COSA C'È SOTTO AL COFANO DI INTERNET

CONCETTI TECNICI DI BASE


0101100011010101100011010101100011010
SSD
SSD

COMINCIAMO CON

UN PO' DI STORIA

1969 — ARPANET

1971 — EMAIL

1979 — EMOTICON

1980 — PRIMO VIRUS

1986 — INTERNET IN ITALIA

1991 — WORLD WIDE WEB

...

1998 — GOOGLE

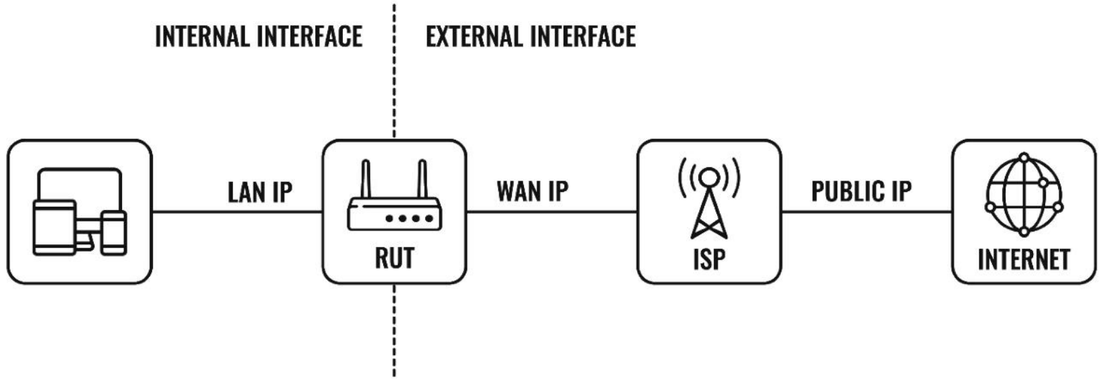



0011010
0011

COS'È UN

INDIRIZZO IP





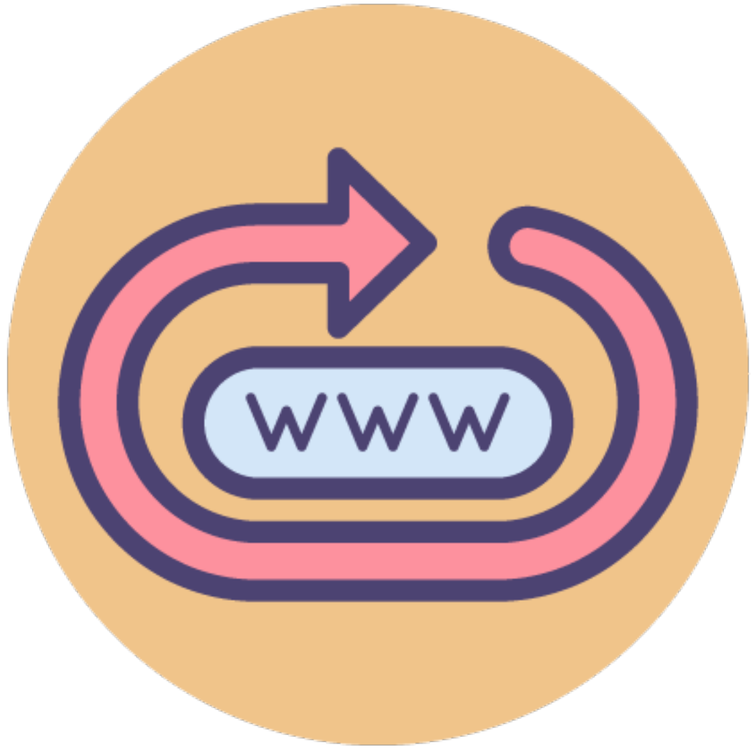


COM'È COMPOSTO

UN INDIRIZZO WEB

http://animali.esempio.it/cani/cuccioli?colore=bianco&taglia=piccola

- protocollo
- sotto-dominio
- dominio
- top-level domain
- percorso
- parametri della query



COSA ACCADE QUANDO

SCRIVIAMO UN INDIRIZZO E PREMIAMO "Invio"



