You're probably making an API client

Haroen Viaene - Paris.js January 2018

API economy

API economy

GitHub

API economy

GitHub

TMDb

API economy

GitHub

TMDb

Netlify

API economy

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API economy

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Facebook

Firebase

RATP

Twitter

<your own API>

Dark Sky

API economy

Official API client

Facebook

GitHub

Twitter

TMDb

Netlify

Algolia

Firebase

RATP

<your own API>

Dark Sky

API economy

Official API client

Unofficial API clients

Facebook

GitHub

Twitter

TMDb

Netlify

Algolia

Firebase

RATP

Dark Sky

<your own API>

API economy

Official API client	**Unofficial API clients**	**Just REST**
Facebook	GitHub	RATP
Twitter	TMDb	Netlify
Algolia		Dark Sky
Firebase		*<your own API>*

“Use the official API client”

– Me, just now

“Yes, but it doesn’t support **node**”

– You, maybe

"Yes, but it doesn't support **some endpoint**"

– You, maybe

"Yes, but my environment can't use **XHR**"

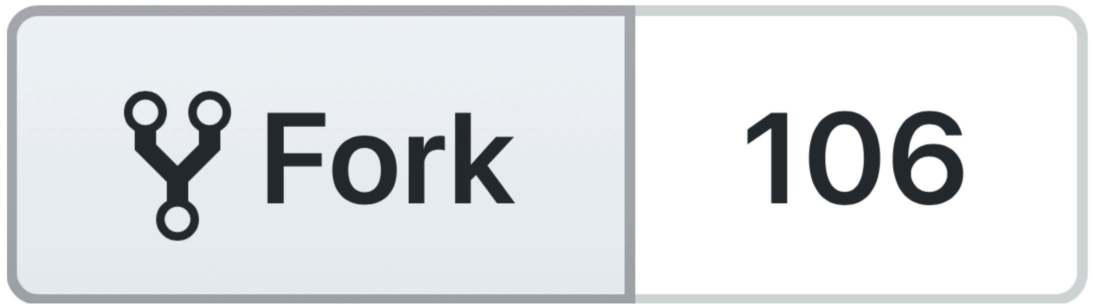
– *You, maybe*

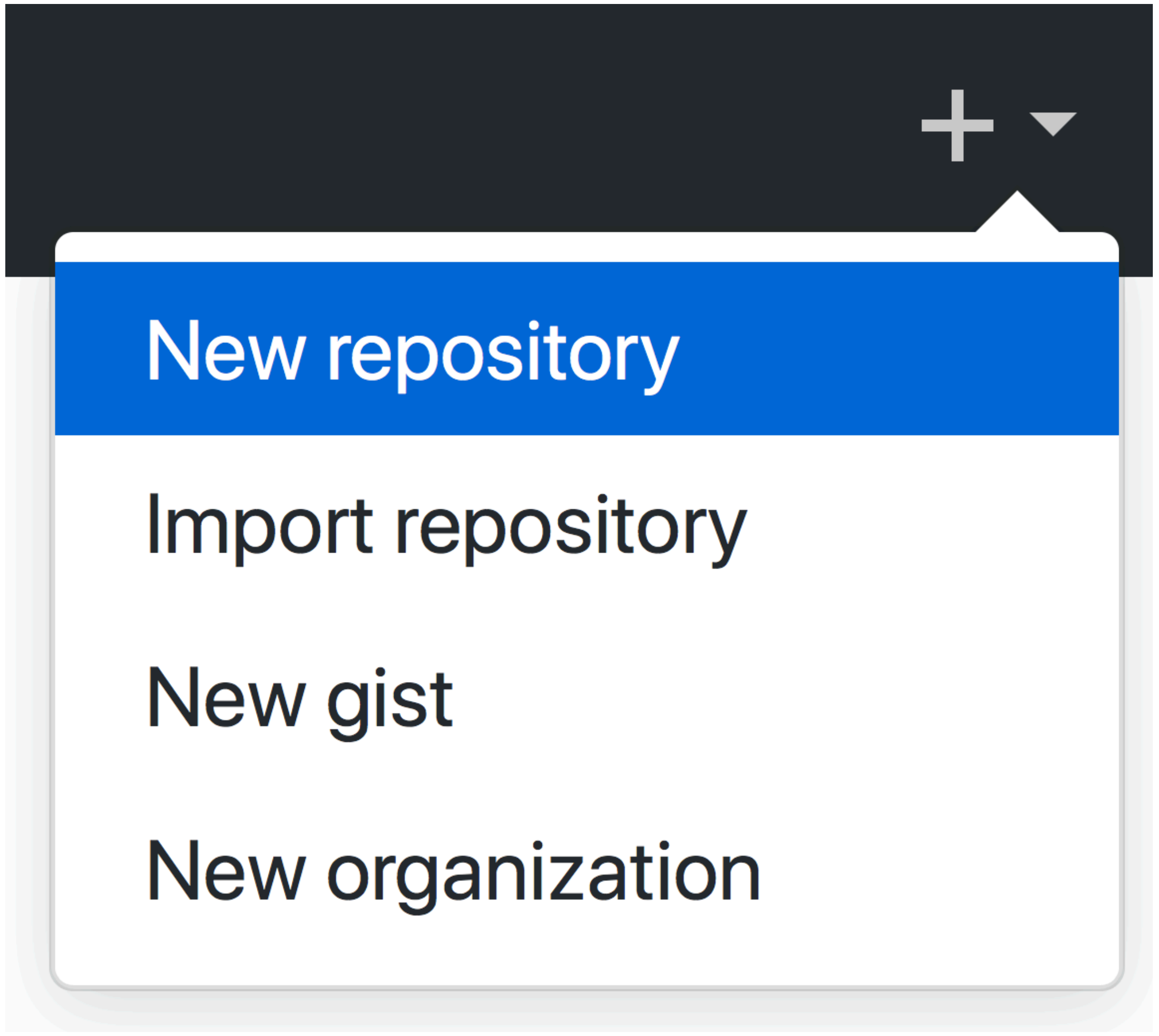
"Yes, but there is none..."

