ REST API CONSTRAINTS ★

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• TECEGRAM- NOTES GALLERY.

### CLIENT-SERVER ARCHITECTURE
• NO THIRD PARTY INTERPRETATION.

### UNIFORM INTERFACE
• FOLLOW A COMMON PROTOCOL

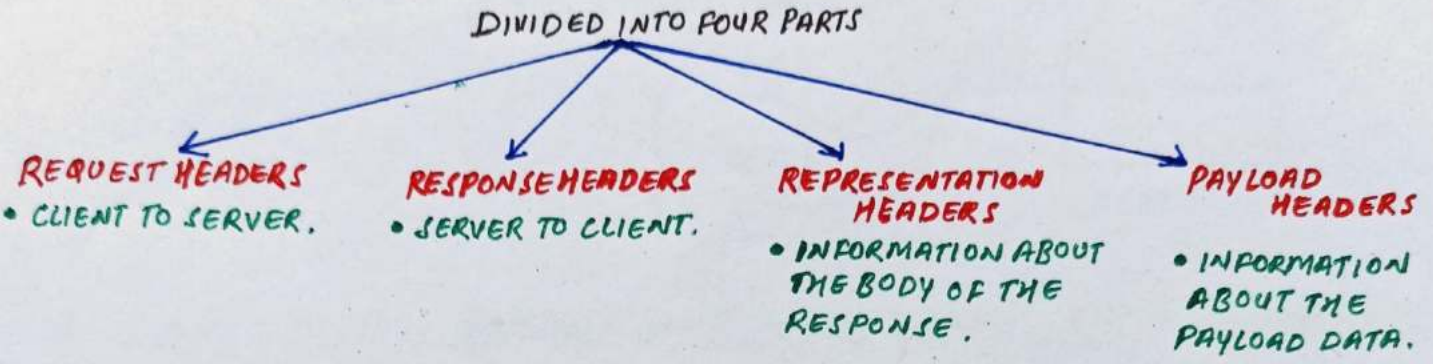
### LAYERING
• MULTIPLE INTERMEDIARIES BETWGEN CLIENT AND SERVER.

### CACHEABILITY
• RESPONSE CAN BE CACHEABLE

### STATELESSNESS
• THERE IS NO STATE. CLIENT AND SERVER ARE COMPLETELY SEPARATED.

# HTTP HEADERS

CLIENT AND SERVER CAN PASS THE EXTRA BIT OF INFORMATION WITH THE REQUEST AND RESPONSE USING HTTP HEADERS.

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## WIDELY USED HTTP HEADERS

### Accept
TYPE OF DATA CLIENT CAN UNERSTAND.

### Content-Type
SPECIFIES THE MEDIA TYPE OF THE RESOURCE.

### Accept-Encoding
WHICH ENCODING METHOD CLIENT CAN UNDERSTAND.

### Host
SPECIFIES THE DOMAIN NAME.

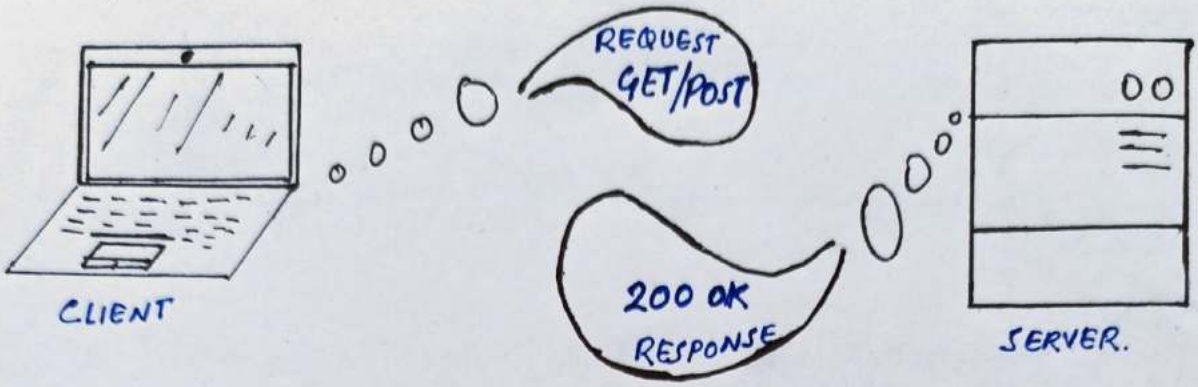
### Authorization
USED TO PASS CREDENTIALS SO THAT SERVERS CAN AUTHENTICATE.