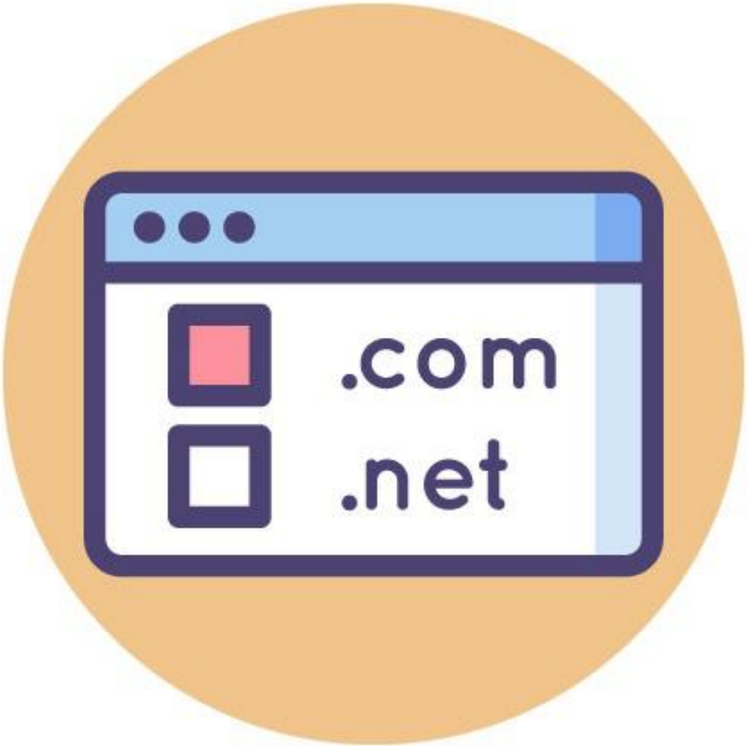


RICERCA DELL'IP

INTERNET PROTOCOL ADDRESS

DNS

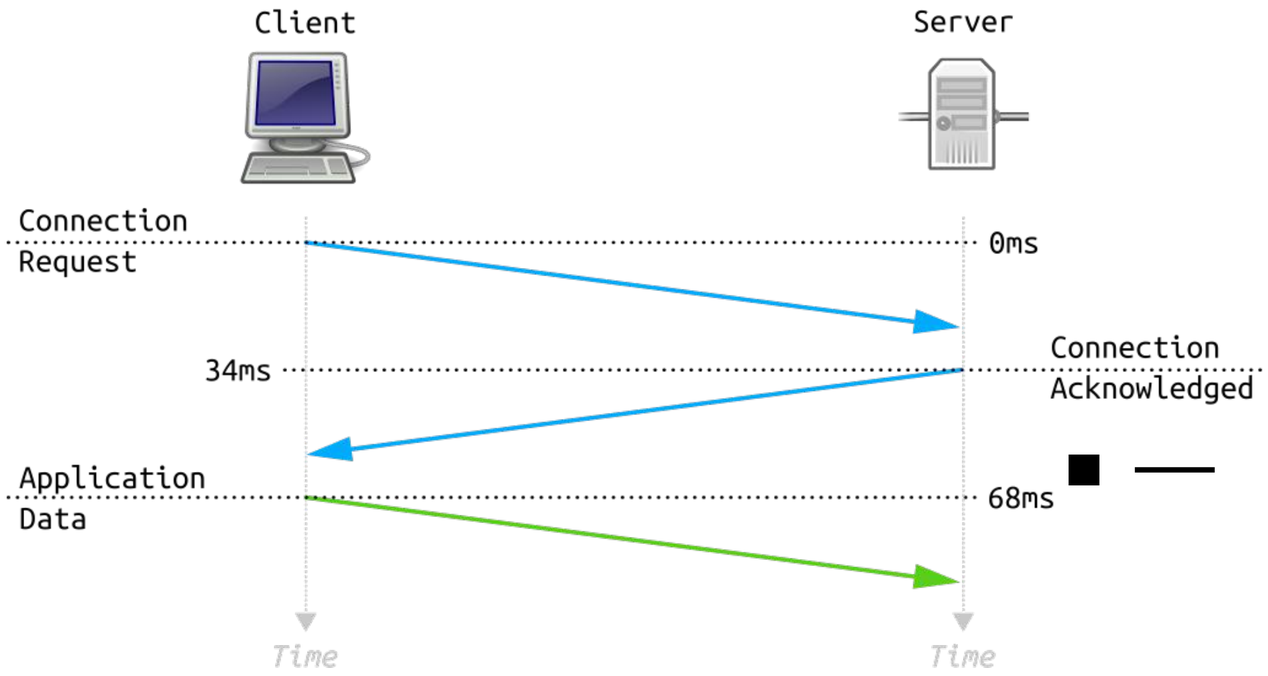
DOMAIN NAME SYSTEM



CONNESSIONE AL SERVER

TCP/IP

TRANSMISSION CONTROL PROTOCOL





IL BROWSER INVIA LA RICHIESTA

GET vs POST

Invia informazioni appendendole alla richiesta della pagina	Trasferisce le informazioni tramite l'intestazione HTTP
I dati sono visibili nell'URL	I dati non sono visibili nell'URL
È possibile inviare un numero limitato di caratteri	Quantità di informazioni "illimitate"
