HTTP Building Blocks: API Deprecation; Linkset; Content Warning

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November 20, 2020
Introduction

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The Five API Styles: Understanding REST, O...
API Deprecation

Deprecation: Motivation


Co-author: Sanjay Dalal

- "The Sunset Header Field [https://tools.ietf.org/html/rfc8594]" is useful but has limited semantics
- API consumers should be able to find out about upcoming or existing deprecation
  - "Deprecation" refers to an API being still functional, but not recommended to use anymore
- Additional resources:
  - Blog article: "API Lifecycle Management: Deprecation and Sunsetting [https://apifriends.com/api-management/api-lifecycle-management-deprecation-and-sunsetting]"
  - YouTube video: "API Lifecycle Management: Deprecation and Sunsetting [https://www.youtube.com/watch?v=twfufQn1mD0]"
Deprecation Model

- A **deprecated API** is still operational but should be treated with caution
- Deprecation is signaled with a simple HTTP header field
  - `Deprecation: Sun, 11 Nov 2018 23:59:59 GMT`
- Deprecation scoping is up for the API to decide
  - Header field can show up everywhere or just on specific resources
  - Deprecation can affect the entire API or specific aspects of it
- Additional information can be made available via `deprecation` links
  - There is not defined format for this resource (it's probably developer documentation)
Deprecation: History

- First version: February 2019
- Published versions: 4
- History & collaboration
Linkset

Linkset: Motivation

I-D: draft-wilde-linkset

Co-author: Herbert Van de Sompel

- "Web Linking" only defines an HTTP header field but no media types
- Various scenarios call for solutions where links are treated as resources
  - Large sets of links can be hard to embed in HTTP header fields
  - Some scenarios call for links being supplied by a third party
- Define media types that allow sets of links to become standalone resources
### Linkset Model

- "[Web Linking](https://tools.ietf.org/html/rfc8288)" defines a model and a serialization for web links
- application/linkset is registered as a media type for RFC 8288 syntax
  - application/linkset+json is defined and registered as a JSON syntax for web links
    - The JSON design makes it easy to apply JSON-LD context definitions
- Linksets as standalone resources require careful handling of the context
  - Context is implicit for RFC 8288 scenarios
  - Context must be captured for "linksets as resources" scenarios
- Resources can link to links pertaining to them using the `linkset` link relation
Linkset Example

```json
{
    "linkset": [
        {
            "anchor": "http://example.net/bar",
            "next": [
                {
                    "href": "http://example.com/fool"
                }
            ]
        },
        {
            "anchor": "http://example.net/boo",
            "http://example.com/relations/baz": [
                {
                    "href": "http://example.com/foo2"
                }
            ]
        }
    ]
}
```
Linkset: History

- First version: December 2016
- Published versions: 11
- History & collaboration
  - Datatracker: [draft-wilde-linkset]
  - Repo: [github.com/dret/I-D/tree/master/linkset]
  - Issues: [github.com/dret/I-D/labels/linkset]
Content Warning

Warning: Motivation

I-D: draft-cedik-http-warning

Co-author: André Cedik

- "Problem Details for HTTP APIs" only cover error scenarios
- Provide a pattern how warnings can be communicated in HTTP APIs
- Provide a JSON structure that APIs can use to represent embedded warnings
- Additional resources:
  - ASC 2020 presentation on YouTube: "Communicating Warning Information in HTTP APIs"
Content Warning Model

- Content warning are safe to ignore but may be relevant for users
  - APIs can signal that the content contains warning information
    - Content-Warning: "embedded-warning"; 1590190500
  - There is reusable JSON structure (resembling the structure of RFC 7807)
    - Clients may choose to reuse this structure but are free to do something else
- An IANA registry is established for being able to register other kinds of content warnings
  - The only initial entry is the embedded-warning content warning type
Content Warning Model

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Content Warning Example

POST /example HTTP/1.1
Host: example.com
Accept: application/json

HTTP/1.1 200 OK
Content-Type: application/json
Content-Warning: "embedded-warning"; 1590190500

{
    "request_id": "2326b087-d64e-43bd-a557-42171155084f",
    "warnings": [
        {
            "detail": "Street name was too long. It has been shortened ...",
            "instance": "https://example.com/shipments/3a186c51/msgs/c94d",
            "status": "200",
            "title": "Street name too long. It has been shortened.",
            "type": "https://example.com/errors/shortened_entry"
        },
        {
            "detail": "City for this zipcode unknown. Code for shipment ...",
            "instance": "https://example.com/shipments/3a186c51/msgs/5927",
            "status": "200",
            "title": "City for zipcode unknown."
            "type": "https://example.com/errors/city_unknown"
        }
    ],
    "id": "3a186c51d4281acb",
    "carrier_tracking_no": "84168117830018",
    "tracking_url": "http://example.com/3a186c51"
"label_url": "http://example.com/shipping_label_3a186c51d.pdf",
"price": 3.4
}
Warning: History

- First version: November 2019
- Published versions: 3
- History & collaboration

## Summary

### Overview

- **API Deprecation** [API Deprecation (1)]: [draft-dalal-deprecation-header](https://datatracker.ietf.org/doc/draft-dalal-deprecation-header)
  - Repo: [github.com/sdatspun2/deprecation-header](https://github.com/sdatspun2/deprecation-header)
- **Linkset** [Linkset (1)]: [draft-wilde-linkset](https://datatracker.ietf.org/doc/draft-wilde-linkset)
  - Repo: [github.com/dret/I-D/tree/master/linkset](https://github.com/dret/I-D/tree/master/linkset)
  - Issues: [github.com/dret/I-D/labels/linkset](https://github.com/dret/I-D/labels/linkset)
- **Content Warning** [Content Warning (1)]: [draft-cedik-http-warning](https://datatracker.ietf.org/doc/draft-cedik-http-warning)
Thank You!

- Slides online: [dret.net/lectures/ietf-109](http://dret.net/lectures/ietf-109)
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