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K. Murchison
FastMail
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JMAP for Sieve Scripts
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Abstract

This document specifies a data model for managing Sieve scripts on a server using JMAP.

Open Issues

- o How should doing /set{create} with an existing script name be handled? Should it fail or overwrite the existing script? Should the /set request include an 'overwrite' boolean argument?
- o Should setting isActive==true on a script automatically deactivate any other existing active script, or should the client have to do so itself (as is currently documented)?
- o Do we want/need a SieveScript/copy method?
- o Do we want to leverage [draft-ietf-jmap-quotas](#) to query Sieve script storage quotas?

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1. Introduction

JMAP ([\[RFC8620\]](#) - JSON Meta Application Protocol) is a generic protocol for synchronizing data, such as mail, calendars or contacts, between a client and a server. It is optimized for mobile and web environments, and aims to provide a consistent interface to different data types.

This specification defines a data model for managing Sieve [\[RFC5228\]](#) scripts on a server using JMAP. The data model is designed to allow a server to provide consistent access to the same scripts via ManageSieve [\[RFC5804\]](#) as well as JMAP, however the functionality offered over the two protocols may differ.

[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.

Type signatures, examples, and property descriptions in this document follow the conventions established in [Section 1.1 of \[RFC8620\]](#). Data types defined in the core specification are also used in this document.

[1.2.](#) Terminology

The same terminology is used in this document as in the core JMAP specification, see [\[RFC8620\], Section 1.6](#).

The term SieveScript (with this specific capitalization) is used to refer to the data type defined in this document and instances of those data types.

[1.3.](#) Addition to the Capabilities Object

The capabilities object is returned as part of the JMAP Session object; see [\[RFC8620\], Section 2](#). This document defines one additional capability URI.

[1.3.1.](#) urn:ietf:params:jmap:sieve

This represents support for the SieveScript data type and associated API methods. The value of this property in the JMAP Session capabilities property is an empty object.

The value of this property in an account's accountCapabilities property is an object that MUST contain the following information on server capabilities:

- o *maxNumberRedirects*: "UnsignedInt|null" The maximum number of Sieve "redirect" actions a script can perform during a single evaluation (see [\[RFC5804\], Section 1.7](#)), or "null" for no limit.

- o `*maxNumberScripts*`: "UnsignedInt|null" The maximum number of Sieve scripts the server is willing to store for the user, or "null" for no limit.
- o `*maxSizeScript*`: "UnsignedInt|null" The maximum size (in octets) of a Sieve script the server is willing to store for the user, or "null" for no limit.
- o `*sieveExtensions*`: "String[]" A list of Sieve extensions (as listed in Sieve "require" action [\[RFC5228\]](#), [Section 3.2](#)) supported by the Sieve engine.
- o `*notificationMethods*`: "String[]|null" A list of URI schema parts [\[RFC3986\]](#) for notification methods supported by the Sieve "enotify" extension [\[RFC5435\]](#), or "null" if the extension is not supported by the Sieve engine.
- o `*externalLists*`: "String[]|null" A list of URI schema parts [\[RFC3986\]](#) for externally stored list types supported by the Sieve "extlists" extension [\[RFC6134\]](#), or "null" if the extension is not supported by the Sieve engine.

2. Sieve Scripts

A `*SieveScript*` object represents a single script on the server and has the following properties:

- o `*id*`: "Id" (immutable; server-set) The id of the script.
- o `*name*`: "String" The user-visible name for the script, subject to the requirements in [\[RFC5804\]](#), [Section 1.6](#).
- o `*content*`: "String" The Sieve code in the script. Note that any double (") quote or backslash (\) characters appearing in the script content MUST be escaped by prefixing them with a backslash (\).
- o `*isActive*`: "Boolean" (default: false) Is this the user's active script?