Invio di dati non sensibili	Utilizzato, ad esempio, per inviare dati sensibili (es. passwords), binari (documenti, immagini) e caricare files
Non molto sicuro	Più sicuro
È possibile mettere in bookmark l'intera richiesta	Non è possibile salvare la richiesta



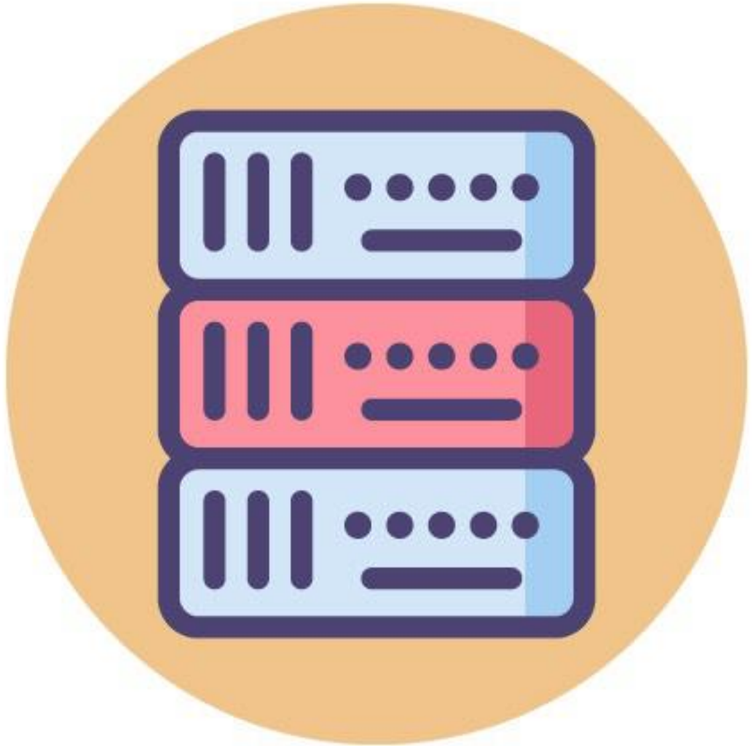
LE COMPONENTI DEL SISTEMA

UNA SEMPLIFICAZIONE

WEBSERVER

[APPLICATION SERVER]

DATABASE



DIGRESSIONE

COSA C'È SOTTO AL COFANO DI UN SITO?


{}
C++
</>

COSA INTENDIAMO PER FRONTEND?