– *You, maybe*

What are my options?

What are my options?





MVP

```
fetch("https://api.com", {
  method: "POST",
  body,
}).then(res ⇒ res.json());
```

Minimum Viable Product

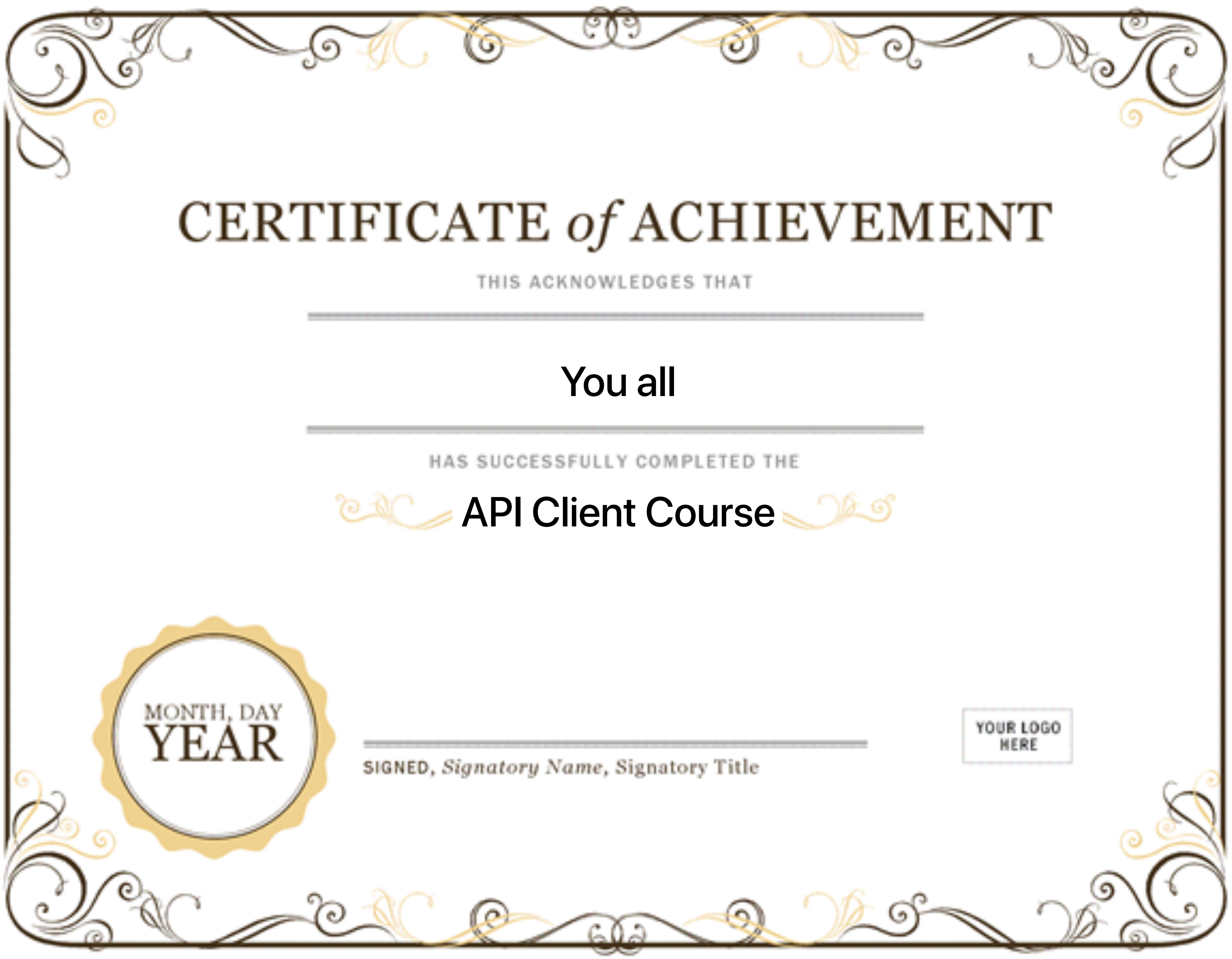
```
fetch("https://api.com", {
  method: "POST",
  headers: {
    "Content-Type": "application/json",
    "X-API-Key": "OFOCS02NSE4",
  },
  body: JSON.stringify({
    query: "hello",
  }),
}).then(res => res.json());
```

Put them in a file maybe?

```
export const get = body ⇒
  fetch("https://api.com", {
    method: "POST",
    headers: {
      "Content-Type": "application/json",
      "X-API-Key": "OFOCS02NSE4",
    },
    body: JSON.stringify(body),
  }).then(res ⇒ res.json());

// ...other ones
```

Put them in a file maybe?



CERTIFICATE *of* ACHIEVEMENT

THIS ACKNOWLEDGES THAT

You all

HAS SUCCESSFULLY COMPLETED THE

API Client Course

MONTH, DAY
YEAR

SIGNED, *Signatory Name*, Signatory Title

YOUR LOGO HERE

Provide value over `fetch`

```
const get = query ⇒
  fetch("https://api.com", {
    method: "POST",
    headers: {
      "Content-Type": "application/json",
      "X-API-Key": "OFOCS02NSE4",
