

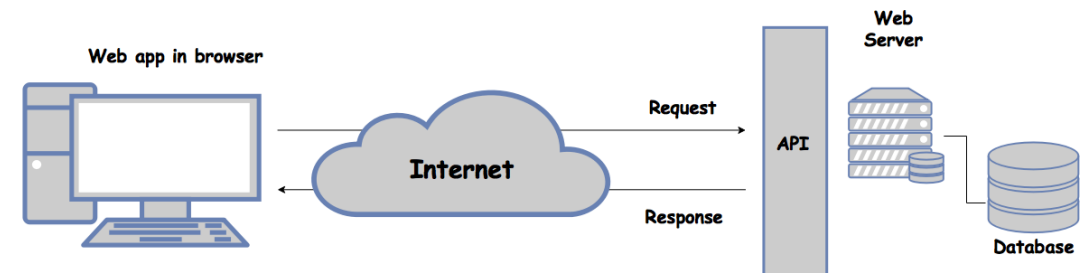
01- Introduksjon til API-er

TIN100

13.11.2020

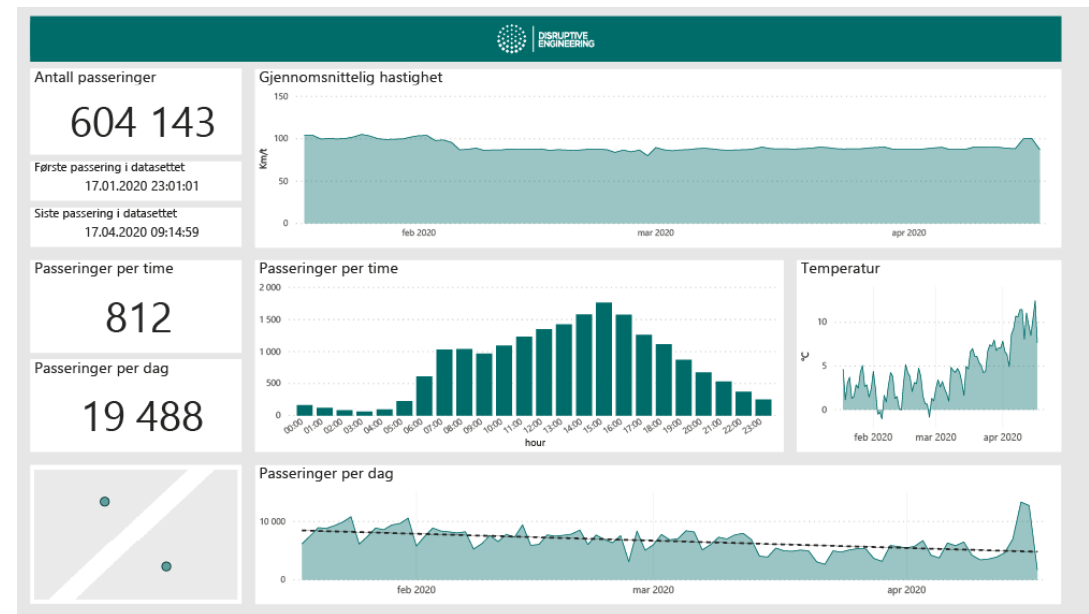
API

- «Application Programming Interface»
 - Grensesnitt for kommunikasjon
- Åpne opp programvare
- Web API-er



Eksempler

- PSD2 (Open Banking)
 - Kommunikasjon mellom banker
 - <https://developer.dnb.no/>
 - <https://psd2.snn.no/portal-sandbox/product>
- Trafikkdata (Disruptive Engineering)
 - Salg av data



Nettleseren i aksjon

Chrome: CTRL+Shift+J, «Network», F5

27 messages

- 4 user messages
- 13 errors
- 2 warnings
- 3 info
- 9 verbose

Failed to load resource: net::ERR_BLOCKED_BY_CLIENT nr-1184.min.js:1

Failed to load resource: net::ERR_BLOCKED_BY_CLIENT 958329b...js:1

Failed to load resource: net::ERR_BLOCKED_BY_CLIENT vgnett:1

Error: Failed to fetch script https://cdn.brandmetrics.com/survey/script/958329 index.js:27

at HTMLScriptElement.<anonymous> (get-script.js:19)

at HTMLScriptElement.nrWrapper ((index):4)

Failed to load resource: net::ERR_BLOCKED_BY_CLIENT pp.lp4.io/p?i=585cea6...-172026&m=beacon:1

Failed to load resource: net::ERR_BLOCKED_BY_CLIENT collector.schibsted...hibsted:client:vg:1

Failed to load resource: net::ERR_BLOCKED_BY_CLIENT pp.lp4.io/pl?i=585cea6...-172026&m=beacon:1

Failed to load resource: net::ERR_BLOCKED_BY_CLIENT collector.schibsted...hibsted:client:vg:1

Failed to load resource: net::ERR_BLOCKED_BY_CLIENT pp.lp4.io/is?i=585cea6...-172026&m=beacon:1

DevTools failed to load SourceMap: Could not load content for https://www.vg.no/vgc/cdn/vg-nav/main.css.map: HTTP error: status code 404, net::ERR_HTTP_RESPONSE_CODE_FAILURE