BACKEND



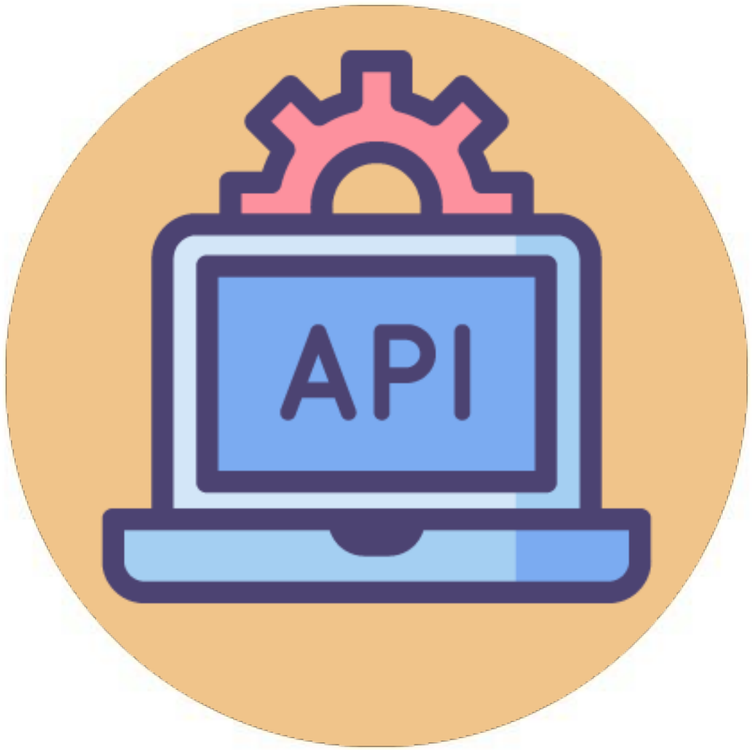
DATABASE



AJAX



RESTful Services e API



COS'È UN

FULL STACK DEV



ERAVAMO QUI...

