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REST API Media Types

Abstract

This document registers the following media types used in APIs on the IANA Media Types registry: application/openapi+json, and application/openapi+yaml.

About This Document

This note is to be removed before publishing as an RFC.

Status information for this document may be found at <https://datatracker.ietf.org/doc/draft-ietf-httpapi-rest-api-mediatypes/>.

Discussion of this document takes place on the HTTPAPI Working Group mailing list (<mailto:httpapi@ietf.org>), which is archived at <https://mailarchive.ietf.org/arch/browse/httpapi/>. Subscribe at <https://www.ietf.org/mailman/listinfo/httpapi/>. Working Group information can be found at <https://datatracker.ietf.org/wg/httpapi/about/>.

Source for this draft and an issue tracker can be found at <https://github.com/ietf-wg-httpapi/mediatypes/labels/rest-api>.

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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This Internet-Draft will expire on 10 July 2024.

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1. Introduction

OpenAPI Specification [[OAS](#)] version 3 and above is a consolidated standard for describing HTTP APIs using the JSON [[JSON](#)] and YAML [[YAML](#)] data format.

To increase interoperability when processing API description and leverage content negotiation mechanisms when exchanging OpenAPI description resources this specification register the following media types: application/openapi+json and application/openapi+yaml.

1.1. Notational Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and

"OPTIONAL" in this document are to be interpreted as described in BCP 14 [[RFC2119](#)] [[RFC8174](#)] when, and only when, they appear in all capitals, as shown here. These words may also appear in this document in lower case as plain English words, absent their normative meanings.

This document uses the Augmented BNF defined in [[RFC5234](#)] and updated by [[RFC7405](#)].

The terms "content", "content negotiation", "resource", and "user agent" in this document are to be interpreted as in [[HTTP](#)].

2. Media Type registrations

This section describes the information required to register the above media types according to [[MEDIATYPE](#)].

2.1. The OpenAPI Media Types

The OpenAPI Specification Media Types convey OpenAPI document (OAS) files as defined in [[OAS](#)] for version 3.0 and above.

Those files can be serialized in [[JSON](#)] or [[YAML](#)]. Since there are multiple OpenAPI Specification versions, those media types support the version parameter.

The following example conveys the desire of a client to receive an OpenAPI Specification resource preferably in the following order:

1. openapi 3.1 in YAML
2. openapi 3.0 in YAML
3. any openapi version in JSON

```
Accept: application/openapi+yaml;version=3.1,  
       application/openapi+yaml;version=3.0;q=0.5,  
       application/openapi+json;q=0.3
```

2.1.1. Media Type application/openapi+json

The following information serves as the registration form for the application/openapi+json media type.

Type name: application

Subtype name: openapi+json

Required parameters: None

Optional parameters:

version; unrecognized parameters should be ignored

Encoding considerations: Same as "application/json"

Security considerations: See [Section 4](#) of this document, "application/json" and [\[OAS\]](#)

Interoperability considerations: See "application/json" and [\[OAS\]](#)

Published specification: this document, [\[OAS\]](#)

Applications that use this media type: HTTP

Fragment identifier considerations: [\[OAS\]](#) or the specific version of the OpenAPI document.

Additional information:

*Deprecated alias names for this type: N/A

*Magic number(s): N/A

*File extension(s): json

*Macintosh file type code(s): N/A

Person and email address to contact for further information: See Authors' Addresses section.

Intended usage: COMMON

Restrictions on usage: None.

Author: See Authors' Addresses section.

Change controller: IETF

2.1.2. Media Type application/openapi+yaml

The following information serves as the registration form for the application/openapi+yaml media type.

Type name:

application

Subtype name: openapi+yaml

Required parameters: N/A

Optional parameters: version; unrecognized parameters should be ignored

Encoding considerations: Same as "+yaml" Structured Syntax Suffix

Security considerations: See [Section 4](#) of this document, "+yaml" Structured Syntax Suffix and [\[OAS\]](#)

Interoperability considerations: See "+yaml" Structured Syntax Suffix and [\[OAS\]](#)

Published specification: [\[OAS\]](#)

Applications that use this media type: HTTP

Fragment identifier considerations: [\[OAS\]](#) or the specific version of the OpenAPI document.

Additional information:

*Deprecated alias names for this type: N/A

*Magic number(s): N/A

*File extension(s): Same as "application/yaml"

*Macintosh file type code(s): N/A

Person and email address to contact for further information: See Authors' Addresses section

Intended usage: COMMON

Restrictions on usage: None.

Author: See Authors' Addresses section

Change controller: IETF

3. Interoperability Considerations

Interoperability requirements for media type registrations are discussed in Section 4.6 of [\[MEDIATYPE\]](#). and in the Interoperability Considerations of the "+yaml" Structured Syntax Suffix.

4. Security Considerations

Security requirements for media type registrations are discussed in Section 4.6 of [MEDIATYPE]. and in the Security Considerations of the "+yaml" Structured Syntax Suffix.

4.1. General Considerations

All REST API Media Types might reference nested or external resources, as well as processable information like HTML.

Implementations that try to dereference or process those resource automatically might be subject to various security risks, from resource exhaustion (e.g., caused by cyclic references) to retrieval and processing of malicious code (e.g., embedded as markup language).

5. IANA Considerations

This specification defines the following new Internet media types [MEDIATYPE].

IANA is asked to update the "Media Types" registry at <https://www.iana.org/assignments/media-types> with the registration information provided in the sections below.

Media Type	Registration information section
application/openapi+yaml	Section 2.1.2 of this document
application/openapi+json	Section 2.1.1 of this document

Table 1

6. Normative References

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Acknowledgements

Thanks to Erik Wilde and David Biesack for being the initial contributors of this specification, and to Darrel Miller and Rich Salz for their support during the adoption phase.

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Austin Wright, Ben Hutton and Jason Desrosiers.

FAQ

This section is to be removed before publishing as an RFC.

Q: Why this document? After all these years, we still lack a proper media type for REST related document types. This has some

security implications too (eg. wrt on identifying parsers or
treat downloads)

Change Log

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RFC EDITOR PLEASE DELETE THIS SECTION.

Since -00

This section is to be removed before publishing as an RFC.

*Split YAML registrations in a separate I-D.

Since -04

This section is to be removed before publishing as an RFC.

*Split JSONSCHEMA registrations in a separate I-D.

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