    },
    body: JSON.stringify({ query }),
  }).then(res ⇒ res.json());
```

Deal with API keys

```
const get = (body, apiKey) ⇒
  fetch("https://api.com", {
    method: "POST",
    headers: {
      "Content-Type": "application/json",
      "X-API-Key": apiKey,
    },
    body: JSON.stringify(body),
  }).then(res ⇒ res.json());
```

Deal with API keys

```
const createClient = apiKey ⇒
  allMethods.map(method ⇒ /* */);
```

Deal with API keys

```
const createClient = apiKey ⇒
  allMethods.map(method ⇒ (...args) ⇒
    method(...args, apiKey)
  );
```

Deal with API keys

```
const createClient = apiKey ⇒
  allMethods.map(method ⇒ ( … args) ⇒
    method( … args, apiKey)
  );

const client = createClient("OFOCS02NSE4");
```

Deal with API keys

```
const createClient = apiKey ⇒
  allMethods.map(method ⇒ (...args) ⇒
    method(...args, apiKey)
  );

const client = createClient("OFOCS02NSE4");

client.get(body);
```

Use “named” arguments

```
const createClient = ({ apiKey }) ⇒
  allMethods.map(method ⇒ args ⇒
    method(args, { apiKey })
  );

const client = createClient({
  apiKey: "OFOCS02NSE4"
});

client.get({ body });
```