IL SERVER RICEVE E GESTISCE LA RICHIESTA DEL BROWSER



I PRINCIPALI

SERVER RESPONSE

200 OK

301 MOVED PERMANENTLY

403 FORBIDDEN

404 NOT FOUND

500 INTERNAL SERVER ERROR



PER CONOSCERLI TUTTI

https://it.wikipedia.org/wiki/Codici_di_stato_HTTP

LA GESTIONE DELLE

ERROR PAGES

Error: 500 Unexpected Error



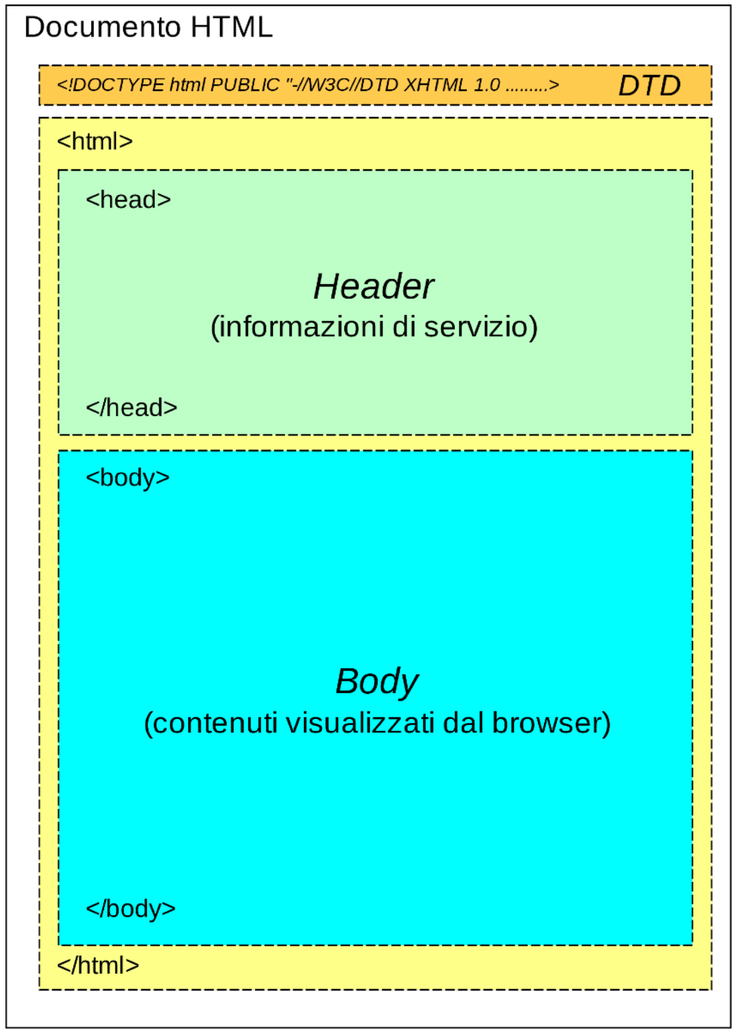
Error: 403 Forbidden



Error: 404 Page Not Found



IL BROWSER ELABORA LA RISPOSTA





Fonte immagine: Wikipedia

HTML

HYPERTEXT MARKUP LANGUAGE

```
<!doctype html>
<html lang="it">
<head>
<title>Titolo Pagina</title>
</head>
<body>
<h1>Ciao a tutti!</h1>
<p>Questa è la mia prima pagina</p>
<img src="immagine.jpg">
</body>
</html>
```



FILE STATICI

```
<!doctype html>
<html itemscope itemtype="http://schema.org/WebPage" lang="it">
▼<head>
   <meta charset="UTF-8">
   <meta content="origin" name="referrer">
   <meta content="/images/branding/googleg/1x/googleg_standard_color_128dp.png" itemprop="image">
   <meta content="origin" name="referrer">
   <title>Google</title>
   <script src="https://apis.google.com/_/scs/abc-static/_/js/k=gapi.gapi.en.jw7XZ…/sv=1/d=1/ed=1/rs=AHpOoo-L1iz4xVj0PCdm2On38RCj6aYemA/
   cb=gapi.loaded_0" nonce="BXT6D6y9RGC53vEpuUm09g==" async></script>
 ▶<script nonce="BXT6D6y9RGC53vEpuUm09g==">…</script>
 ▶<style data-iml="1588495831706">…</style>
   <script async type="text/javascript" charset="UTF-8" src="https://www.gstatic.com/og/_/js/k=og.og2.en_US.0Za8pteyW8s.O/rt=j/m=def,aswid/
   exm=in,fot/d=1/ed=1/rs=AA2YrTuDd1iZH3trt-Wubgr7J0iKILxzpA" nonce="BXT6D6y9RGC53vEpuUm09g==">></script>
 </head>
▼<body jsmodel=" TvHxbe" class="hp vasq big" id="gsr" jsaction="tbSCpf:.CLIENT">
 ▶<style data-iml="1588495831744">…</style>
 ▶<style data-jiis="cc" id="gstyle" data-iml="1588495831745">…</style>
 ▶<style data-iml="1588495831745">…</style>
 ▼<div class="ctr-p" id="viewport">
  ▶<div id="cst">…</div>
  ▶<style data-iml="1588495831745">…</style>
  ▶<div id="gb" class="gb_1f">…</div>
  ▶<div class="jhp big" id="searchform">…</div>
  ▶<dialog class="spch-dlg" id="spch-dlg">…</dialog>
   <div jscontroller="fEVMic" style="display:none" data-u="0" jsdata="C4mkuf;;CQjicI" jsaction="rcuQ6b:npT2md"></div>
  ▼<div class="content" id="main">
   ▼<span class="ctr-p" id="body">
    ▼<center>
...  ▶<div id="lga">…</div> == $0
      <div style="height:118px"></div>
     ▶<div style="margin-top:12px">…</div>
     </center>
    </span>
  ▶<div class="ctr-p" id="footer">…</div>
  ▶<div id="footc">…</div>
  ▶<div class="gTMtLb" id="lb">…</div>
   </div>
```



CSS

CASCADING STYLE SHEETS

```html
<html>
 <head>
 <title>Esempio</title>
 <link rel="stylesheet" type="text/css" href="foglio_di_stile.css"/>
 </head>
```

```css
selettore1 {
  proprietà1:valore1;
  proprietà2:valore2;
}
selettore2 {
  proprietà3:valore3
}
```