### Access-Control-Allow-Origin.
WHICH ORIGIN IS ALLOWED TO ACCESS THE RESOURCES.

### Accept-Language
CLIENT IS EXPECTING THE RESPONSE IN THE MENTIONED LANGUAGE

### Access-Control-Allow-Methods.
WHICH METHODS ARE ALLOWED TO ACCESS THE CROSS-ORIGIN RESOURCES.

# HTTP STATUS CODE




★ SERVER ALWAYS RETURNS HTTP STATUS CODE WITH THE RESPONSE ★

## SUCCESSFUL RESPONSES

200 OK
EVERYTHING IS FINE

201 CREATED
NEW RESOURCE WAS CREATED.

## REDIRECTION MESSAGES

301 MOVED PERMANENTLY
THE RESOURCE HAS BEEN MOVED PERMANENTLY TO THE NEW URL.

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CLIENT ERROR

400 BAD REQUEST
INVALID SYNTAX.

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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.

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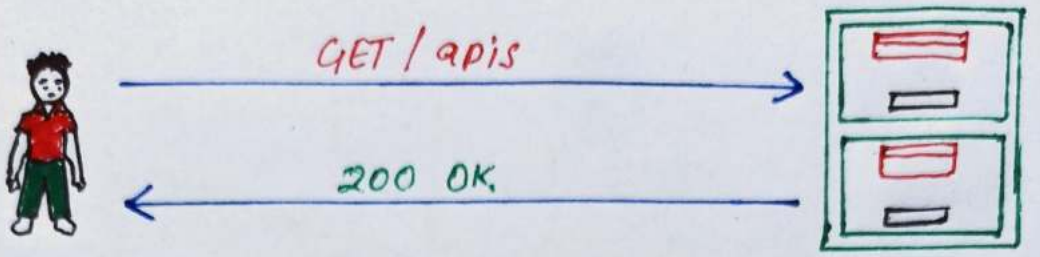
# HTTP REQUEST METHODS