Use the same names as your API

```
const get = ({ body }, { apiKey }) ⇒
  fetch("https://api.com/search", {
    method: "POST",
    headers: {
      "Content-Type": "application/json",
      "X-API-Key": apiKey
    },
    body: JSON.stringify(body)
  }).then(res ⇒ res.json());
```

Use the same names as your API

```
const search = ({ body }, { apiKey }) ⇒
  fetch("https://api.com/search", {
    method: "POST",
    headers: {
      "Content-Type": "application/json",
      "X-API-Key": apiKey
    },
    body: JSON.stringify(body)
  }).then(res ⇒ res.json());
```

Fill the gaps in the API

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Catch-all request (`batch`)

Fill the gaps in the API

Catch-all request (`batch`)

Split up in separate methods (`addObject`, `deleteObject`)

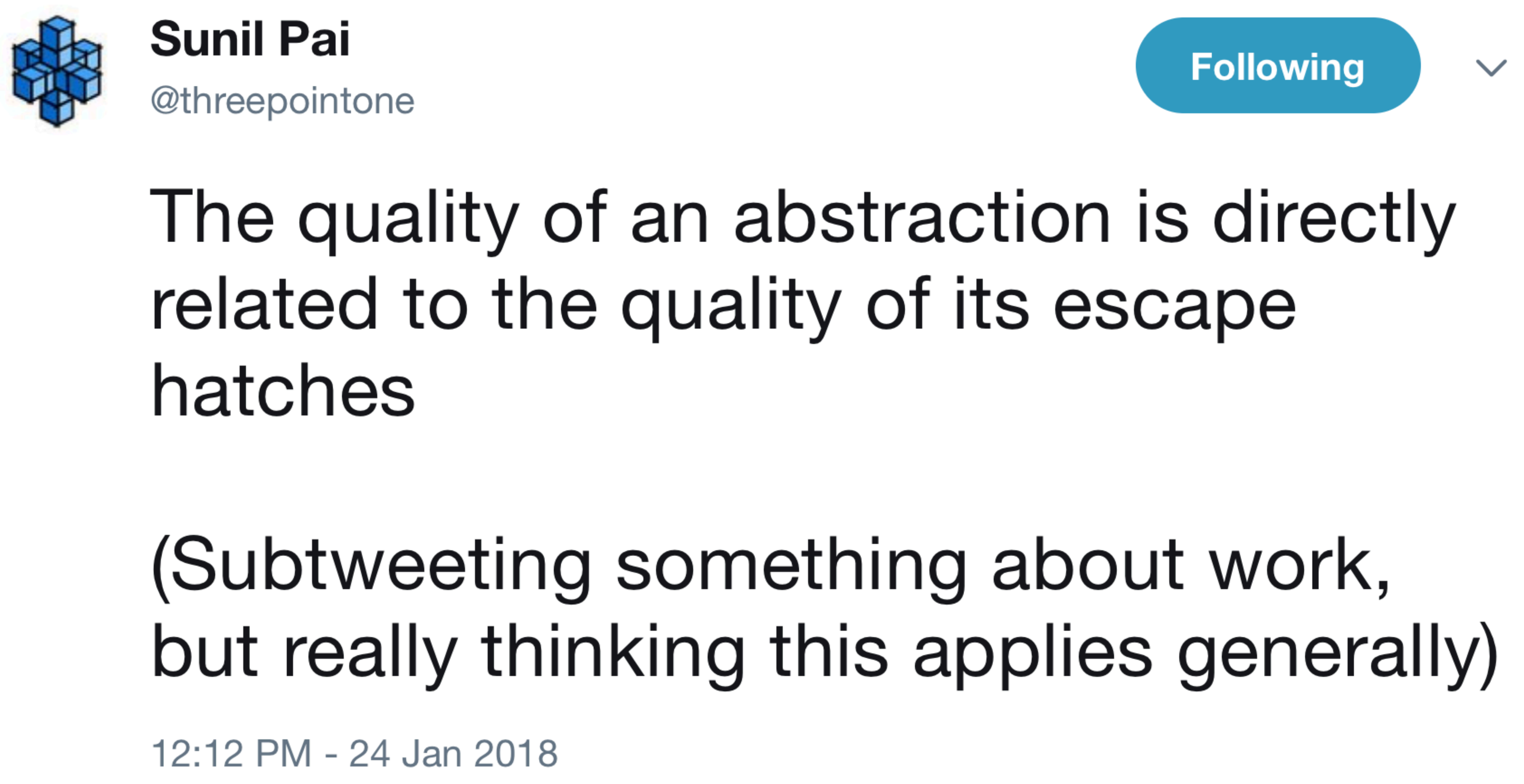
Fill the gaps in the API

Catch-all request (`batch`)

Split up in separate methods (`addObject`, `deleteObject`)

Consistency in client → consistency in API

Allow overriding



Sunil Pai
@threepointone

The quality of an abstraction is directly related to the quality of its escape hatches

(Subtweeting something about work, but really thinking this applies generally)

12:12 PM - 24 Jan 2018

twitter.com/threepointone/status/956122568557199360

Allow overriding

```
const createClient = ({ apiKey }) ⇒
  allMethods.map(method ⇒ (args, extra) ⇒
    method(args, { ...{ apiKey }, ...extra })
  );

const client = createClient({
  apiKey: "OFOCS02NSE4"
});

client.get(
  { body },
  { apiKey: "something-else" }
);
```

Allow overriding

```
const createClient = ({ apiKey }) ⇒
  allMethods.map(method ⇒ (args, extra) ⇒
    method(args, { ...{ apiKey }, ...extra })
  );

const client = createClient({
  apiKey: "OFOCS02NSE4"
});

client.get(
  { body },
  { apiKey: "something-else", requestOptions }
);
```