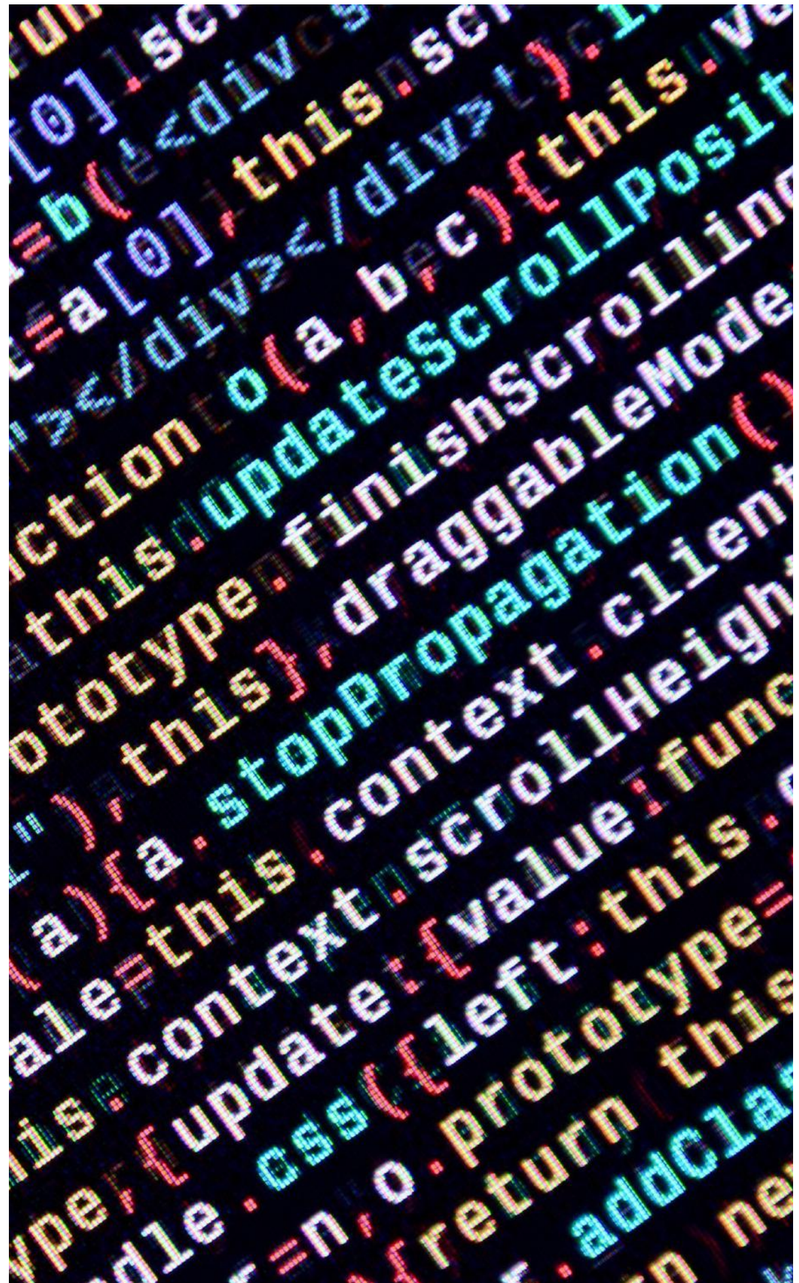
JS

JAVASCRIPT

```
<img src = "normal.png"
     onclick = "window.location.href='http://en.wikipedia.org/'"
     onmouseover = "this.src='rollover.png'"
     onmouseout  = "this.src='normal.png'" />
```

```
<script type="text/javascript"> ... </script>
```

```
<script type="text/javascript">
   document.write('Hello world');
</script>
```



CACHE DEL BROWSER

Filter | Hide data URLs | All | XHR | JS | CSS | Img | Media | Font | Doc | WS | Manifest | Other | Has blocked cookies

500 ms | 1000 ms | 1500 ms | 2000 ms | 2500 ms | 3000 ms | 3500 ms | 4000 ms | 4500 ms | 5000 ms | 5500 ms | 6000 m