**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 the 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**

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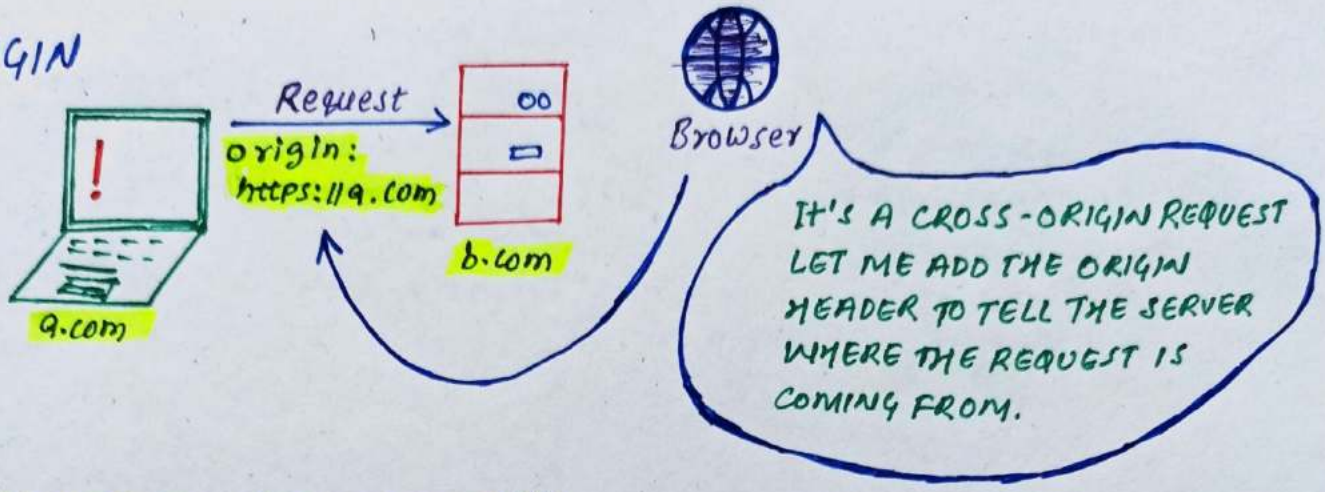
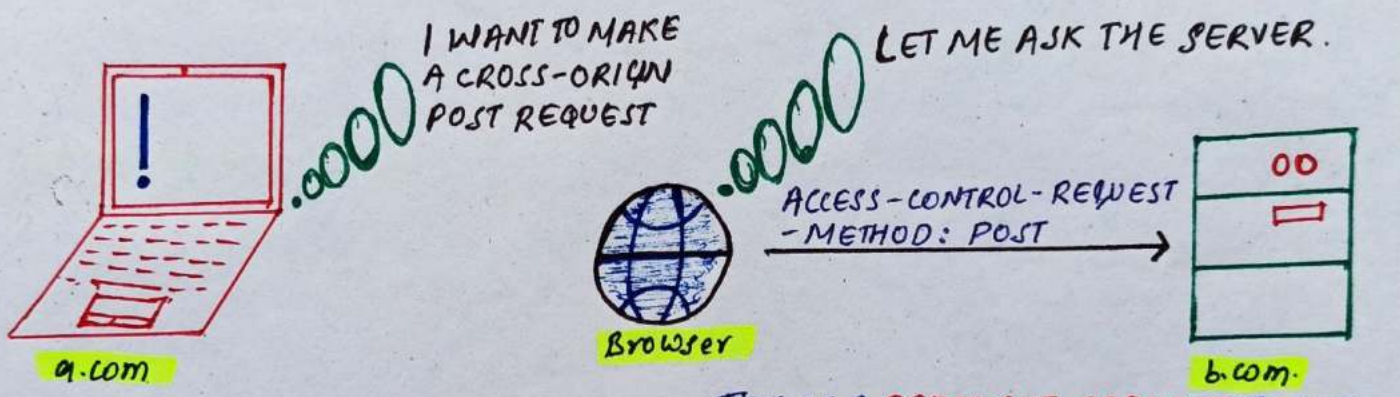
As the name says, the DELETE request method is used to delete the specified resource.
It requests that the origin server delete the resource identified by the Request-URL.

