

Les micro-services

le protocole HTTP



Recherche Google

J'ai de la chance

PayPal, Inc. [US] | <https://www.paypal.com/webapps/hermes?...>



\$12.00 USD

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USD

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À suivre

Lecture automatique



URL

browser : <http://www.google.fr>

URL : uniforme Resource Locator

URL analysis

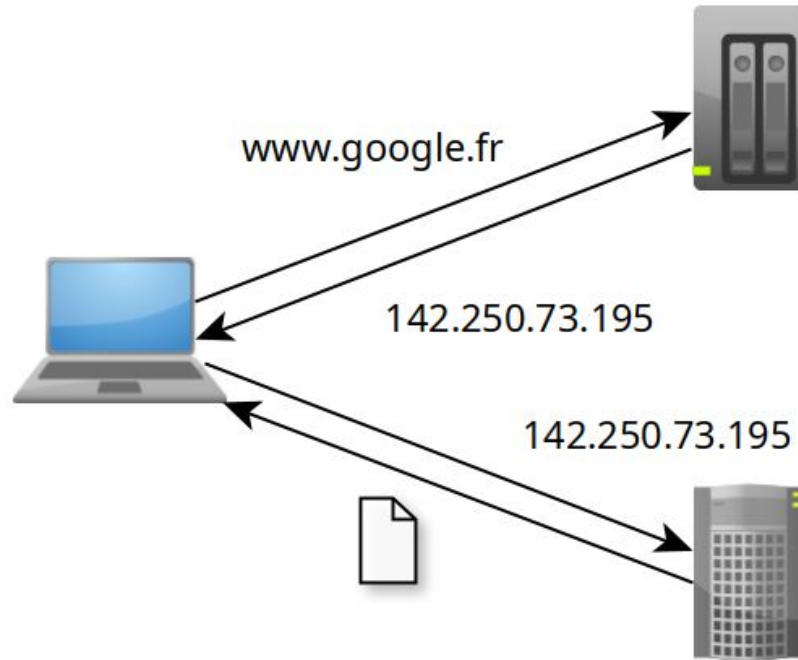


http://www.google.com/

URL Scheme : http / https (ftp,mailto,...)

HOST : google.com : serveur

DNS



URL : static file

https://www.google.com/images/branding/googlelogo/2x/googlelogo_color_272x92dp.png

PATH : path to ressource



URL : more concepts

<http://www.google.com:80/search?q=chat#myFrag>

The diagram illustrates the structure of the URL <http://www.google.com:80/search?q=chat#myFrag>. It is broken down into five parts, each enclosed in a blue box: 'http://', 'www.google.com', '80', 'search?q=chat', and '#myFrag'. Lines connect these boxes to their respective descriptions in the list below: 'http' to 'URL Parameters', 'www.google.com' to 'port', '80' to 'port', 'search?q=chat' to 'URL Parameters', and '#myFrag' to 'fragment'.

— URL Parameters : query string

— port : 80 default for http, 443 default for https

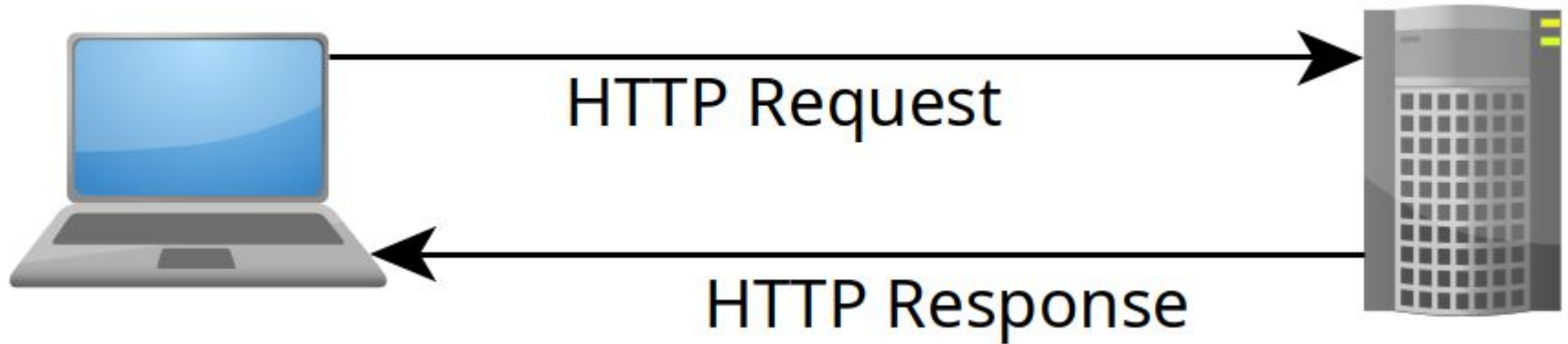
— fragment : not sent to the server, stay on the browser

https://fr.wikipedia.org/wiki/Universit%C3%A9_de_Cergy-Pontoise#Image_et_communication

HTTP exchange



HTTP Transaction : Request/Response



HTTP Request

POST /.well-known/security.txt HTTP/1.1

Host:www.google.fr

.....