[Violation] 'resize' handler took 183ms content.js:130

[Violation] Forced reflow while executing JavaScript took <N>ms

POST https://collector.schibsted.io/api/v1/track/sdrn:schibsted:client: network-browser.js:24

vg net::ERR_BLOCKED_BY_CLIENT

POST https://pp.lp4.io/u?i=585cea6...&u=j0AXpXhgSM&uActive=true&is_rontpage=s&t linkpulse.js:2

g=-1&ctg=-1&r=1609718971170:4.7.19:20200914-172026&m=beacon net::ERR_BLOCKED_BY_CLIENT

POST https://pp.lp4.io/is?i=585cea6...&iv=0.5&ims=2&iss=&itsd=&ihs_rontpage=s&t linkpulse.js:2

g=-1&ctg=-1&r=1609719011973:4.7.19:20200914-172026&m=beacon net::ERR_BLOCKED_BY_CLIENT

POST https://pp.lp4.io/is?i=585cea6...&iv=2.2&ims=2&iss=&itsd=&ihs_rontpage=s&t linkpulse.js:2

g=-1&ctg=-1&r=1609719014537:4.7.19:20200914-172026&m=beacon net::ERR_BLOCKED_BY_CLIENT

[Violation] 'scroll' handler took 156ms (index):4

Name	Status	Type	Initiator	Size	Time	Waterfall
www.vg.no	304	docum...	Other	1.5 kB	8 ms	
AustinNewsDeck-Bold-Web.w...	200	font	Other	(memo...	0 ms	
AustinNewsDeck-BoldItalic-W...	200	font	Other	(memo...	0 ms	
DrukText-Bold-Web.woff2	200	font	Other	(memo...	0 ms	
frimand-coronabox.5425d527....	200	script	(index)	(memo...	0 ms	
frimand-coronabox.5425d527....	200	stylesh...	(index)	(memo...	0 ms	
ast.js	200	script	(index)	(memo...	0 ms	
c=0,0,2512,1655;w=1080;h=7...	200	jpeg	(index)	(memo...	0 ms	
c=386,33,1044,530;w=527;h=...	200	jpeg	(index)	(memo...	0 ms	
c=825,0,4699,2342;w=527;h=...	200	jpeg	(index)	(memo...	0 ms	
c=945,382,998,414;w=462;h=...	200	jpeg	(index)	(memo...	0 ms	
app.1bc8ea32.js	200	script	(index)	(disk ca...	4 ms	
t.gif	200	gif	(index)	(memo...	0 ms	
meninger.svg	200	svg+xml	(index)	(memo...	0 ms	
vektklubb.svg	200	svg+xml	(index)	(memo...	0 ms	
pluss.svg	200	svq+xml	(index)	(memo...	0 ms	

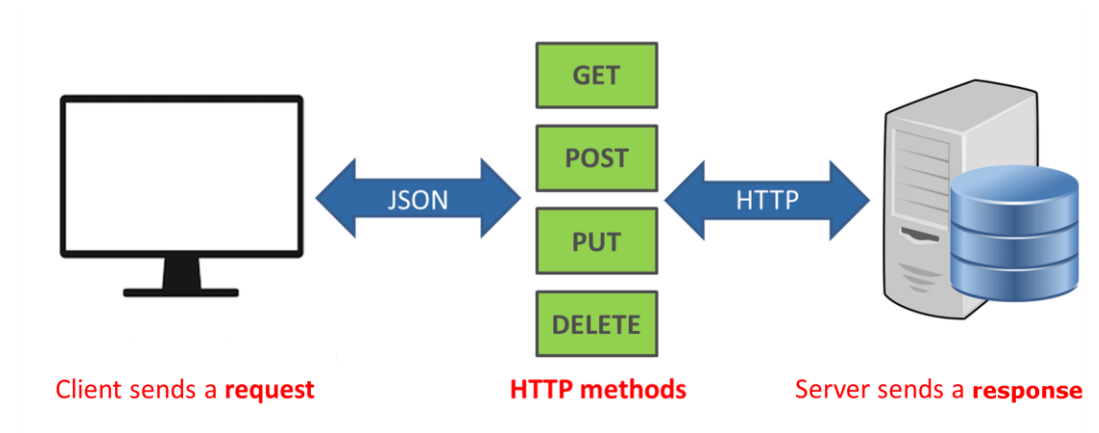
244 requests | 8.0 MB transferred | 12.0 MB resources | Finish: 1.2 min | DOMContentLoaded: 541 ms | Load: 957 ms

REST

- «Representational state transfer»
- Arkitekturstil
 - Klient og server
 - «Stateless»
- Link:

<https://restfulapi.net/>

<https://restfulapi.net/http-status-codes/>



JSON

- JavaScript Object Notation
- Erstattet XML
- navn/verdi-par
- Link:
- <https://beginnersbook.com/2015/04/json-tutorial/>

```
{  
  person: {  
    navn: Jørgen,  
    alder: 22  
  },  
  person: {  
    navn: Ole,  
    alder: 21  
  }  
}
```

Eksempel med Python

01_api/Valuta_api/valuta_request.py

```
import requests

valuta = "NOK"

res_nok = requests.get('https://api.exchangeratesapi.io/latest', params={"base": valuta})

print(res_nok.status_code)

res_nok_dict = res_nok.json()
print(f'1 NOK = {res_nok_dict["rates"]["USD"]:.2f} USD')
```

- Output:

200

1 NOK = 0.12 USD

