

# CORS basics

WASA: Web and Software Architecture

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**CORS = Cross-Origin Resource  
Sharing**

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## Different Origins

- a user agent (UA) loads a web page from the origin server `www.origin1.com`
- a script on this page wants to fetch something from another origin: `www.origin2.com`

GET / HTTP 1.1

Host: `www.origin2.com`

- Would Origin2 accept that a script provided by Origin1 reads its data?

## The UA asks (Simple Request)

The UA adds a header to the request...

Origin: http://www.origin1.com

...to verify if Origin2 accepts to share its resources with Origin1

## Origin2 responds

- If Origin2 answers positively, it adds a header to the response, like:

Access-Control-Allow-Origin: http://www.origin1.com

or

Access-Control-Allow-Origin: \*

- Else, it returns an error indicating it does not accept cross origin requests from that origin

## What about non SAFE methods?

- e.g., DELETE
- If Origin2 supports CORS, it can respond with an error and not perform the operation

## What if Origin2 does not support CORS?

- a non-SAFE operation could be executed
- browsers implement **preflight requests** to avoid this

## Preflight requests

1. make a request just to verify
2. then make the real request

OPTIONS / HTTP/1.1

Host: www.origin2.com

Origin: http://www.origin1.com

Access-Control-Request-Method: DELETE

If response from Origin2 contains these headers:

Access-Control-Allow-Origin: http://www.origin1.com

Access-Control-Allow-Methods: DELETE

then it is ok to send the DELETE request.