# Access Control HTTP Headers

## ORIGIN

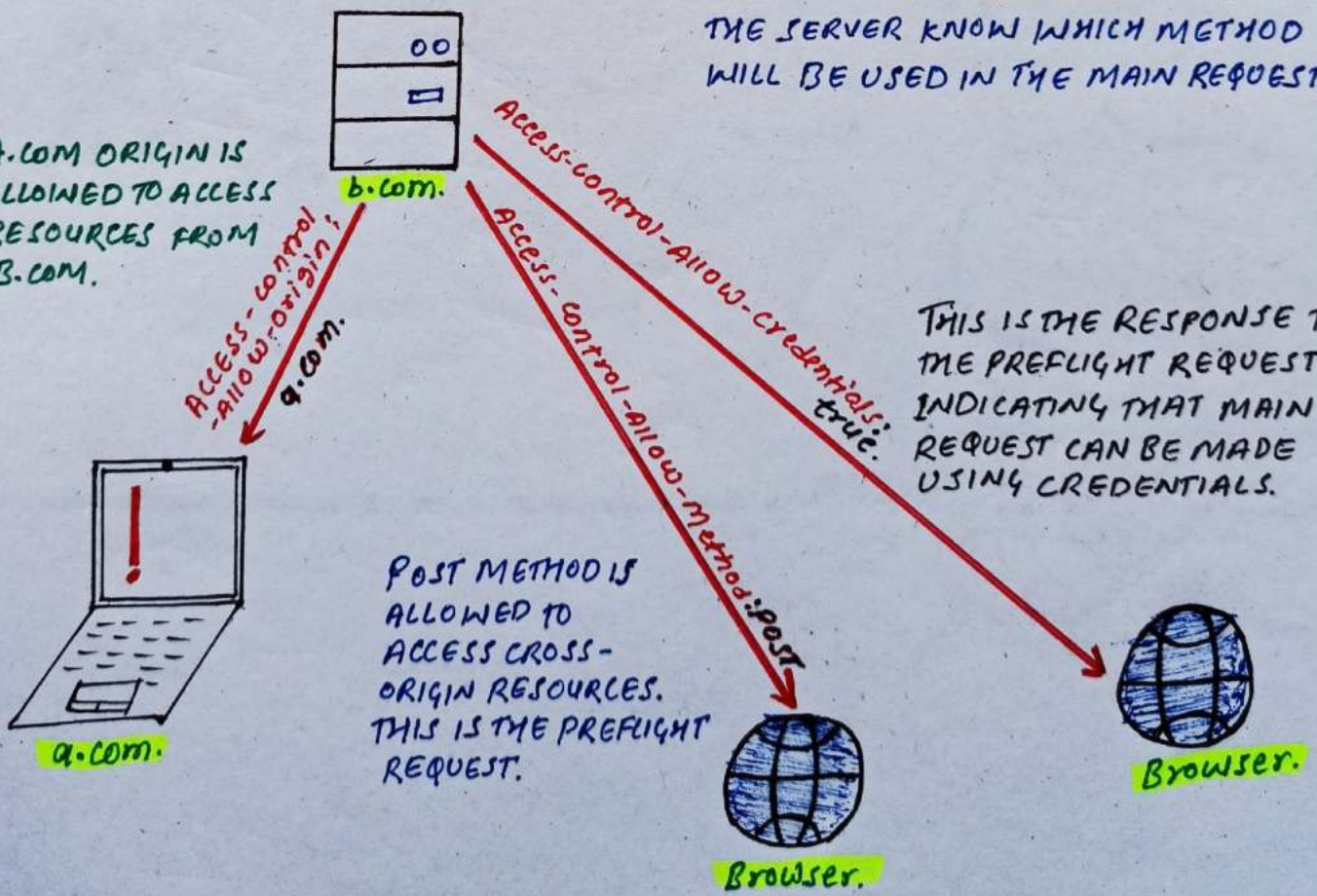



## ACCESS-CONTROL-REQUEST-METHOD

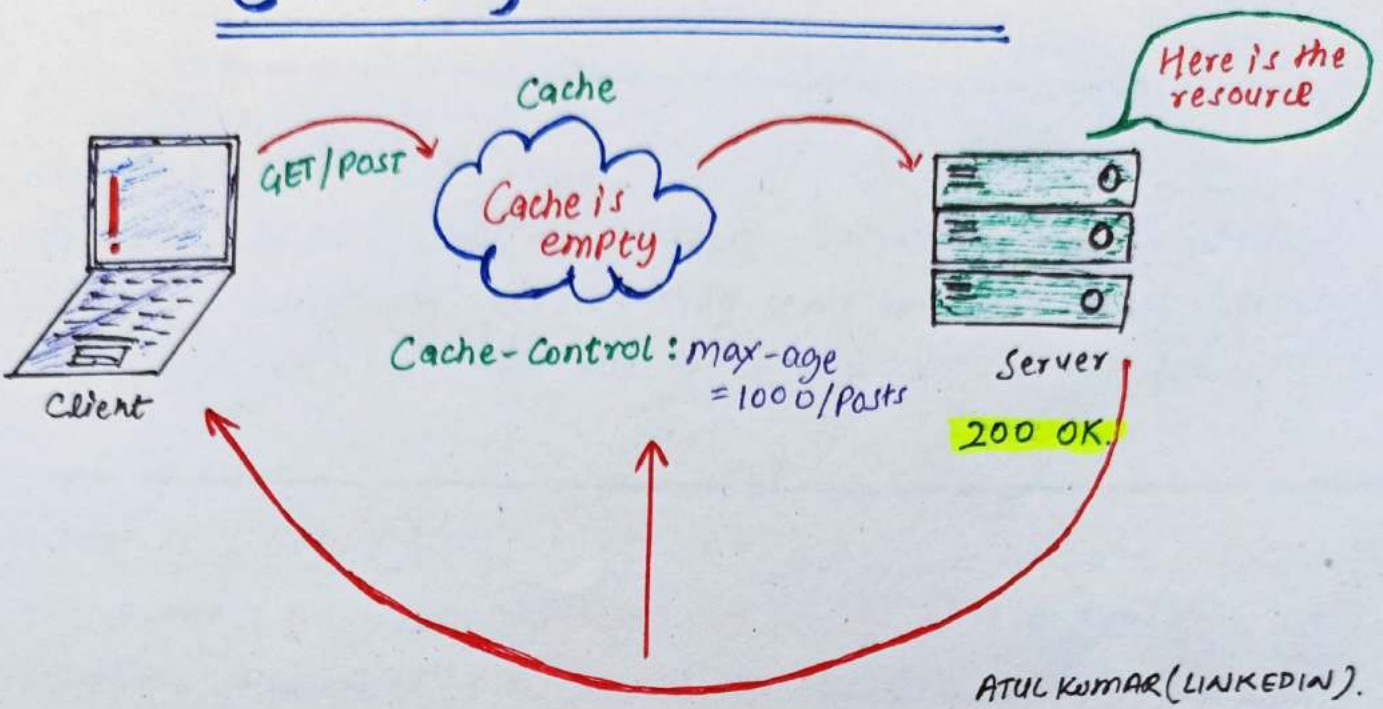



THIS IS A PREFLIGHT REQUEST TO LET THE SERVER KNOW WHICH METHOD WILL BE USED IN THE MAIN REQUEST.