Allow overriding

RequestOptions

Known headers are sent as headers

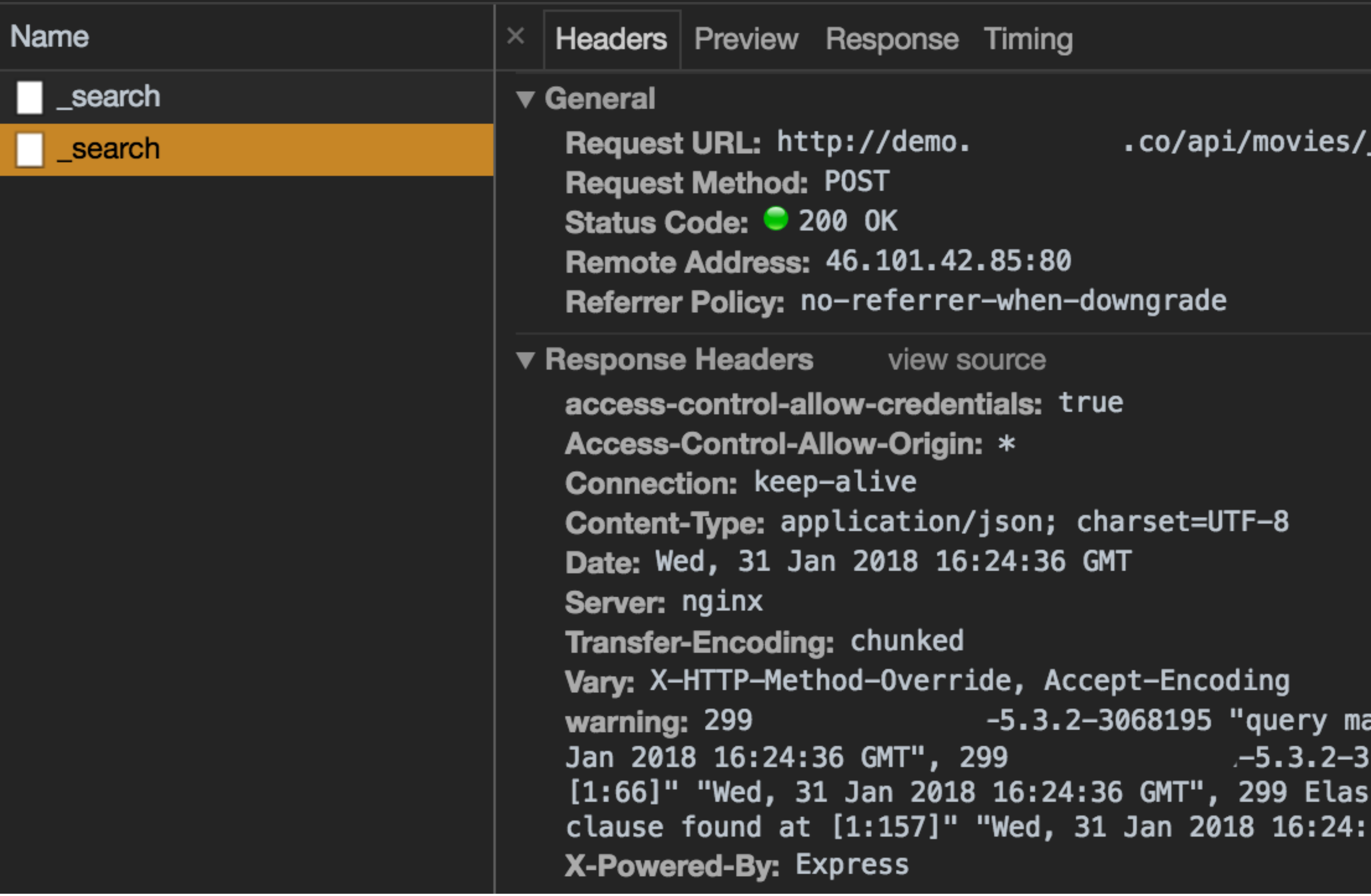
The rest as URL parameters

Separate request from wrappers

```
const request = ({
  path,
  method,
  body,
  apiKey
}) ⇒
  fetch(new URL("https://api.com", path), {
    method,
    headers: {
      "Content-Type": "application/json",
      "X-API-Key": apiKey
    },
    body: JSON.stringify(body)
  }).then(res ⇒ res.json());
```

Separate request from wrappers

```
const search = ({ query }, { apiKey }) ⇒
  request({
    path: "/search",
    method: "POST",
    body: { query },
    apiKey
  });
```