Name	Status	Domain	Type	Initiator	Size	Time	Waterfall
data:image/gif;base…	200		gif	/search?source=hp&ei=14WuX…	(memory cache)	0 ms	
photo.jpg	200	lh3.googleuserc…	jpeg	/search?source=hp&ei=14WuX…	(memory cache)	0 ms	
desktop_searchbox_sprites302_hr.webp	200	www.google.com	webp	/search?source=hp&ei=14WuX…	(memory cache)	0 ms	
googlelogo_color_92x30dp.png	200	www.google.com	png	/search?source=hp&ei=14WuX…	(disk cache)	12 ms	
data:image/png;base…	200		png	VM145 search:134	(memory cache)	0 ms	
data:image/png;base…	200		png	VM145 search:134	(memory cache)	0 ms	
data:image/png;base…	200		png	VM145 search:134	(memory cache)	0 ms	
data:image/png;base…	200		png	VM145 search:134	(memory cache)	0 ms	
data:image/jpeg;bas…	200		jpeg	VM145 search:134	(memory cache)	0 ms	
nav_logo299_hr.webp	200	www.google.com	webp	/search?source=hp&ei=14WuX…	(disk cache)	2 ms	
data:image/jpeg;bas…	200		jpeg	VM153 search:139	(memory cache)	0 ms	
data:image/png;base…	200		png	VM153 search:139	(memory cache)	0 ms	
data:image/png;base…	200		png	VM153 search:139	(memory cache)	0 ms	
data:image/png;base…	200		png	VM153 search:139	(memory cache)	0 ms	
data:image/jpeg;bas…	200		jpeg	VM153 search:139	(memory cache)	0 ms	
data:image/jpeg;bas…	200		jpeg	VM153 search:139	(memory cache)	0 ms	
data:image/png;base…	200		png	VM153 search:139	(memory cache)	0 ms	
gen_204?atyp=i&ct=rfl&cad=&ei=hIauXoazL-um1fAPla-n6Ao&…	204	www.google.com	text/html	search?source=hp&ei=14WuXr…	100 B	119 ms	
fb_32x32.png	200	www.gstatic.com	png	search?source=hp&ei=14WuXr…	(disk cache)	2 ms	
twitter_32x32.png	200	www.gstatic.com	png	search?source=hp&ei=14WuXr…	(disk cache)	2 ms	
email_grey600_24dp.png	200	www.google.com	png	search?source=hp&ei=14WuXr…	(disk cache)	3 ms	
si?gadsid=AORoGNTgnVaBvhZqiQTyNbE7Utcs5vyRFZNHks6I…	204	googleads.g.dou…	text/html	si	0 B	63 ms	
p2_3a0632af.png	200	ssl.gstatic.com	png	app?origin=https%3A%2F%2…	(disk cache)	3 ms	
17bdcddea9.png	200	ssl.gstatic.com	png	app?origin=https%3A%2F%2…	(disk cache)	2 ms	
photo.jpg	200	lh3.googleuserc…	png	app?origin=https%3A%2F%2…	(disk cache)	2 ms	



XMLHttpRequest

Filter | Hide data URLs | All | XHR | JS | CSS | Img | Media | Font | Doc | WS | Manifest | Other | Has blocked cookies

20000 ms | 40000 ms | 60000 ms | 80000 ms | 100000 ms | 120000 ms | 140000 ms | 160000 ms | 180000 ms | 200000 ms | 220000 ms | 240000 ms

Name	Status	Domain	Type	Initiator	Size	Time	Waterfall
search?q&cp=0&client=psy-ab&xssi=t&gs_ri=gws-wiz&h…Pla…	200	www.google.com	xhr	rs=ACT90oGx3ZGihHDI6CiDY…	223 B	63 ms	
bgasy?ei=hlauXoazL-um1fAPla-n6Ao&yv=3&async=_fmt:jspb	200	www.google.com	xhr	rs=ACT90oGx3ZGihHDI6CiDY…	3.7 kB	59 ms	
ecr?ei=hlauXoazL-um1fAPla-n6Ao&lei=hlauXoazL-um1fA…m…	200	www.google.com	xhr	rs=ACT90oGx3ZGihHDI6CiDY…	2.2 kB	79 ms	
log?format=json&hasfast=true&authuser=0	200	play.google.com	xhr	m=_b,_tp:301	623 B	76 ms	
log?format=json&hasfast=true	200	play.google.com	xhr	m=_b,_tp:301	767 B	70 ms	



TUTTO QUESTO

IN UNA MANCIATA DI SECONDI