Example (using the Imap4Flags [[RFC5232](#)] Extension):

```
{
  "id": "665c423a-6991-4733-8c7c-52b299572c66",
  "name": "example.siv",
  "content":
    "require [ \"imap4flags\" ];\r\nkeep :flags \"\\\\\\\\\\\\flagged\";",
  "isActive": false
}
```

[2.1.](#) SieveScript/get

This is a standard `/get` method as described in [[RFC8620](#)], [Section 5.1](#). The `_ids_` argument may be `"null"` to fetch all at once.

This method provides similar functionality to the `GETSCRIPT` and `LISTSCRIPTS` commands in [[RFC5804](#)].

[2.2.](#) SieveScript/set

This is a standard `/set` method as described in [[RFC8620](#)], [Section 5.3](#).

This method provides similar functionality to the `PUTSCRIPT`, `DELETESCRIPT`, `RENAMESCRIPT`, and `SETACTIVE` commands in [[RFC5804](#)].

Per [[RFC5804](#)], [Section 1.4](#), a user may have multiple Sieve scripts on the server, yet only one script may be active. Therefore, when changing the active script, the call to this method **MUST** both set the `_isActive_` argument on the currently active script to `"false"` and set it to `"true"` on the script to be activated.

The following extra `SetError` type is defined:

For `"create"` and `"update"`:

- o `*scriptIsActive*`: The `"isActive"` argument was true and the user already has another active script. The `SetError` object **SHOULD** also include the `*id*` property of the currently active script.

[2.3.](#) SieveScript/validate

This method is used by the client to verify Sieve script validity without storing the script on the server.

The method provides similar functionality to the `CHECKSCRIPT` command in [[RFC5804](#)].

The server MUST check the submitted script for syntactic validity, which includes checking that all Sieve extensions mentioned in Sieve script "require" statement(s) are supported by the Sieve interpreter. (Note that if the Sieve interpreter supports the Sieve "ihave" extension [[RFC5463](#)], any unrecognized/unsupported extension mentioned in the "ihave" test MUST NOT cause the syntactic validation failure.)

The `*SieveScript/validate*` method takes the following arguments:

- o `*accountId*`: "Id" The id of the account to use.
- o `*content*`: "String" The Sieve code to validate. Note that any double (") quote or backslash (\) characters appearing in the script content MUST be escaped by prefixing them with a backslash (\).

The response has the following arguments:

- o `*accountId*`: "Id" The id of the account used for this call.
- o `*isValid*`: "Boolean" Is the Sieve code valid?
- o `*errorDescription*`: "String" A description of the error to show to the user, or an empty string if the Sieve code is valid.

3. Security Considerations

All security considerations of JMAP [[RFC8620](#)] apply to this specification.

4. IANA Considerations

4.1. JMAP Capability Registration for "sieve"

IANA will register the "sieve" JMAP Capability as follows:

Capability Name: "urn:ietf:params:jmap:sieve"

Specification document: this document

Intended use: common

Change Controller: IETF

Security and privacy considerations: this document, [Section 3](#)

[4.2.](#) JMAP Error Codes Registry

The following sub-section registers a new error code in the JMAP Error Codes registry, as defined in [[RFC8620](#)].

[4.2.1.](#) scriptIsActive

JMAP Error Code: scriptIsActive

Intended use: common

Change controller: IETF

Reference: This document, [section 2.5](#)

Description: The client tried to activate a Sieve script, but another script is already active.

[5.](#) Acknowledgments

The concepts in this document are based largely on those in [[RFC5804](#)]. The author would like to thank the authors of that document for providing both inspiration and some borrowed text for this document.

[6.](#) References

[6.1.](#) Normative References

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Appendix A. Change History (To be removed by RFC Editor before publication)

Changes since -00:

- o Added IANA registration for "scriptIsActive" JMAP error code.
- o Added open issue about /set{create} with an existing script name.

Author's Address

Kenneth Murchison
Fastmail US LLC
1429 Walnut Street - Suite 1201
Philadelphia, PA 19102
USA

Email: murch@fastmailteam.com