{search:security}

[SCHEMA] [PATH][PROTOCOL]

HEADERS

BODY

HTTP Request header



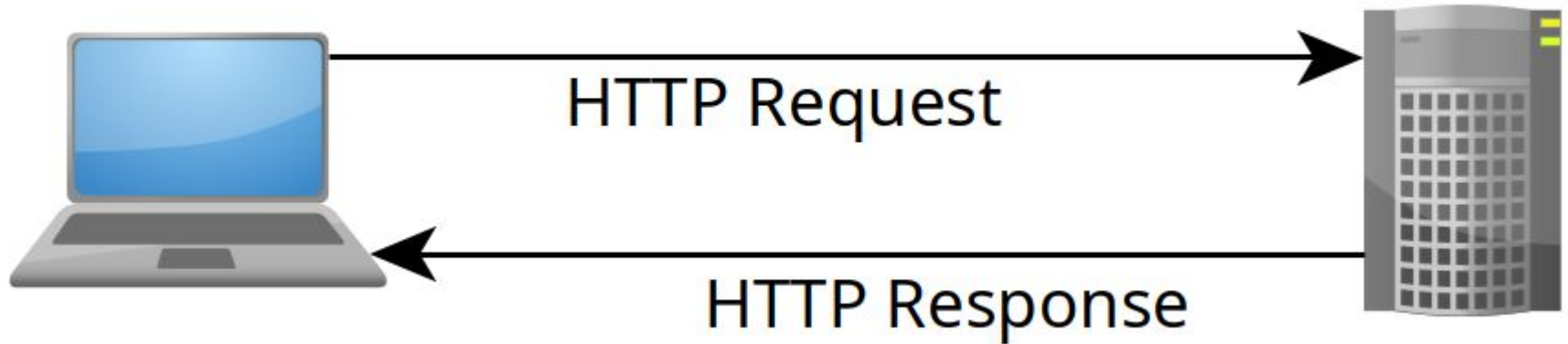
GET /.well-known/security.txt HTTP/1.1

The diagram shows the components of an HTTP request line. A horizontal line is divided into three segments by two vertical lines. The first segment contains the text 'GET', the second contains the path '/.well-known/security.txt', and the third contains the version 'HTTP/1.1'. Each segment is enclosed in a blue rectangular box. A line from the title 'HTTP Request header' points to the first box. Another line from the title points to the third box. A third line from the title points to the text 'Method : GET, POST, PUT, DELETE, HEAD, ...' below the first box. A fourth line from the title points to the text 'standard HTTP 1.1 depuis 1999, 2 depuis 2017, 3 depuis 2021' below the third box.

Method : GET, POST, PUT, DELETE, HEAD, ...

standard HTTP 1.1 depuis 1999, 2 depuis 2017, 3 depuis 2021

HTTP Transaction : Request/Response



HTTP Response

HTTP/1.1 200 OK

Accept-Ranges: bytes
Vary: Accept-Encoding
Content-Type: text/plain
Cross-Origin-Resource-Policy: cross-origin
.....

Contact: <https://g.co/vulnz>
Contact: <mailto:security@google.com>
Encryption: <https://services.google.com/corporate/publickey.txt>
Acknowledgements: <https://bughunters.google.com/>
Policy: <https://g.co/vrp>
Hiring: <https://g.co/SecurityPrivacyEngJobs>
Connection closed by foreign host.

[VERSION] [STATUS][REASON]

HEADERS

BODY

Response Status

Range	Category
1XX	Informational
2XX	Successful
3XX	Redirection
4XX	Client Error
5XX	Server Error

Response Common Status Code

200	Ok
301	Move Permanently
302	Move temporality
304	Not modified
400	Bad request
401	Unauthorized
403	Forbidden
404	Not Found
500	Internal Server Error
503	Service Unavailable



200
OK



302
Found



403
Forbidden



404
Not Found



500
Internal Server Error



503
Service Unavailable

<https://httpstatusdogs.com/>
<https://datatracker.ietf.org/doc/html/rfc2324>

Let's play: https://simongomezuniv.github.io/td1_HTTP

TD

les outils

telnet : RFC 854 "Telnet", TCP connexion, gestion des sessions et de certains protocole (FTP, SMTP)

netcat : no protocole management, raw TCP

wget : transfert tool (HTTP & FTP)

curl : request on multiple protocole

what about my browser ?



HTTPS

HTTP over SSL





One account. All of Google.



Enter your email

REJOINER LA VIDÉO

Next

Find my account

Create account

One Google Account for Everything Google

browser in
browser



HTTP Request

POST /.well-known/security.txt HTTP/1.1

Host:www.google.fr

.....

{search:security}

[SCHEMA] [PATH][PROTOCOL]

HEADERS

BODY

HTTP Request : remarkable Header

accept family (accept, accept-charset,..)



HTTP Request : remarkable Header

cookie



HTTP Request : remarkable Header

host

HTTP Request : remarkable Header

user-agent

<https://www.whatsmyua.info/>

HTTP Response

HTTP/1.1 200 OK

Accept-Ranges: bytes
Vary: Accept-Encoding
Content-Type: text/plain
Cross-Origin-Resource-Policy: cross-origin
.....

Contact: <https://g.co/vulnz>
Contact: <mailto:security@google.com>
Encryption: <https://services.google.com/corporate/publickey.txt>
Acknowledgements: <https://bughunters.google.com/>
Policy: <https://g.co/vrp>
Hiring: <https://g.co/SecurityPrivacyEngJobs>
Connection closed by foreign host.

[VERSION] [STATUS][REASON]

HEADERS

BODY

HTTP Response : remarkable Header

cache-control

Etags

Expires

last-modified

HTTP Response : remarkable Header

cookie again