Name
_search
_search

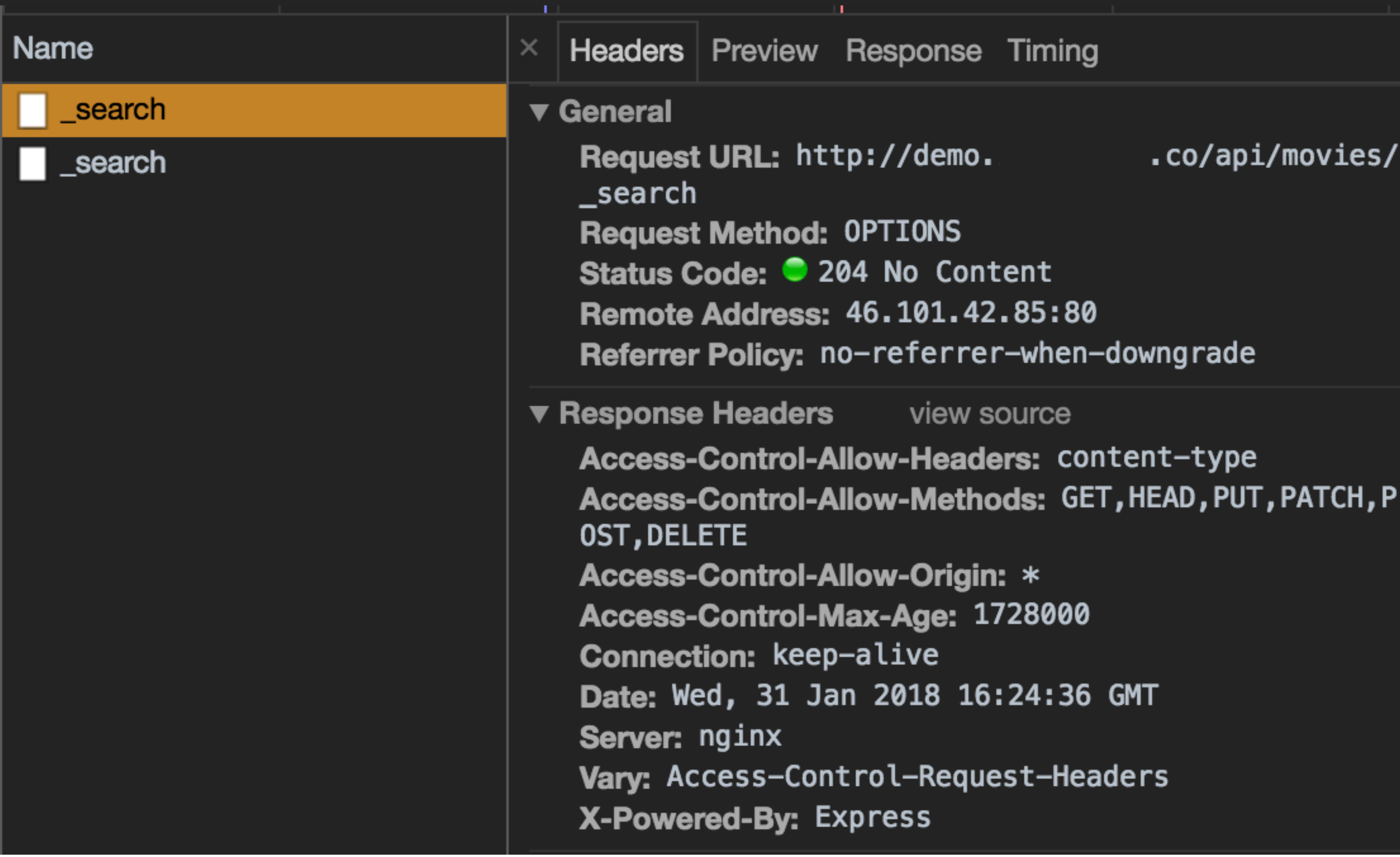
Headers Preview Response Timing

▼ General

```
Request URL: http://demo.          .co/api/movies/
Request Method: POST
Status Code: ● 200 OK
Remote Address: 46.101.42.85:80
Referrer Policy: no-referrer-when-downgrade
```

▼ Response Headers view source

```
access-control-allow-credentials: true
Access-Control-Allow-Origin: *
Connection: keep-alive
Content-Type: application/json; charset=UTF-8
Date: Wed, 31 Jan 2018 16:24:36 GMT
Server: nginx
Transfer-Encoding: chunked
Vary: X-HTTP-Method-Override, Accept-Encoding
warning: 299              -5.3.2-3068195 "query ma
Jan 2018 16:24:36 GMT", 299              -5.3.2-3
[1:66]" "Wed, 31 Jan 2018 16:24:36 GMT", 299 Elas
clause found at [1:157]" "Wed, 31 Jan 2018 16:24:
X-Powered-By: Express
```



```
Request URL: http://demo.          .co/api/movies/
_search
Request Method: OPTIONS
Status Code: ● 204 No Content
Remote Address: 46.101.42.85:80
Referrer Policy: no-referrer-when-downgrade
```

```
Access-Control-Allow-Headers: content-type
Access-Control-Allow-Methods: GET,HEAD,PUT,PATCH,P
OST,DELETE
Access-Control-Allow-Origin: *
Access-Control-Max-Age: 1728000
Connection: keep-alive
Date: Wed, 31 Jan 2018 16:24:36 GMT
Server: nginx
Vary: Access-Control-Request-Headers
X-Powered-By: Express
```

SimpleRequests

https://developer.mozilla.org/en-US/docs/Web/HTTP/CORS

Methods

`GET`

`HEAD`

`POST`

SimpleRequests

https://developer.mozilla.org/en-US/docs/Web/HTTP/CORS

Headers

```
Accept
                   DPR
Accept-Language
                   Save-Data
Content-Language
                   Viewport-Width
Content-Type
                   Width
Last-Event-ID
```

SimpleRequests

https://developer.mozilla.org/en-US/docs/Web/HTTP/CORS

Content Type

```
application/x-www-form-urlencoded

multipart/form-data

text/plain
```

Overview

Separate from other code

Don’t leak your abstraction

Have a “client” for API keys

Use SimpleRequests

Know when to deviate from your API

Look at other API clients

Thank you!