A.COM ORIGIN IS ALLOWED TO ACCESS RESOURCES FROM B.COM.



# Caching in API calls.

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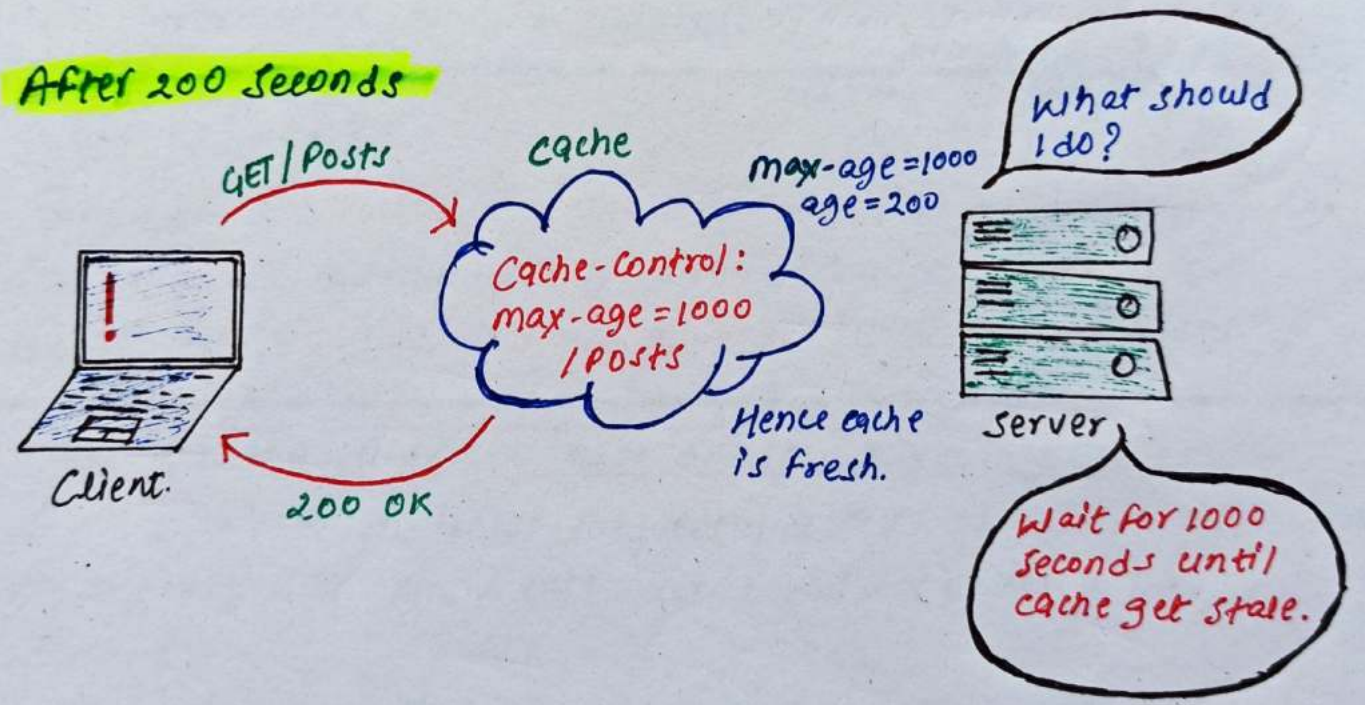
After 200 seconds

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